

# RTO80 FILLED SYSTEM TEMPERATURE & PRESSURE RECORDERS & RECORDER CONTROLLERS



The RTO80 range of temperature and pressure circular chart recorders uses the well proven and reliable Rototherm stainless steel thermal and pressure system.

These reliable and accurate instruments are suitable for most applications where there is a requirement for low cost temperature and pressure recording.

## FEATURES

- 2 pen temperature & pressure recording and controlling at low cost
- Uses proven and reliable Rototherm filled temperature systems
- Simple installation and maintenance requirement
- Portable stand or pipe mounting available
- Fully mechanical versions available
- Electrical, battery or mechanical chart drive options
- Electrical control options
- Pneumatic control options

## Pens

Fitted to the pen arms are disposable fibre tipped pens which are readily replaced without mess. The first pen traces in red ink and the second pen in blue.

## Control Options

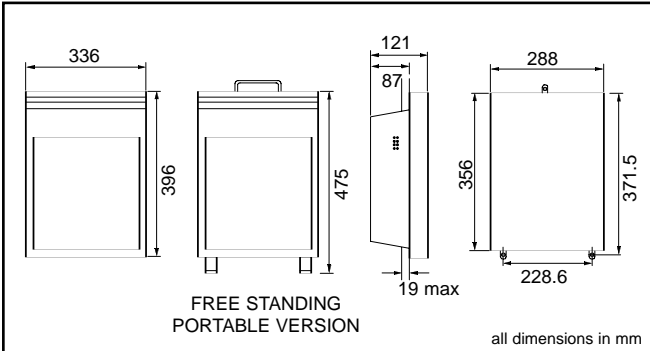
Full pneumatic control is available on this range of recorders - for full details please refer to the Pneumatic recorder controller data sheet.

Electric Control / Alarm - recorders in this range may be specified with electrical control options.

## SPECIFICATION

|                                     |   |
|-------------------------------------|---|
| <b>ACCURACY</b>                     | +/-1% FSD   |
| <b>AMBIENT TEMPERATURE</b>          | -20°C to +50°C  |
| <b>MEASURING ELEMENT</b>            | Rototherm thermal bourdon tube temperature compensated.   |
| <b>CAPILLARY</b>                    | Microbore stainless steel tube with 3mm diameter stainless steel cover (type C1) as standard. Other capillary types are available.  |
| <b>BULB AND STEM</b>                | Stainless steel BS970 316 S16<br>Standard diameter is 12.7mm.   |
| <b>FITTINGS</b>                     | Compression gland (adjustable).<br>Stainless steel BS970 316 S16 (1/2" BSP is standard). Other BSP, NPT and API are available on request. (suitable for pressures up to 3.5 bar)  |
| <b>PRESSURE MEASURING ELEMENT</b>   | Bourdon tube or pressure capsule  |
| <b>CHART DRIVE</b>                  | Synchronous electric, battery or mechanical spring wound. 24 hour or 7 day. (other rotations on request)  |
| <b>CHARTS</b>                       | Disc 240mm (9.5 inches) diameter.<br>Standard dividing 40, 50, 60, 70 or 80 linear divisions.   |
| <b>INKING SYSTEM</b>                | Disposable fibre tipped pens.   |
| <b>CASE</b>                         | Glass filled polyester resin. protection rated to IP55  |
| <b>WINDOW</b>                       | Acrylic   |
| <b>POWER SUPPLY</b>                 | 200 to 250 volts, 50Hz (60Hz available);<br>100 to 110 volts, 50Hz (60Hz available);<br>Instruments without electrical control require no power supply provided that a clockwork chart drive is fitted. Battery operated chart drives require 1.5 volt type "C" cell. |
| <b>ELECTRICAL ALARM AND CONTROL</b> |   |
| Contact rating:                     | 0.1A at 250V AC (non inductive)   |
| (when fitted)                       | 0.01A at 250V DC (non-inductive)  |
| Relay contact rating                | 10A at 250V 50Hz  |
| Contact adjustment range            | 2% to 100%  |
| <b>MOUNTING</b>                     | Suitable for surface or panel mounting. (Pipe mounting and portable options available)  |
| <b>WEIGHT</b>                       | RTO80 : 7.0 kg (15.5lb)<br><br>The above weights include 3 metres of capillary. For each additional 3 metres add 0.25kg (0.5lb)   |

## DIMENSIONS



## STANDARD TEMPERATURE RANGES

Please refer to the RTO series Temperature Recorder data sheet for listings of standard temperature ranges.

## STANDARD PRESSURE RANGES

Please refer to the RPO series Pressure Recorder data sheet for listings of standard pressure ranges. Care should be taken to use compatible/standard chart ranges.

## BULB TYPES

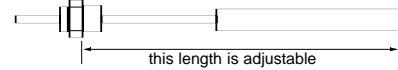
### Type 301

This bulb is used when no fitting is required. The bulb may be held in place by a bracket or clip (not supplied by Rototherm) or may be left free. If a fitting is not requested at the time of ordering this type of bulb will usually be given.



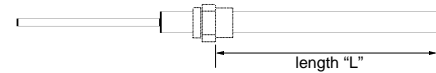
### Type 302

This bulb has a fitting which slides along the capillary and is clamped into the required position. Bulb length cannot be specified.



### Type 303

The fitting on this bulb is fitted on the actual bulb and not to the capillary. When ordering this type of bulb please specify the insertion length "L" of the bulb - i.e. is the bulb to be fitted into a thermowell? - if yes, what is the insertion length of the thermowell?



## RTO80 SERIES ORDER CODE

2 pen RTO80 Pen 1 Temperature  
Pen 2 (pressure)

### MOUNTING

Wall/Panel  
Portable  
Pipe

### CHART DRIVE

Electric 240V 50Hz  
Electric 110V 50Hz  
Electric other\*  
Spring Wound  
Battery

### CHART ROTATION

24 hour  
7 day  
Other\*

### CONTROLS / ALARMS

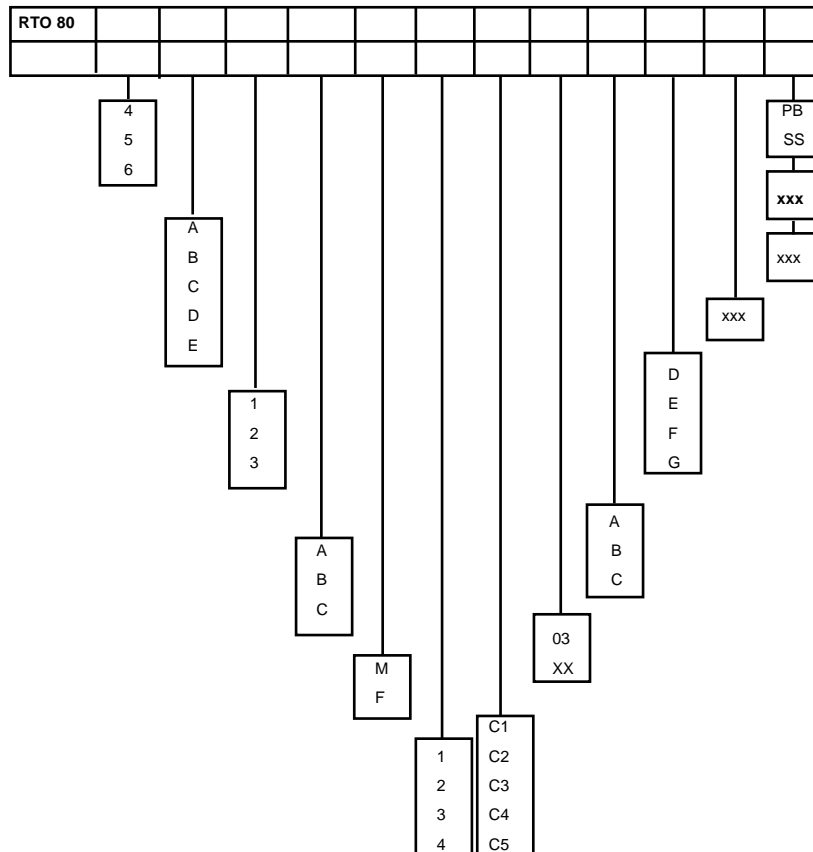
No control  
1st pen High & Low  
2nd pen High & Low  
1st & 2nd pen High & Low

### FILLING MEDIUM

Mercury  
Non-Toxic Filsafe

### BULB OPTION

Type 301  
Type 302  
Type 303  
Other\*



ELEMENT / CONNECTION MATERIAL  
Non Ferrous  
Stainless Steel

### PRESSURE RANGE & UNITS

RANGE (specify °C or °F)

IMMERSION LENGTH "L"  
(Length in mm)

### GLAND MATERIAL

No gland  
Mild steel  
Stainless steel  
Other\*

### FITTINGS/GLAND

No fitting  
Gland 1/2" BSP  
Other\*

### CAPILLARY LENGTH

3 metres (standard)  
Other\* (enter length in metres)

### CAPILLARY

Stainless steel  
Copper  
Flexible stainless armour  
Flexible stainless armour over stainless  
Other\*

Notes (a) Where Other\* is specified please add note to order code stating exact requirements  
(b) Care should be taken to use standard/compatible charts ranges.

# Rototherm

instrumentation and control

British Rototherm Co. Ltd.,  
Kenfig Industrial Estate, Margam,  
Port Talbot, West Glamorgan,  
SA13 2PW, United Kingdom  
Tel: 01656 740551 Fax: 01656 745915  
E-mail: [rototherm@rototherm.co.uk](mailto:rototherm@rototherm.co.uk)  
Web site: [www.rototherm.co.uk](http://www.rototherm.co.uk)



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