measurement of radial load with unique diameter compensation for all types of seals

desktop measurement device
Key Features

- **proven and tested**: the measurement principle is according to the well established DIN 3761-9 method.
- **high accuracy**: by using spring hinges all moving parts are supported frictionless.
- **robust design**: with convenient jigs, the load cell and mandrel position can be calibrated by the operator at any time.
- **best practice**: since the distance between the mandrels is controlled, the radial load is always determined at nominal sealing diameter. Such a diameter compensation is crucial when stiff seals like PTFE lip seals, O-Rings or even hydraulic seals have to be measured. The IMA-Radiameter is the only commercial measuring device available with diameter compensation.
- **easy-assembly-mode**: For easy seal mounting the mandrels can be moved together, which decreases mounting force considerably.
- **convenient**: the mandrels have a new improved clamping system which is easier to manufacture, self aligning and tightened by clamping shoes - no tools needed. Existing mandrels can still be used with an adapter.
- **most versatile**: the mandrels can be made up to 300 mm test diameter, also adapters for other mandrel clamping systems are available.
- **large band width for radial load**: by selecting an appropriate load cell, a load range can be handled from low 0-30 N (soft, small diameter seals) up to high 20-3000 N (hydraulic seals).
- **data documentation**: measurement data is recorded and can be exported, short time (1 or 10 sec.) or longtime measurements (over hours/days) are easy to configure.
- **user friendly**: the Windows based software helps and guides the user on data acquisition.
IMA - Radiameter Control

• user friendly control, based on Lab-View
• stand alone software
• realtime radial load display
• configurable basic measurement
• longtime measurement
• data recording
• online operating instructions
• free configurable measurement plans
• force- and position calibration

Possible Applications

• quality control for seal production or for seal assembly
• failure analysis
• measuring of time-dependant relaxation behaviour
• comparision of different seal types or seal manufacturers
• comparision before and after field tests
• measuring with and without garter spring in order to distinguish between spring and elastomer radial load
• identification of material properties for FE simulations

Accessory

mandrels in different material and diameter

adapter for existing mandrels made according DIN 3761-9 layout
Benefit from the measurement device development driven by the research activities at the fluid sealing group at Institute of Machine Components of University of Stuttgart

Technical Data
IMA-Radiameter

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Configurable force sensors</td>
<td>up to 3000 N</td>
</tr>
<tr>
<td>Split mandrel measurement</td>
<td>according DIN 3761-9</td>
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<td>Exchangeable split mandrels</td>
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<tr>
<td>Measurable sealing diameter</td>
<td>up to 300 mm</td>
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<tr>
<td>Diameter compensated design</td>
<td></td>
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<tr>
<td>Automated measurement data recording</td>
<td></td>
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<tr>
<td>Easy-assembly-mode for stiff seals</td>
<td></td>
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<tr>
<td>Data export via text file</td>
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<tr>
<td>Sampling frequency</td>
<td>4 Hz</td>
</tr>
<tr>
<td>Power supply</td>
<td>230 V / 110 V</td>
</tr>
<tr>
<td>Interface to computer</td>
<td>USB 2.0 or higher</td>
</tr>
<tr>
<td>Dimensions (H x W x D)</td>
<td>134 x 475 x 282 mm</td>
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<tr>
<td>Weight</td>
<td>18 kg</td>
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A Cooperation between:

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