



rhothor™ DEFLECTION MOTOR TECHNICAL DATASHEET

The rhothor™ deflection motor no longer relies on the traditional moving magnets technology; instead a revolutionary concept is applied, opening a huge perspective for performance improvement. In this architecture the torque is generated by a Lorenz force, eliminating most fundamental limitations of the traditional approach and resulting in very fast, accurate and flexibel motors.

<p>Dynamic performance</p> <p>Track error</p>	<p>Aperture 10: 70 μs Aperture 15: 110 μs Aperture 20: 160 μs</p>
<p>Angle range</p> <p>Maximum angle range</p>	<p>Scanner type AR800: 800 mrad (45,8°) Scanner type AR660: 660 mrad (37,8°) Scanner type AR180: 180 mrad (10,3°)</p>
<p>Accuracy</p> <p>Positioning resolution</p> <p>Drift measured over 8 hours <i>- starting after 15 min. warming up</i></p> <p>Nonlinearity <i>- without calibration</i></p> <p>Nonlinearity <i>- after calibration with FLIGHTbeacon</i></p>	<p>0,002 % of max. angle range</p> <p>< ± 0,004 % of max. angle range</p> <p>AR800: < ± 0,25 % of max. angle range AR660: < ± 0,18 % of max. angle range AR180: < ± 0,01 % of max. angle range</p> <p>< ± 0,006 % of max. angle range</p>
<p>Rotor parameters</p> <p>Typical rotor inductance <i>- at 20°C</i></p> <p>Typical rotor resistance <i>- at 20°C</i></p> <p>Maximum rotor resistance <i>- effective rotor current = 4.5 A</i> <i>- measured after 1 hour</i></p> <p>Maximum effective current</p> <p>Peak current</p> <p>Moment of inertia <i>- complete axis with mirror holder, without mirror</i></p>	<p>4 μH</p> <p>265 mΩ</p> <p>450 mΩ</p> <p>4,5 A</p> <p>15 A</p> <p>260 g.mm²</p>
<p>Inertial load</p> <p>Maximum load moment of inertia</p>	<p>1000 g.mm²</p>
<p>Weight / mounting / cable</p> <p>Motor weight <i>- without mirror and cable</i></p> <p>Maximum cable length</p> <p>Motor mounting</p>	<p>300 g</p> <p>500 mm</p> <p>make electrical connection between motor housing and regulator board GND</p>

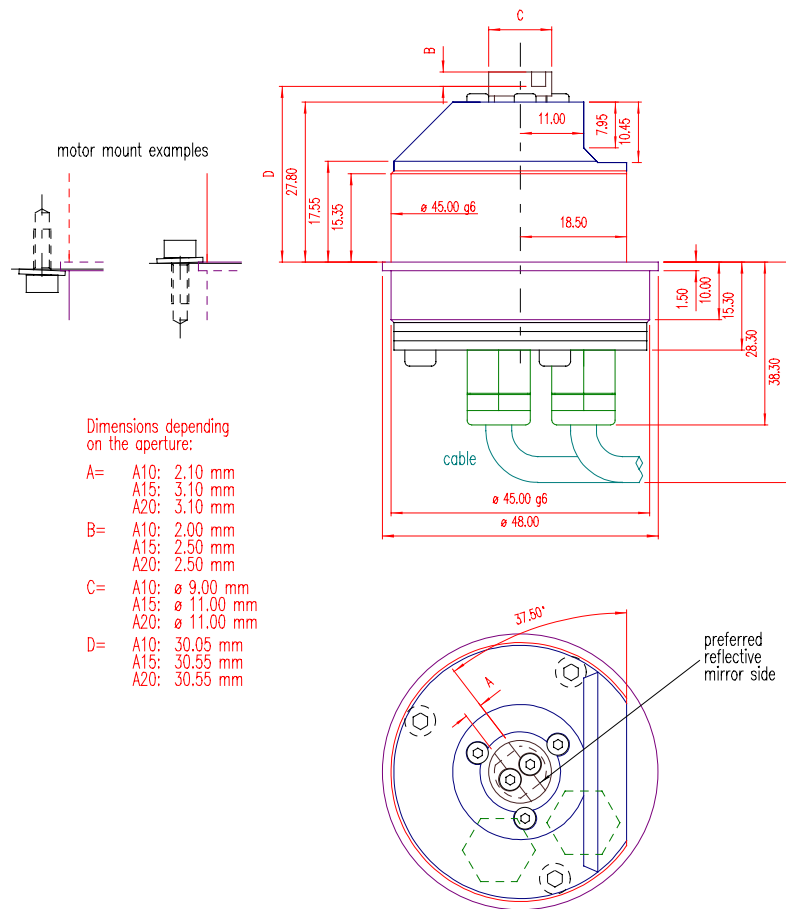
- all angles are optical
- parameters tested with newson regulator board




rhothor™ deflection motors are in compliance with directive 2002/95/EC regarding the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS).

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Mechanical dimensions



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	Title : Deflection motor	
	Drawing - ID : RT-S-DRAW00-1	Units : Metric [mm]
Newson Engineering nv		Design : Newson Engineering NV
		Date :
		Burgemeesters De Louwestraat 43
		B-2500 Overmere