The VRVT 080 Miniature In-Cylinder Transducer combines the best features associated with LVDTs and potentiometers into one rugged, contactless and highly reliable displacement transducer.

With a diameter of only 7.95mm the VRVT 080 is ideal for installation into hydraulic and pneumatic cylinder applications where space is at a premium. The VRVT 080 is ideal for use on small-bore actuators and offers a choice of internal or external flange mounting configurations to suit tie-rod, welded and rear clevis-mounted cylinder types. Two core configurations also provide the designer the following options:

- **SLEEVED CORE** - cylinder rods can be simply machined to accommodate the sleeve. This also gives the option of retro-fitting existing servo-cylinders with an upgrade to VRVT technology.
- **THREADED CORE** - provides the designer with the minimum transducer body size and a simplified installation requiring minimal machining.

### Performance

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical stroke length</td>
<td>50 to 300mm standard (consult Penny &amp; Giles for longer lengths)</td>
</tr>
<tr>
<td>Stroke ≤ 100mm</td>
<td>better than ±0.5%</td>
</tr>
<tr>
<td>Stroke &gt; 100mm</td>
<td>better than ±0.2% of stroke</td>
</tr>
<tr>
<td>Stroke</td>
<td>≤ 100mm better than ±0.5%</td>
</tr>
<tr>
<td>Temperature</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Temperature performance</td>
<td>≤ 100ppm of electrical stroke/°C (+20 to +60°C)</td>
</tr>
<tr>
<td>Operating pressure</td>
<td>350Bar max.</td>
</tr>
<tr>
<td>Temperature performance</td>
<td>≤ 200ppm of electrical stroke/°C (-40 to +100°C)</td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>50MΩ at 100Vdc</td>
</tr>
</tbody>
</table>

The above specifications apply only when the VRVT080 is operated in conjunction with a Penny & Giles EM Series electronic module.

### Signal Conditioning

- **Input voltages**: ±15V (±10%) or +18 to 30Vdc
- **Standard outputs**: 0 to 10Vdc, 0 to 5Vdc, -5 to +5Vdc, 5 to 25mA, 0 to 20mA, 4 to 20mA

Each transducer is supplied with a programming module calibrated to match the electrical stroke length. The module is plugged into the required EM electronic module via mating connectors.

### Notes

- Maximum recommended distance between sensor and EM electronic module is 30m.

The modular design of the VRVT 080 enables the rapid delivery of standard ranges. For custom requirements (such as extended stroke lengths or special mounting flanges) please contact one of our Sales Application Engineers for assistance.
**VRVT 080 MINIATURE IN-CYLINDER TRANSDUCER**

**DIMENSIONS**

Internal Flange
Sleeved Core
VRVT 080/I/S
Minimum bore dia 10.5mm
Stroke length 50 to 300mm

Internal Flange
Threaded Core
VRVT 080/I/TM or TI
Minimum bore dia 9mm
Stroke length 50 to 300mm

External Flange
Sleeved Core
VRVT 080/E/SM or SI
Minimum bore dia 10.5mm
Stroke length 50 to 300mm

External Flange
Threaded Core
VRVT 080/E/TM or TI
Minimum bore dia 9mm
Stroke length 50 to 300mm

**ELECTRICAL CONNECTIONS**

Internal Flange
Flying leads: PTFE insulated
19/0.15, 200mm long

External Flange
Cable: 3 core + screen
19/0.15 ETFE insulated, TPS120 sheath x 1m long
(or optional connector)

**ORDERING CODES**

VRVT080/.../.../.../....

I = Internal mounted flange
E = External mounted flange
SM = Sleeved core (metric)
SI = Sleeved core (imperial)
TM = Threaded core (metric)
TI = Threaded core (imperial)

**NOTE**

See EM Series data sheets for full technical specifications and ordering code.

**WEB SITE**

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