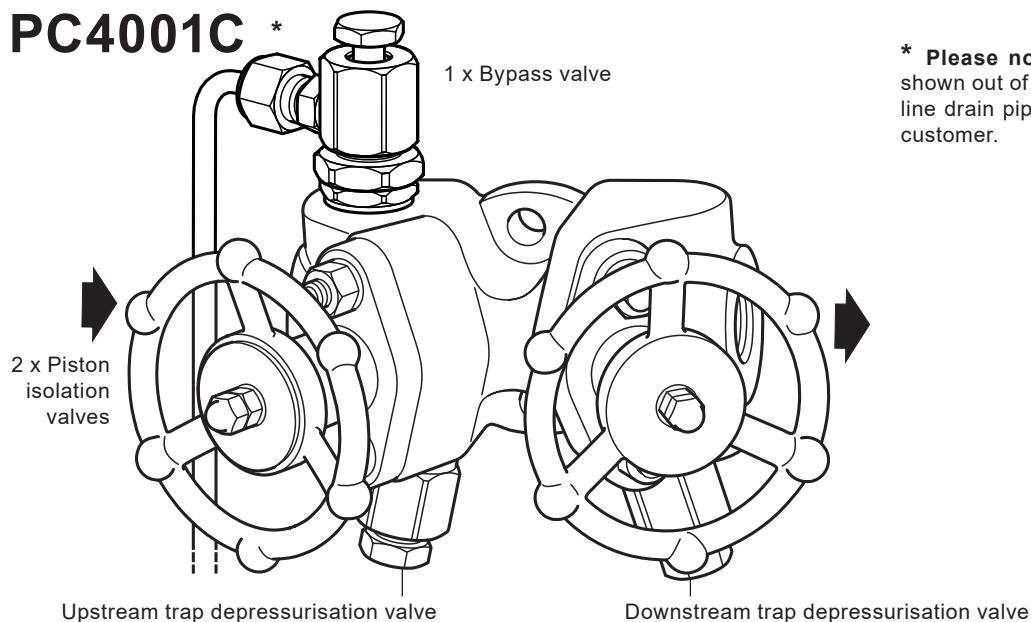


spirax sarco

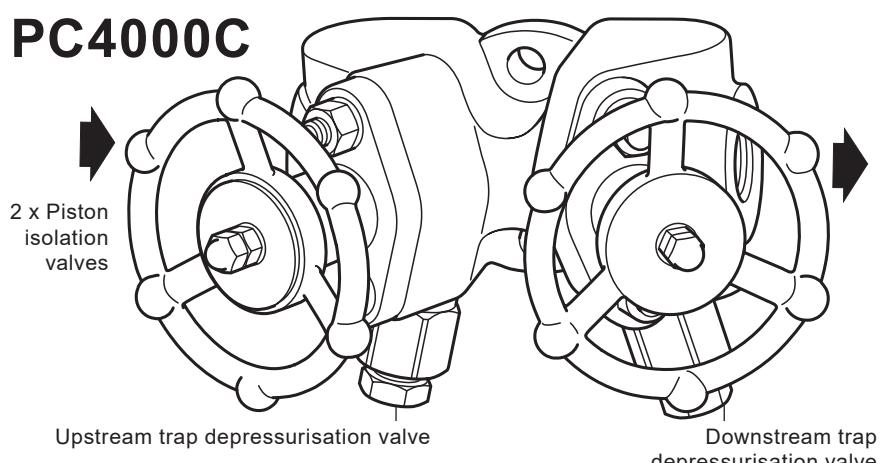
PC4001C, PC4000C and PC40C Pipeline Connectors For the Oil & Gas Industry

PC4001C *

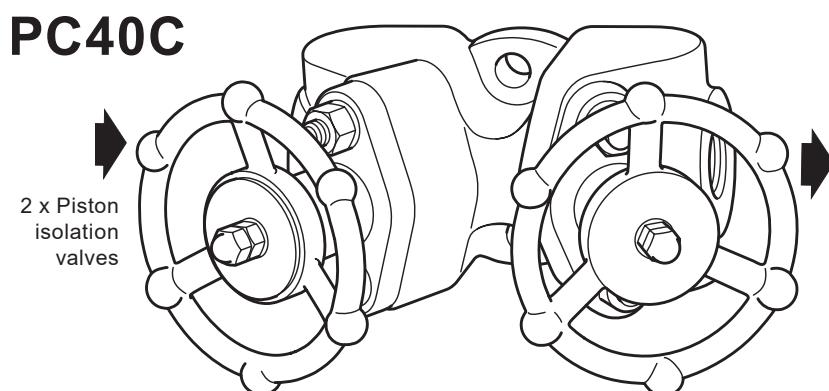


* Please note that the line drain outlet is shown out of position for clarity and that the line drain pipework is to be supplied by the customer.

PC4000C



PC40C



Description

The PC4001C, PC4000C and PC40C range of pipeline connectors are a complete 'Trap valve station solution' developed for use with two bolt universal swivel connector steam traps.

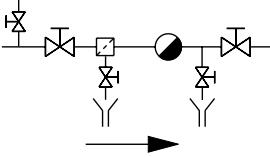
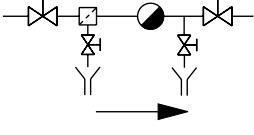
As the unit has been designed with two integral piston stop valves, it is possible to isolate both upstream and downstream of the universal trap connection.

PC4001C and PC4000C models only

Through the use of the fitted depressurisation valves it is possible to depressurise, test and drain the pipeline.

The trap depressurisation port also incorporates a maintainable 40 mesh stainless steel strainer screen to provide trap protection from system dirt and debris, which can be cleared through the use of the line pressure.

Available types

| Model | Valve connections | P and ID diagram | Flow direction |
|----------------|---|--|--|
| PC4001C | 2 x Piston isolation valves 1 x Upstream trap depressurisation valve 1 x Downstream trap depressurisation valve 1 x Bypass valve |  | Left to right → or ← Right to left |
| PC4000C | 2 x Piston isolation valves 1 x Upstream trap depressurisation valve 1 x Downstream trap depressurisation valve |  | |

For available options to the pipeline connections detailed within this Technical Information sheet please reference TI-F01-37.

Standards - These products fully comply with the requirements of the Indian Boiler Regulations, 1950.

Note: All certification/inspection requirements must be stated at the time of order placement. For other certification contact Spirax Sarco.

Sizes and pipe connections

DN15 and DN20 condensate inlet / outlet connections are available with screwed BSP or NPT and as a socket weld connection to ASME B16.11 class 3000. Drainage and venting connections have an M18 thread as standard.

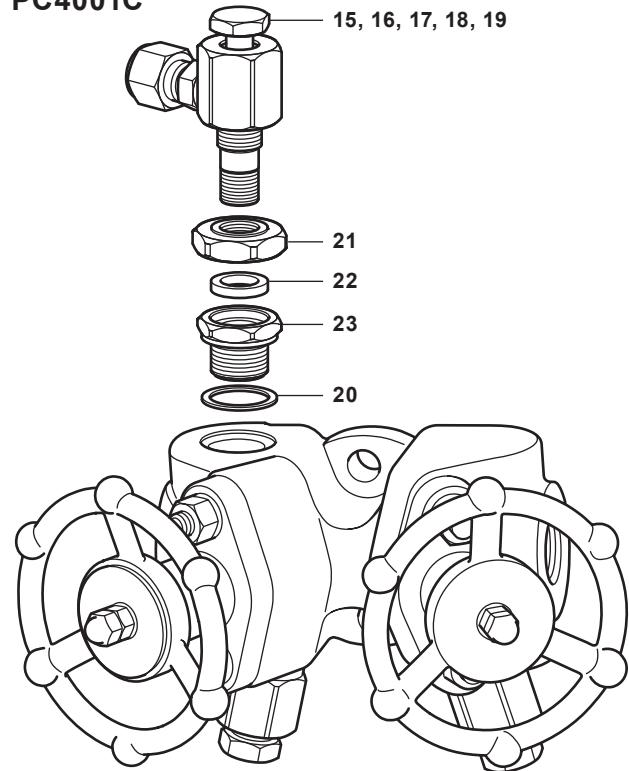
Flanged versions are also available upon request. Please contact Spirax Sarco for further details.

How to order

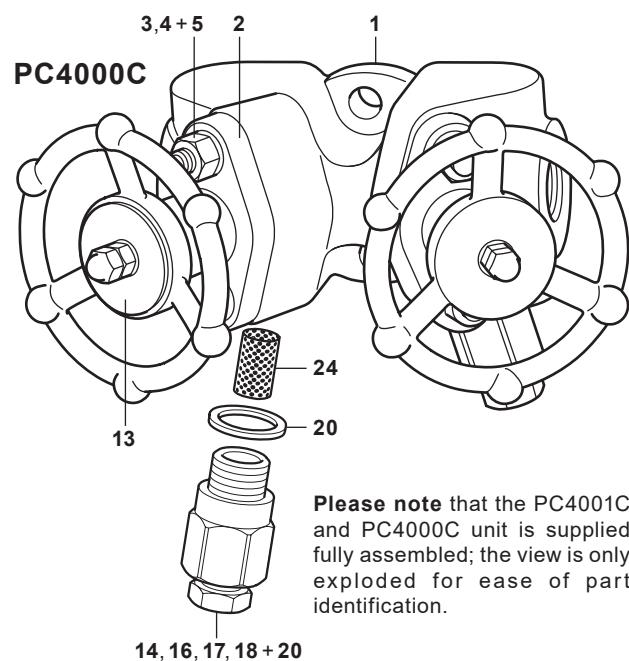
Example: 1 off 1/2" Spirax Sarco PC4001C pipeline connector having right to left flow and socket weld end connections to ASME B 16.11 Class 3000.

| No. Part | Material | |
|--|--|----------------------|
| 1 Pipeline connector body | Carbon steel | A105N / A350 LF2 |
| 2 Bonnet | Carbon steel (Zinc plated) | ASTM A105N / LF2 |
| 3 Studs | Steel (plated) | ASTM A193 B7 |
| 4 Nuts | Steel (plated) | ASTM A194 2H |
| 5 Washers | Stainless steel | |
| 6* Piston | Stainless steel | AISI 410 : 1.4006 |
| 7* Lantern bush | Stainless steel | ASTM A276 : AISI 431 |
| 8* Upper ring | Graphite and stainless steel | |
| 9* Lower ring | Graphite and stainless steel | |
| 10* Handwheel | Carbon steel (Zinc plated) | EN 10213 : 1.0619N |
| 11* Handwheel nuts | Stainless steel | |
| 12* Nitronic 60 washers | Stainless steel | |
| 13 Name-plate | Stainless steel | |
| 14 Depressurisation valve | Stainless steel ASTM A182 : 304 / 304L | |
| 15 Bypass valve | Stainless steel ASTM A182 : 304 / 304L | |
| 16 Valve screw | Stainless steel | ASTM A276 : AISI 431 |
| 17 Valve cone | Stainless steel | AISI 440 B |
| 18 Retaining ring | Stainless steel | BS 2056 302 S26 |
| 19 Compression fitting for the line drain valve only | Carbon steel (Zinc plated) | |
| 20 Valve gasket | Graphite and stainless steel | |
| 21 Bypass locknut | Stainless steel | ASTM A276 : AISI 431 |
| 22 Graphite ring | Die-formed graphite | |
| 23 Bypass bottom body | Stainless steel | ASTM A182 304/304L |
| 24 Strainer screen | Stainless steel | |

PC4001C



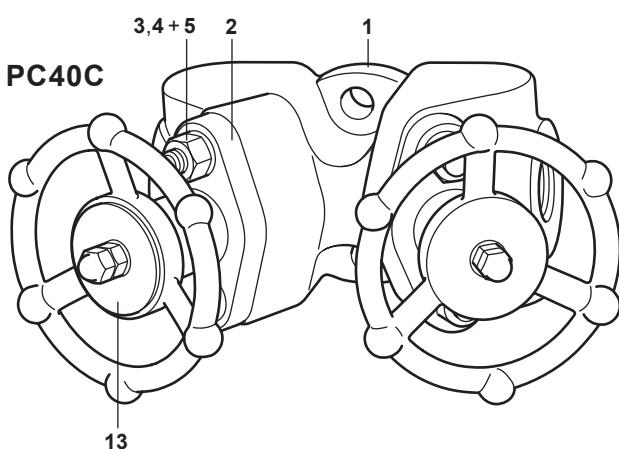
PC4000C



Please note that the PC4001C and PC4000C unit is supplied fully assembled; the view is only exploded for ease of part identification.

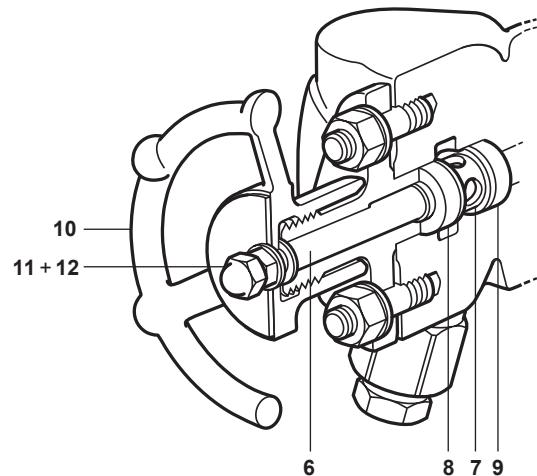
14, 16, 17, 18 + 20

* For valve internal materials, see next page

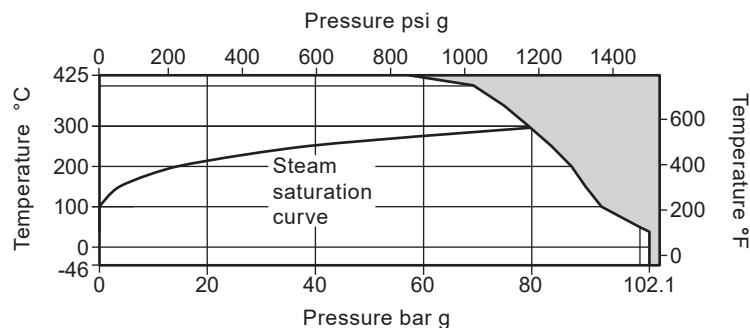


Valve internal materials

| No. Part | Material | |
|-------------------------|-------------------------------|----------------------|
| 6* Piston | Stainless steel | AISI 410 : 1.4006 |
| 7* Lantern bush | Stainless steel | ASTM A276 : AISI 431 |
| 8* Upper ring | Graphite and stainless steel | |
| 9* Lower ring | Graphite and stainless steel | |
| 10* Handwheel | Carbon steel (Zinc plated) | EN 10213 : 1.0619N |
| 11* Handwheel nuts | Stainless steel | |
| 12* Nitronic 60 washers | Stainless steel | |



Pressure/temperature limits (ISO 6552)



The product **must not** be used in this region or beyond the parameter of the PMA or TMA of the relative end connection - See notes below.

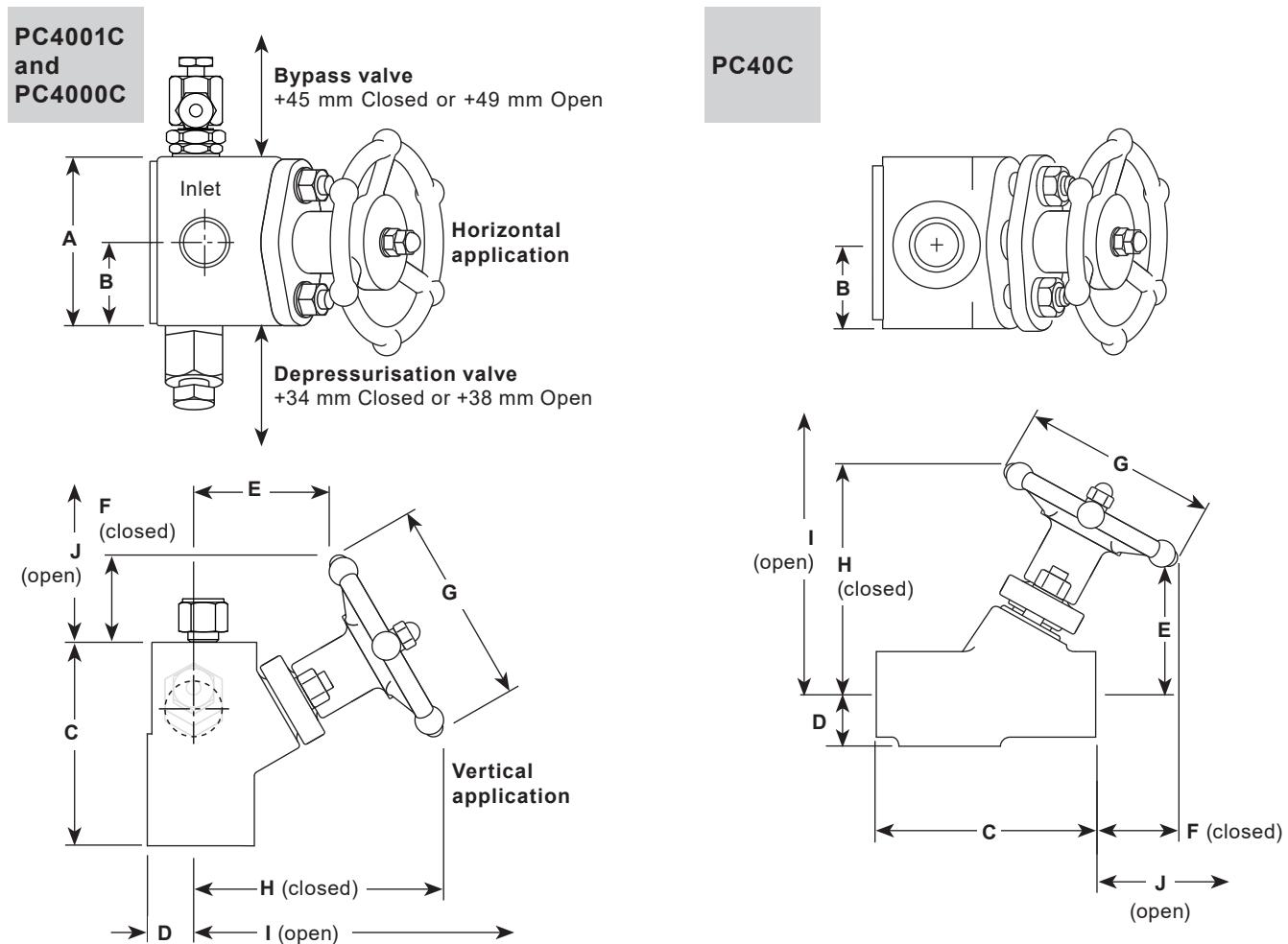
| Body design condition | ASME 600 | |
|--|---------------------|------------------------|
| PMA Maximum allowable pressure | 102.1 bar g @ 38 °C | 1480 psi g @ 100 °F |
| TMA Maximum allowable temperature | 425 °C @ 57.5 bar g | 797 °F @ 833 psi g |
| Minimum allowable temperature | -46 °C | -51 °F |
| PMO Maximum operating pressure for saturated steam service | 79.6 bar g @ 300 °C | 1 154.5 psi g @ 572 °F |
| TMO Maximum operating temperature | 425 °C @ 57.5 bar g | 797 °F @ 833 psi g |
| Minimum operating temperature | -46 °C | -51 °F |
| Designed for a maximum cold hydraulic test pressure of: | 153.2 bar g | 2 221.9 psi g |

Notes:

1. If flange connections are fitted then these will limit the maximum and minimum design conditions of the pipeline connector.
2. The maximum operating limits of the complete assembly will be dictated by the steam trap of choice. Reference the specific steam trap technical information sheet for its 'Pressure/temperature limits'.

Dimensions/weight (approximate in mm (inches) and kg (lbs))

| Units | A | B | C | D | E | F | G | H | I | J | Weight |
|-----------------|------|------|------|----|----|------|------|------|-------|-------|---------|
| Metric mm | 72 | 36 | 124 | 25 | 52 | 37 | 95 | 100 | 118 | 50 | 3.6 kgs |
| Imperial inches | 2.8" | 1.4" | 4.9" | 1" | 2" | 1.4" | 3.7" | 3.9" | 4.64" | 1.97" | 7.9 lbs |



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-IBR128-40) supplied with the product.

General information

There are two criteria which must be satisfied to ensure that the swivel connector trap will operate correctly and ensure effective condensate removal:

1. The PC4001C, PC4000C and PC40C shall be installed with flow in the direction of the arrow on the connector body. Flow can be horizontal (left to right or right to left), vertical or inclined.
2. The connection face for the swivel connector steam trap must be in the vertical plane unless stated on relevant steam trap Installation and Maintenance Instructions.

After installation it is recommended that the pipeline connector is insulated to minimise radiated heat losses and to protect personnel from burns risk: Please note that some steam trap types should not be insulated.

Depressurisation and line drainage

The PC4001C and PC4000C assemblies are supplied fitted with valves which allow depressurisation of the system to enable safe removal and maintenance of the steam trap. The PC4001C is also supplied with bypass fitted, however consideration must be given to the position of the discharge which should be directed or piped to a safe place where it will not injure personnel or damage equipment.

Disposal

This product is recyclable. No ecological hazard is anticipated with the disposal of this product, providing due care is taken.

Spare parts

The spare parts available are shown in heavy outline. Parts drawn in a grey line are not supplied as spares. For ease of replacement an extractor tool is available for removing the sealing rings.

Available spares

| | |
|--|---------------------------------------|
| Sealing ring set | 8 and 9 |
| Piston valve assembly | 2, 4, 5, 6, 7, 8, 9, 10, 11 and 12 |
| Piston valve sub-assembly | 6, 7, 8 and 9 |
| Extractor tool | Not shown |
| PC depressurisation valve and gasket | 14 and 20 |
| PC bypass valve assembly and gasket | 15, 16, 17, 18, 19, 21, 22, 23 and 20 |
| Strainer screen and gasket (pack of 3) | 24 and 20 |
| Valve gasket set (pack of 10) | 20 |

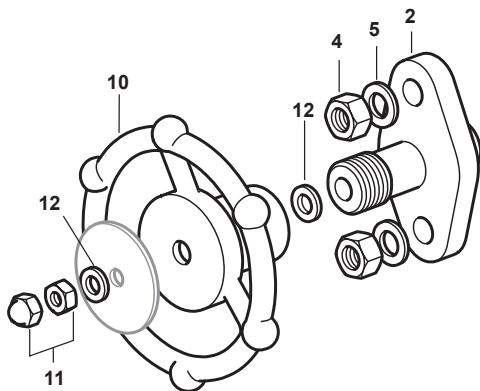
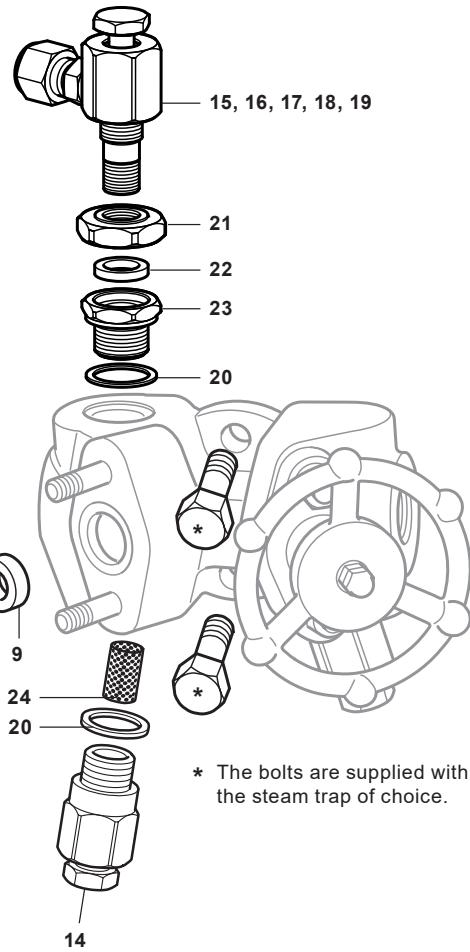
How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state type and size of equipment.

Example: 1 off Sealing ring set for an integral piston valve on a PC4001C pipeline connector having DN15 socket weld connections.

Recommended tightening torques

| Item | or mm | N m |
|-----------|------------------------------|---------|
| 4 | 14 $\frac{5}{16}$ " x 18 UNC | 12.0 |
| 11 | 10 M6 | 12.0 |
| 14 and 23 | 24 M18 | 74 - 78 |
| 21 | 27 M14 | 45-50 |



PC4001C shown