

# Comparison of load cells MODELS 8427, 8417, 8431/8432

Model	Tension and compression load cell Model 8427	Miniature tension and compression load cell Model 8417	Precision miniature tension and compression load cell Model 8431/8432
Legend: +++ excellent ++ very good + good			
Measuring range	Measuring ranges from 0 ... 100 N to 0 ... 10 kN	Measuring ranges from 0 ... 10 N to 0 ... 5 kN	Measuring ranges from 0 ... 10 N to 0 ... 100 kN
Non-linearity	0.50 % F.S.	0.50 % F.S.	0.15 % F.S.
<b>Mechanical values</b>			
Construction/Design	Robust welded construction made of stainless steel	Welded stainless steel construction	Robust welded construction made of stainless steel, additional support membrane
Protection class	Protection class IP65	Protection class IP54	Protection class IP65
<b>Geometry</b>			
External thread available	Option	Yes	Yes
Different fixing options	+++	++	++
Dimensions	Standard	Very small, compact	Practical
<b>Electrical values</b>			
Cable type	Connection cable suitable for drag chain	Connection cable not suitable for drag chain	Connection cable suitable for drag chain
<b>Environmental conditions</b>			
Optional vacuum design	No	Yes	Yes
Temperature compensated ranges	+15 °C to +70 °C	+15 °C to +70 °C	-55 °C to +120 °C
<b>Operating conditions</b>			
External force/shear force insensitivity	-	-	+++
Universal use	+++	++	+++
Longevity	Durable	Durable	Very durable
Number of load cycles	++	++	+++
Ruggedness	++	++	+++
Low weight	+	+++	++
<b>Other</b>			
Options/Accessories	<ul style="list-style-type: none"> <li>■ Various cable lengths available</li> <li>■ Standardized nominal sensitivity</li> <li>■ Connectors/connector assembly</li> <li>■ Sensor electronics</li> <li>■ Rod end bearings</li> <li>■ Threaded pins</li> <li>■ Load buttons</li> <li>■ DAkkS and factory calibration certificate</li> </ul>	<ul style="list-style-type: none"> <li>■ Various cable lengths available</li> <li>■ Standardized nominal sensitivity</li> <li>■ Connectors/connector assembly</li> <li>■ Sensor electronics</li> <li>■ Rod end bearings</li> <li>■ DAkkS and factory calibration certificate</li> </ul>	<ul style="list-style-type: none"> <li>■ Compensated temperature range from -55 °C and up to +120 °C</li> <li>■ Pressure compensation hole for operating in a vacuum</li> <li>■ Connection cable suitable for drag chain</li> <li>■ Range of cable lengths</li> <li>■ Standardized nominal sensitivity</li> <li>■ Connectors/connector assembly</li> <li>■ Sensor electronics</li> <li>■ Rod end bearings</li> <li>■ DAkkS and factory calibration certificate</li> </ul>
Highlights	A compact and very robust load cell model 8427 for tensile and compressive load, for which an excellent price-performance ratio is deliberately in the foreground. Together with different mounting options, the load cell can be used universally. The variety of possible mounting parts reduces the costs and quantities of spare parts to be kept in stock. Thanks to its modular concept, customer requirements can be quickly implemented by means of different mounting threads.	The model 8417 load cell is the smallest sensor available for measuring tensile and compressive forces. Its diameter is only 10 mm and the mounting threads on both sides are designed in size M3. This is accompanied by a particularly low weight of only 3 g, which extends its field of application to mass-critical applications.	Excellently suited for dynamic, demanding and high-precision applications. Due to the bidirectional overload protection (model 8432) and additional supporting membranes, the load cell is insensitive to lateral forces. For applications with acting external forces. Very easy mounting inside the tool. For very precise and demanding applications. Reduction of the additional design effort of the environment of the load cell with regard to force introduction. Very many options available.