# VRVT 100
# IN-CYLINDER TRANSDUCER

**The VRVT 100 In-Cylinder Transducer combines the best features associated with LVDT's and potentiometers into one rugged, contactless and highly reliable displacement transducer.**

**With a diameter of only 10mm the VRVT 100 is ideal for installation into hydraulic and pneumatic cylinder applications where space is at a premium. The VRVT 100 is ideal for use on medium stroke 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

| | | |
|---|---|---|
| **Electrical stroke length** | **mm** | 50 to 1000mm standard (consult Penny & Giles for longer lengths) |
| **Independent linearity** | | Better than ±0.2% of stroke |
| **Resolution** | | Infinite |
| **Operational temperature** | **°C** | -40°C to +85°C |
| **Temperature performance** | **ppm** | ≤ ±100ppm of electrical stroke/°C (+20 to +60°C)<br>≤ ±200ppm of electrical stroke/°C (-40 to +100°C) |
| **Operating pressure** | | 350Bar max. |
| **Insulation resistance** | | 50MΩ at 100Vdc |

**Note**

The above specifications apply only when the VRVT 100 is operated in conjunction with a Penny & Giles EM Series electronic module.

## SIGNAL CONDITIONING

Penny & Giles offer a wide range of electronic modules (EM Series)
For specific details please refer to EM Series data sheets.

| | |
|---|---|
| **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 |

**Notes**

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.

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

## AVAILABILITY

The modular design of the VRVT 100 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.

Penny+Giles

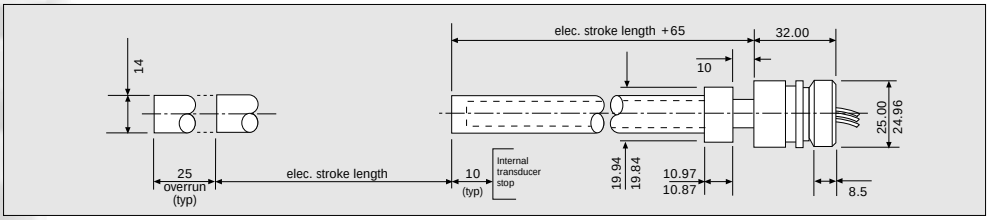
Penny + Giles – the technology for linear position sensing

# *VRVT 100* IN-CYLINDER TRANSDUCER

## DIMENSIONS

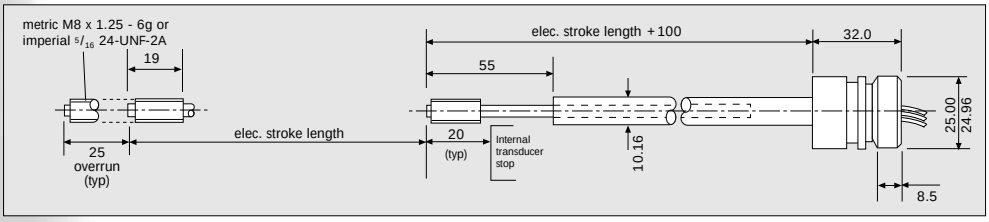
**Internal Flange**
**Sleeved Core**
VRVT 100/I/S

Minimum bore dia 14.5mm
Stroke length 50 to 1000mm



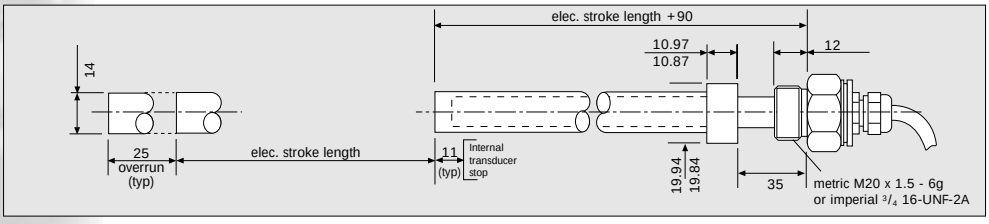

**Internal Flange**
**Threaded Core**
VRVT 100/I/TM or TI

Minimum bore dia 11mm
Stroke length 50 to 1000mm



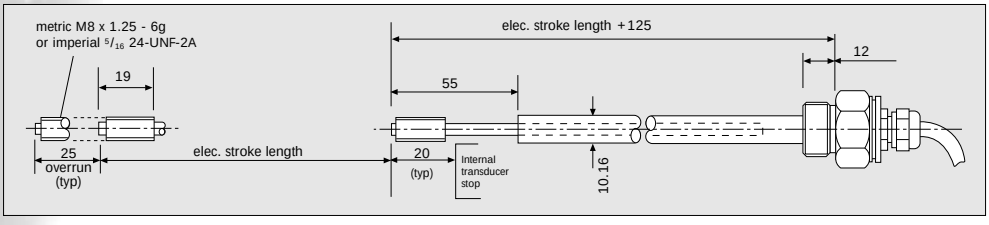

**External Flange**
**Sleeved Core**
VRVT 100/E/SM or SI

Minimum bore dia 14.5mm
Stroke length 50 to 1000mm




**External Flange**
**Threaded Core**
VRVT 100/E/TM or TI

Minimum bore dia 11mm
Stroke length 50 to 1000mm

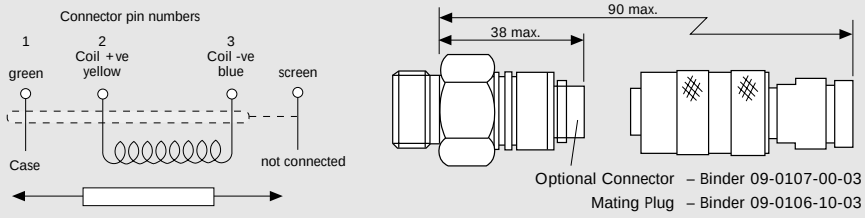



## ELECTRICAL CONNECTIONS

**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)

**Optional connector**




Note: Drawings not to scale

## ORDERING CODES

**VRVT100/..../..../..../....**

I = Internal mounted flange
E = External mounted flange

SM = Sleeved core (metric)
SI = Sleeved core (imperial)
TM = Threaded core (metric)
TI = Threaded core (imperial)

Stroke length mm

External Flange only:
L = Cable leads
C = Connector option

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

Distributor: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