Dynamometer

For accurate measurement of tension forces.

The Dynamometer is a extremely robust and reliable instrument.

The Dynamometer conforms to Protection Class IP67 acc. to IEC529.
Dynamometer

Range of application
The Dynamometer is an allweather instrument, equally suitable for use in the laboratory as out in the field for weighing and measuring mechanical forces.

Function
The pull rod movement operates the scale drum through a square thread stem. The power-absorbing element consists of specially made Belleville type spring washers, designed to be entirely free from wear. The spring washers cannot be overloaded.

Safety
Safety factor 5:1, guaranteed to withstand a load of 5 times full scale reading before rupture.

For Dynamometer Max capacity 5000lb (2200 kg, 22kN)
Safety factor 3.5:1 (Guaranteed to withstand a load of 3.5 times full scale reading before rupture).

The resistance to rupture is tested by the National Swedish Institute for Materials Testing. The Dynamometer may be overloaded by 100% without impairing the accuracy. The PIAB Dynamometers, types M-G, have drop-forged steel eye brackets (SIS 2174, St 52-3N acc. to DIN 17100, 50 D acc. to BS 4360); giving a guaranteed impact resistance to -20ºC.

The O-ring of the pull rod is protected by a neoprene rubber membrane. On instantaneous unloading, e.g. breaking test, the return movement of the pull rod is retarded by a specially made spring washer. The Dynamometer is approved by the National Board of Occupational Safety and Health for integral connection in the carrying system of a lifting device and for weighing of test loads in connection with inspection.

Dynamometer for remote reading
The Dynamometer used for remote reading is supplied with a builtin precision potentiometer. The potentiometer is directly connected to the scale mechanism of the instrument. The electrical resistance of the potentiometer varies in proportion to the load on the dynamometer. The resistance is indicated on a receiving instrument, calibrated individually and marked with the same serial number as the dynamometer.

The electrical connections are made on a connection block in a surface mounted connection box.

For Dynamometer Max capacity 5000lb (2200 kg, 22kN)
The connecting cable of the Dynamometer is either 1 foot 7" long (0.5 m) and equipped with a Tuchel plug or 6 feet long (2 m) without the Tuchel plug. If a Dynamometer with potentiometer is delivered without receiving instrument, a resistance chart with at least 10 incremental values is included.

Contact function
The Dynamometer can be equipped with a built-on adjustable Switch Head. Using a microswitch, which is directly influenced by the pull rod, the Dynamometer gives an electrical contact function at a preset value. For further technical specifications please refer to PIAB info 9116-1 Switch Head Dynamometer.

Technical Data

INACCURACY
±0.6% of the max. capacity.

WORKING TEMPERATURE
Max.+60°C. Max. 140°F

TAREING
The dynamometer can be tared to approx.10% of the full scale. To obtain best accuracy the dynamometer should be supplied calibrated for a known tare.

SCALE
White lacquered with black graduation. The dynamometer can be graduated in kg, kp, N, lb., cwt. etc.

PROTECTION CLASS
IP 67, IEC 529 NEMA 4X
Protection against corrosion
The Dynamometer is fully pressure tight and each instrument is pressure tested. The external surfaces are zinc plated with clear chromate passivation. If the Dynamometer is to be used in a very corrosive atmosphere, it can be polyester lacquered.

<table>
<thead>
<tr>
<th>ART. NO.</th>
<th>TYPE</th>
<th>CAPACITY</th>
<th>GRADUATION</th>
<th>DEAD WEIGHT</th>
<th>MEASURES IN MM</th>
</tr>
</thead>
<tbody>
<tr>
<td>300015</td>
<td>K*</td>
<td>0-250 kg</td>
<td>5 kg</td>
<td>1,9 kg</td>
<td>A 266 B 230 C 166 D 42 E 18 F 23 G 20 H 50 I 17</td>
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<tr>
<td>300020</td>
<td>A*</td>
<td>0-500kg</td>
<td>10 kg</td>
<td>2</td>
<td>24x20</td>
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<tr>
<td>300025</td>
<td>B*</td>
<td>0-1000 kg</td>
<td>20 kg</td>
<td>2</td>
<td>24x20</td>
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<tr>
<td>300030</td>
<td>Bx1,5</td>
<td>0-1500 kg</td>
<td>50 kg</td>
<td>3,6</td>
<td>26x20</td>
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<tr>
<td>300030</td>
<td>M</td>
<td>0-2000 kg</td>
<td>25 kg</td>
<td>7,8 kg</td>
<td>26x20</td>
</tr>
<tr>
<td>300035</td>
<td>O</td>
<td>0-3000 kg</td>
<td>50 kg</td>
<td>2,5</td>
<td>26x20</td>
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<td>300040</td>
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<td>50 kg</td>
<td>15 kg</td>
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<td>0-10000 kg</td>
<td>100 kg</td>
<td>26,5 kg</td>
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<tr>
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<td>U</td>
<td>0-20000 kg</td>
<td>200 kg</td>
<td>78 kg</td>
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<td>G</td>
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<td>200 kg</td>
<td>4,2</td>
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</tr>
<tr>
<td>300060</td>
<td>E</td>
<td>0-50000 kg</td>
<td>250 kg</td>
<td>2,7</td>
<td>26x20</td>
</tr>
</tbody>
</table>

The pull rod movement at full load is approximately 10 mm.

*On the types K-B with built-in potentiometer the length increases by 56 mm.

We reserve the right to change the specifications without notice.

**) Safety factor 4:1

Dynamometer Max Capacity 5000lb (2200 kg, 22kN)