### Evaluable Thread Standards:

- Gauges for Metric M Screw Threads according to ANSI/ASME B1.16M-1984
- ISO metric trapezoidal screw threads according to DIN 103:1997
- Unified threads and thread gauges according to ANSI/ASME B1.1-1983/B1.2-1983
- Pipe threads and gauges according to ISO 228:2000 (also the older DIN 259:1979)
- Pipe threads and gauges according to ISO 228:2000 (also the older DIN 259:1979)
- Steel conduit threads according to DIN 40431:1972
- Knuckle threads according to DIN 405:1997
- Parallel screw threads of Whitworth form according to BS 84:2007 / BS 919-2:2007
- NPSM pipe threads according to ANSI/ASME B1.20.1-1983
- Buttress threads according to DIN 513:1985 (factory standard for gauge values)
- MJ threads DIN ISO 5855:1989
- Metrical thread inserts according to DIN 8140:1999 (EG threads)
- HELICOIL threads according to Boellhoff factory standard
- Threads for valves according to DIN 7756:1979 and ETRTO V.7
- ISO 228:2000 (also the older DIN 259:1979)
- 3D Seeking algorithm for finding the cresting point of inner and outer thread gauges
- Optimized data interface with QM-Soft
- Can be used near production lines
- Universally usable for: Contour measurement – Roughness measurement – Thread measurement
- Intuitive and easy to use
- Outstanding price/performance ratio
- System expansion made possible via modules
- Multiple measurements can be automated using Teach-In files

Some models feature Aerostatic air bearings along measurement axes (GM-X)

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### Excerpt – Technical Data:

- **ConturoMatic TS-SE/SG**
  - Measuring range X: 500 mm
  - Measuring range Z: 150 mm
  - Measuring tolerance: ± 1 µm
  - Roughness measurement: ± 1 µm

- **ConturoMatic TS-GER.X**
  - Measuring range X: 500 mm
  - Measuring range Z: 150 mm
  - Measuring tolerance: ± 1 µm
  - Roughness measurement: ± 1 µm

### Easy
- Flexible
- Optimized in time
- DAkkS-accreditable

---

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**www.qpt.de**

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**Next Level Thread Measurement**

ConturoMatic 05/GM-X & QM-Soft®

---

**Easy & Flexible**

**Optimized in Time**

**DAkkS-accreditable**

---

**Information without warranty as of 01.01.2019**
Evaluable Thread Standards:

- Gauges for Metric M Screw Threads according to ANSI/ASME B1.16M-1984
- ISO metric trapezoidal screw threads according to DIN 103:1997
- Unified threads and thread gauges according to ANSI/ASME B1.1-1983 / B1.2-1983
- Pipe threads and gauges according to ISO 228:2000 (also the older DIN 259:1979)
- Pipe threads and gauges according to ISO 228:2000 (also the older DIN 259:1979)
- Part thread according to DIN 69025
- Steel conduit threads according to DIN 40431:1972
- Knuckle threads according to DIN 405:1997
- Parallel screw threads of Whitworth form according to BS 84:2007 / BS 919-2:2007
- NPSM pipe threads according to ANSI/ASME B1.20.1-1983
- Buttress threads according to DIN 513:1985 (factory standard for gauge values)
- MJ threads DIN ISO 5855:1989
- Metrical thread inserts according to DIN 8140:1999 (EG threads)
- HELICOIL threads according to Boellhoff factory standard
- Threads for valves according to DIN 7756:1979 and ETRTO V.7
- Geometrical product specifications (GPS) - DIN 2241:2018-07

Optional:
- Software for evaluation of tapered threads:
  - According to DIN 2999
  - ANSI/ASME B1.20.1 (NPT)
  - BS 21, ISO 7-2
  - SME B1.20.5-1991 (NPTF)

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This info leaflet supersedes all previous editions, which thereby become invalid.

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**Excerpt – Technical Data:**

**ConturoMatic TS-15 / GS**

<table>
<thead>
<tr>
<th>Measuring range</th>
<th>0-15 mm</th>
<th>0-25 mm</th>
<th>0-70 mm</th>
<th>0-100 mm</th>
<th>0-250 mm</th>
<th>0-500 mm</th>
<th>0-75 mm</th>
<th>0-100 mm</th>
<th>0-250 mm</th>
<th>0-500 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring scope 1</td>
<td>+/− 0.002</td>
<td>+/− 0.003</td>
<td>+/− 0.007</td>
<td>+/− 0.010</td>
<td>+/− 0.025</td>
<td>+/− 0.050</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measuring scope 2</td>
<td>+/− 0.005</td>
<td>+/− 0.010</td>
<td>+/− 0.025</td>
<td>+/− 0.050</td>
<td>+/− 0.125</td>
<td>+/− 0.250</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measuring range 1</td>
<td>+/− 0.005</td>
<td>+/− 0.010</td>
<td>+/− 0.025</td>
<td>+/− 0.050</td>
<td>+/− 0.125</td>
<td>+/− 0.250</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measuring range 2</td>
<td>+/− 0.010</td>
<td>+/− 0.025</td>
<td>+/− 0.050</td>
<td>+/− 0.100</td>
<td>+/− 0.250</td>
<td>+/− 0.500</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measuring range 3</td>
<td>+/− 0.025</td>
<td>+/− 0.050</td>
<td>+/− 0.100</td>
<td>+/− 0.200</td>
<td>+/− 0.500</td>
<td>+/− 1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measuring range 4</td>
<td>+/− 0.050</td>
<td>+/− 0.100</td>
<td>+/− 0.200</td>
<td>+/− 0.500</td>
<td>+/− 1.000</td>
<td>+/− 2.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measuring direction</th>
<th>X-scanning</th>
<th>Roughness measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y-scanning</td>
<td>+/− 0.005</td>
<td>+/− 0.010</td>
</tr>
<tr>
<td>R-scanning</td>
<td>+/− 0.025</td>
<td>+/− 0.050</td>
</tr>
</tbody>
</table>

Some models feature Aerostatic air bearings along measurement axes (GM-X)

**Next Level Thread Measurement**

ConturoMatic GS / GM-X & QM-Soft®

- Easy
- Flexible
- Optimized in time
- DAkkS®-accreditable*

QPT Innovative Technik Handels GmbH
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Gauges for Metric M Screw Threads according to ANSI/ASME B1.16M-1984
ISO metric trapezoidal screw threads according to DIN 103:1997
Unified threads and thread gauges according to ANSI/ASME B1.1-1983/ B1.2-1983
Gauges for unified threads (ANSI/ASME B1.1-1982) according to BS 919-1:2007
Pipe threads and gauges according to ISO 228:2000 (also the older DIN 259:1979)
Pipe threads and gauges according to ISO 228:2000 (also the older DIN 259:1979)
Center control accuracy according to ISO 10032-2
Available threads according to ISO 2983.1
Porous inner thread of all materials from accuracy according to ISO 529:1975/1995/ EN ISO 529-1
Extract from EN ISO 228-1992 (draft) (essential for the gauge nutshell)
BS 919 (DIN 259-1997)

New:
- DAkkS-accreditable systems
- Styil and methods for measurement of small inner threads from M1.8 available (Patent pending)
- 3D Seeking algorithm for finding the cresting point of inner and outer thread gauges
- Optimized data interface with QM-Soft
- Can be used near production lines
- Universally usable for:
  - Contour measurement – Roughness measurement – Thread measurement
- Intuitive and easy to use
- Outstanding price-performance ratio
- System expansion made possible via modules
- Multiple measurements can be automated using Teach-In files
- Some models feature Aerostatic air bearings along measurement axes (GM-X)

**System specification**
- Axis: X and Z
- Movement range:
  - X-axis: 250 mm
  - Z-axis: 320 mm
- Measurement methods:
  - Contact measurement
  - Non-contact measurement
- Measuring range:
  - X-axis: 250 mm
  - Z-axis: 320 mm
- Measuring directions:
  - X-direction
  - Z-direction
- Sensor:
  - Non-contact
- Seamless integration
- Intuitive and easy to use
- Outstanding price-performance ratio
- System expansion made possible via modules

**Profile Measurement**
- Measurement of external and internal profiles
- Measurement of threads:
  - M1.0 - M60
  - P1.0 - P3.25
- Measuring range:
  - X-axis: 250 mm
  - Z-axis: 320 mm
- Measurement methods:
  - Contact measurement
  - Non-contact measurement
- Measuring range:
  - X-axis: 250 mm
  - Z-axis: 320 mm
- Measuring directions:
  - X-direction
  - Z-direction
- Sensor:
  - Contact
- Intuitive and easy to use
- Outstanding price-performance ratio
- System expansion made possible via modules

**Thread Measurement**
- Measurement of threads:
  - M1.0 - M60
  - P1.0 - P3.25
- Measuring range:
  - X-axis: 250 mm
  - Z-axis: 320 mm
- Measurement methods:
  - Contact measurement
  - Non-contact measurement
- Measuring range:
  - X-axis: 250 mm
  - Z-axis: 320 mm
- Measuring directions:
  - X-direction
  - Z-direction
- Sensor:
  - Contact
- Intuitive and easy to use
- Outstanding price-performance ratio
- System expansion made possible via modules

**System specification**
- Axis: X and Z
- Movement range:
  - X-axis: 250 mm
  - Z-axis: 320 mm
- Measurement methods:
  - Contact measurement
  - Non-contact measurement
- Measuring range:
  - X-axis: 250 mm
  - Z-axis: 320 mm
- Measuring directions:
  - X-direction
  - Z-direction
- Sensor:
  - Contact
- Intuitive and easy to use
- Outstanding price-performance ratio
- System expansion made possible via modules

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Next Level Thread Measurement
ConturoMatic GS/GM-X & QM-Soft®

ConturoMatic TS-GS /
GS-UD / GM-X

Machining range X
Measuring range Z
Measuring range Y
- Contact measurement
- Non-contact measurement
- X-direction
- Z-direction

DAkkS-accreditible®

easy
flexible
optimized in time

Option:
- Software for evaluation of tapered threads:
  - DIN 2999
  - ANSI/ASME B1.20.1 (NPT)
  - BS 21, ISO 7-2
  - ANSI B1.20.5-1991 (NPTF)

Excerpt – Technical Data:
- Contact measurement
- Non-contact measurement
- Measuring range X
- Measuring range Z
- Measuring range Y
- X-direction
- Y-direction
- Z-direction
- Contact measurement
- Non-contact measurement

DAkkS-accreditible®

Next Level Thread Measurement
ConturoMatic GS/GM-X & QM-Soft®
**The Most Effective Method to Measure Threads**

The increasing requirements for precision, the necessity to ensure the function and safety of screw fittings, and also the specifications of the current IATF 16949 regarding the monitoring of measuring equipment demand modern thread measuring methods. Furthermore, product safety and lightweight construction require the compliance with ever narrowing tolerances. The comprehensive testing and documentation of all relevant thread parameters is thus essential. These requirements inevitably lead to the fact that previously applied test and measurement methods need to be updated. The testing of thread gauges using the 3-wire-method to ascertain pitch diameter and the classic methods to determine pitch values in Abbé length measurement systems provide only a limited assumption of the actual thread geometry.

Older quality control methods on the production line, e.g. physical thread gauges, are being replaced more and more by actual measurement methods. Parameters whose evaluability was limited when using such gauges can now be quickly and easily documented.

Recording parameters such as flank angles, flank form error, minor diameter, radius in the core, and roughness of the thread flanks is only feasible with modern, scanning measurement methods.

Based on our approved ConturoMatic T-systems, we have developed solutions that guarantee an efficient and economic inspection of thread gauges and component threads with excellent quality and precision. In conjunction with the market’s most effective software for calculating thread parameters, QM-Soft, we provide an efficient and flexible tool for testing and documenting your thread measurement tasks.

Our systems are ideally suited for the use in certified calibration laboratories in accordance with DIN EN ISO/IEC 17025: 2018-03.

**Specific attribute of our GS/GM-X systems**

- Part of our "ConturoMatic T" thread scanner is an advanced, adjustable thread master, which is the basis for the required measurement. An automatic scanning of thread rings from M3 up to M300 and thread plug gauges from M1 up to M250 is feasible. Due to our portfolio of different styli arms and styli tips the measurement of most thread types and thread gauges is also feasible. We provide special styli and methods for measuring small inner threads from M1,8 up to M5 and thread plug gauges from M1 up to M100.

- By detecting the upper and lower thread form, a check of all the relevant parameters is feasible. The actual measured values are used for this analysis. An interpolation of measurement values for the evaluation of the threads is therefore not necessary. Furthermore, we have developed an efficient 3D-scanning algorithm for an automatic scanning of the cresting point of thread rings and plug gauges.

**Operational area**

Moreover an usage of the ConturoMatic GS/GM-X thread scanner systems in the batch production is feasible also. Areas of application for thread ring gauges: M1,8 – M300. Examples include: thread ring gauges: M1,8 – M300. Special attribute of our GS/GM-X systems

**Specific attribute of our GS/GM-X systems**

- Integrated mechanism for reduction of maloperation
- Time saving through optimized procedure
- Mismeasurement through wrong parameters are detected
- Software check of the qualification of the chosen stylus arm
- Suitable stylus arms are recommended for the specific thread type
- Management of automatic thread measuring procedures
- Suitable stylus arms are recommended for the specific thread type
- Management of automatic thread measuring procedures
- Management of automatic thread measuring procedures
- Time saving through optimized procedure
- Integrated mechanism for reduction of maloperation

**ConturoMatic & QM-Soft**

By detecting the upper and lower thread form, a check of all the relevant parameters is feasible. The actual measured values are used for this analysis. An interpolation of measurement values for the evaluation of the threads is therefore not necessary. Furthermore, we have developed an efficient 3D-scanning algorithm for an automatic scanning of the cresting point of thread rings and plug gauges.

**Operational area**

Moreover an usage of the ConturoMatic GS/GM-X thread scanner systems in the batch production is feasible also. Areas of application for thread ring gauges: M1,8 – M300.
The Most Effective Method to Measure Threads

The increasing requirements for precision, the necessity to ensure the function and safety of screw fittings, and also the specifications of the current ISO 965-1 regarding the monitoring of measuring equipment demand modern thread measuring methods. Furthermore, product safety and lightweight construction require the compliance with ever-narrowing tolerances. The comprehensive testing and documentation of all relevant thread parameters is therefore essential.

These requirements inevitably lead to the fact that previously applied test and measurement methods need to be updated. thread measuring methods. Furthermore, product safety and lightweight construction require the compliance with ever-narrowing tolerances. The comprehensive testing and documentation of all relevant thread parameters is therefore essential.

The comprehensive testing and documentation of all relevant thread parameters is therefore essential.

Our systems are ideally suited for the use in certified calibration laboratories in accordance with DIN EN ISO/IEC 17025: 2018-03. We provide an efficient and flexible tool for testing and recording your thread measurement tasks. Moreover, our systems are approved by the market’s most effective software for calculating thread parameters, nominal inspection of thread gauges and component-threads with excellent quality and precision. In conjunction with the market’s most effective software for calculating thread parameters, QM-Soft, we provide an efficient and flexible tool for testing and recording your thread measurement tasks.

Our systems are ideally suited for the use in certified calibration laboratories in accordance with DIN EN ISO/IEC 17025: 2018-03. We provide an efficient and flexible tool for testing and recording your thread measurement tasks. Moreover, our systems are approved by the market’s most effective software for calculating thread parameters, nominal inspection of thread gauges and component-threads with excellent quality and precision. In conjunction with the market’s most effective software for calculating thread parameters, QM-Soft, we provide an efficient and flexible tool for testing and recording your thread measurement tasks.

Specific attributes of our GS/GM-X systems

Part of our “ConturoMatic” thread scanner and “GM-X” thread master is an adjusted mechanical and software to achieve the specific requirements of an advanced thread measurement. All necessary elements for a common thread scanning are included. The enclosed universal device allows the secure clamping of thread ring gauges from M6 up to M70 and thread plug gauges from M8 up to M200. Due to our portfolio of different stylus arms and stylus tips the measurement of most thread types and thread gauges is also feasible. We provide special stylus and methods for measuring small inner threads from M1,8 up to M70 and thread plug gauges from M1 up to M100.

By detecting the upper and lower thread form, a check of all the relevant parameters is feasible. The actual measured values are used for this analysis. An interpolation of measurement values for the evaluation of the threads is therefore not necessary. Furthermore, we have developed an efficient 3D-seeking algorithm for an automatic scanning of the creating point of thread ring and plug gauges.

Operational area

Moreover an usage of the “ConturoMatic” GS/GM-X thread scanner systems in the batch production is feasible also. Area of application for thread ring gauges: M1,8 – M300.

The flexibility of our systems in the range of contour and roughness measurement is unrestricted usable for different thread scanning are included. The enclosed universal device allows the secure clamping of thread ring gauges from M6 up to M70 and thread plug gauges from M8 up to M200. Due to our portfolio of different stylus arms and stylus tips the measurement of most thread types and thread gauges is also feasible. We provide special stylus and methods for measuring small inner threads from M1,8 up to M70 and thread plug gauges from M1 up to M100.

ConturoMatic & QM-Soft

By detecting the upper and lower thread form, a check of all the relevant parameters is feasible. The actual measured values are used for this analysis. An interpolation of measurement values for the evaluation of the threads is therefore not necessary. Furthermore, we have developed an efficient 3D-seeking algorithm for an automatic scanning of the creating point of thread ring and plug gauges.

Operational area

Moreover an usage of the “ConturoMatic” GS/GM-X thread scanner systems in the batch production is feasible also. Area of application for thread ring gauges: M1,8 – M300.

Specific attributes of our GS/GM-X systems

Part of our “ConturoMatic” thread scanner and “GM-X” thread master is an adjusted mechanical and software to achieve the specific requirements of an advanced thread measurement. All necessary elements for a common thread scanning are included. The enclosed universal device allows the secure clamping of thread ring gauges from M6 up to M70 and thread plug gauges from M8 up to M200. Due to our portfolio of different stylus arms and stylus tips the measurement of most thread types and thread gauges is also feasible. We provide special stylus and methods for measuring small inner threads from M1,8 up to M70 and thread plug gauges from M1 up to M100.

By detecting the upper and lower thread form, a check of all the relevant parameters is feasible. The actual measured values are used for this analysis. An interpolation of measurement values for the evaluation of the threads is therefore not necessary. Furthermore, we have developed an efficient 3D-seeking algorithm for an automatic scanning of the creating point of thread ring and plug gauges.

Operational area

Moreover an usage of the “ConturoMatic” GS/GM-X thread scanner systems in the batch production is feasible also. Area of application for thread ring gauges: M1,8 – M300.
**The Most Effective Method to Measure Threads**

The increasing requirements for precision, the necessity to ensure the function and safety of screw fittings, and also the specifications of the current IATF 16949 regarding the monitoring of measuring equipment demand modern thread measuring methods. Furthermore, product safety and lightweight construction require the compliance with ever-narrowing tolerances. The comprehensive testing and documentation of all relevant thread parameters is thus essential.

These requirements lay the basis for the fact that previously applied test and measurement methods need to be updated. The testing of thread gauges using the 3-wire-method to ascertain pitch diameter and the classic methods to determine pitch values in Abbé length measurement systems provide only a limited assumption of the actual thread geometry.

*The measurement procedures DMAS-DMD R 4-3, sheet 4.9.2010 Option 1 b) as well as sheet 4.9.2010 Option 1 b) are applicable without taking any limitations.*

Older quality control methods on the production line, e.g. physical thread gauges, are being replaced more and more by actual measurement methods. Parameters whose availability was limited when using such gauges can now be quickly and easily documented.

*ConturoMatic & QM-Soft*

- By detecting the upper and lower thread form, a check of all the relevant parameters is feasible. The actual measured values are used for this analysis. An interpolation of measurement values for the evaluation of the threads is therefore not necessary. Furthermore, we have developed an efficient 3D-seeking algorithm for an automatic scanning of the cresting point of thread ring and plug gauges.

**Operational area**

Moreover an usage of the ConturoMatic GS/GM-X thread scanner systems in the batch production is feasible also.

**Specific attribute of our GS/GM-X systems**

- Part of our “ConturoMatic GS” thread scanner and “GM-X” thread scanner is an adapted mechanics and software to achieve the specific requirements of an advanced thread measurement. All necessary elements for a common thread scanning are integrated. The enclosed universal device allows the secure clamping of thread ring gauges from M1 up to M300 and thread plug gauges from M1 up to M100.

Due to the portfolio of different stylus arms and styles the measurement of most thread types and thread gauges is also feasible. We provide special stylus and methods for measuring small inner threads from M1,8 (patent pending), or form-optimized stylus for scanning tapered threads.

- **Contour and roughness measurement**

  The flexibility of our systems in the range of contour and roughness measurement is unrestricted usable for different types of measurement tasks. Furthermore, already purchased ConturoMatic T-Systems can be upgraded to a thread scanner.

  - **Management of automatic thread measuring processes**
  - Suitable stylus arms are recommended for the specific thread type
  - Software check of the qualification of the chosen stylus arm
  - Measurement through ranging parameters are detected
  - Automatic recording of the measurements
  - Time saving through optimized procedure
  - Integrated mechanism for reduction of maloperation

**Software check of the qualification of the chosen stylus arm**

The digital data are transferred automatically to the ConturoMatic software, after the automatic measurement process has ended. The creation of that kind of measurement processes is carried out by our approved and simple “Teach-in” function. Acknowledge of special software functions is not required.

**Example of an „automatic serial measurement“**

The serial measurement of thread gauges, several thread profiles can be scanned in one measurement process. The creation of that kind of measurement processes is carried out by our approved and simple “Teach-in” function. Acknowledge of special software functions is not required.

The digital data are transferred automatically to the ConturoMatic GS/GM-X after the automatic measurement process has ended.