

National Standards Commission



Supplementary Certificate of Approval

No S277

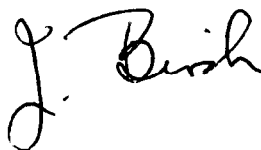
Issued under Regulation 9
of the
National Measurement (Patterns of Instruments) Regulations

This is to certify that an approval for use for trade has been granted in respect of the

Compac Industries Model C3000 Flowmeter Control System for Liquid-measuring Systems

submitted by Compac Industries Limited
10 Walls Road
Penrose Auckland New Zealand

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.



CONDITIONS OF APPROVAL

This approval is subject to review on or after 1/5/96.

This approval expires in respect of new instruments on 1/5/97.

Instruments purporting to comply with this approval shall be marked NSC No S277 and only by persons authorised by the submitter.

Instruments incorporating a component purporting to comply with this approval shall be marked NSC No S277 in addition to the approval number of the instrument.

It is the submitter's responsibility to ensure that all instruments marked with this approval number are constructed as described in the drawings and specifications lodged with the Commission and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with the Commission's Document 106.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0.

The values of the performance criteria (maximum number of scale intervals etc.) applicable to an instrument incorporating the pattern approved herein shall be within the limits specified herein and in any approval documentation for the other components.

The Commission reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

DESCRIPTIVE ADVICE

Pattern: approved 11/4/91

- . A Compac Industries model C3000 flowmeter control system for use in Commission-approved liquid-measuring systems incorporating any compatible Commission-approved positive displacement flowmeter.

Variant: approved 11/4/91

1. In other configurations without certain features of the pattern.

Technical Schedule No S277 describes the pattern and variant 1.

FILING ADVICE

The documentation for this approval comprises:

Supplementary Certificate of Approval No S277 dated 4/7/91
Technical Schedule No S277 dated 4/7/91 (incl. Test Procedure)
Figures 1 to 4 dated 4/7/91



National Standards Commission

TECHNICAL SCHEDULE No S277

Pattern: Compac Industries Model C3000 Flowmeter Control System for Liquid-measuring Systems.

Submittor: Compac Industries Limited
10 Walls Road
Penrose Auckland New Zealand

1. Description of Pattern

- A Compac Industries model C3000 flowmeter control system for use in Commission-approved liquid-measuring systems incorporating any compatible Commission-approved positive displacement flowmeter.

The pattern (Figure 1) comprises an indicator, a pulse generator and a controller.

1.1 Indicator

A model C3000H-BM card and PIN (personal identification number) activated indicator (Figure 2) with resettable volume indicator, a rate of flow indicator and a preset facility which incorporates a keyboard for data entry.

The volume totaliser is displayed on the volume and rate of flow display windows, if the "YES" button on the keypad is pressed, when the indicator is idle.

The maximum range of the indicator display is:

Volume (resettable)	999999 in 1 L increments
Preset (resettable)	99999 in 1 L increments
Totaliser	9999999999 in 1 L increments

An automatic segment check is initiated before each delivery.

1.2 Pulse Generator

A model CU C3000-3CH pulse generator (Figure 3) is used which produces pulses proportional to volume when connected to a Commission-approved positive displacement flowmeter interfaced with the model C3000-BM indicator.

The pulse generator specifications are:

Maximum pulser shaft speed:	600 revolutions/minute
Maximum pulses per shaft revolution:	150 pulses/revolution

Flowmeters connected to the pulse generators shall be used within a flow rate range such that the pulse generator output does not exceed 90000 pulses per minute

1.3 Controller

A Compac model CC1200 or CC4800 central controller (Figure 4) is used for recording of loading operations for management purposes.

1.4 Installation

The pulse generator is mounted directly to the flowmeter, and the indicator may be placed in a remote location. Connections of auxiliary devices shall be routed to minimise stray pulse pick-ups.

1.5 Verification Provision

Provision is made for a verification/certification mark to be applied.

1.6 Markings

Instruments are marked with the following data, together in one location:

Manufacturer's name or mark	
Model number	
Serial number	
Approval number	NSC No S277
Operating (air) temperature range	-10°C to +45°C

2. Description of Variant 1

In other configurations, viz. without the card-reader facility, and/or without the PIN facility, and/or without the preset facility, and/or without the central controller.

TEST PROCEDURE

The maximum permissible shaft revolutions of the pulse generator and the maximum flow rate of the flowmetering system shall be considered in conjunction with any tests specified in the approval documentation for the instrument to which the pattern is connected, as appropriate, and in accordance with any relevant tests specified in the Inspector's Handbook.

Maximum Permissible Errors at Verification/Certification

The maximum permissible errors applicable are those applicable to the system to which the instrument approved herein is fitted, as stated in the approval documentation for the system.

FIGURE S277 - 1

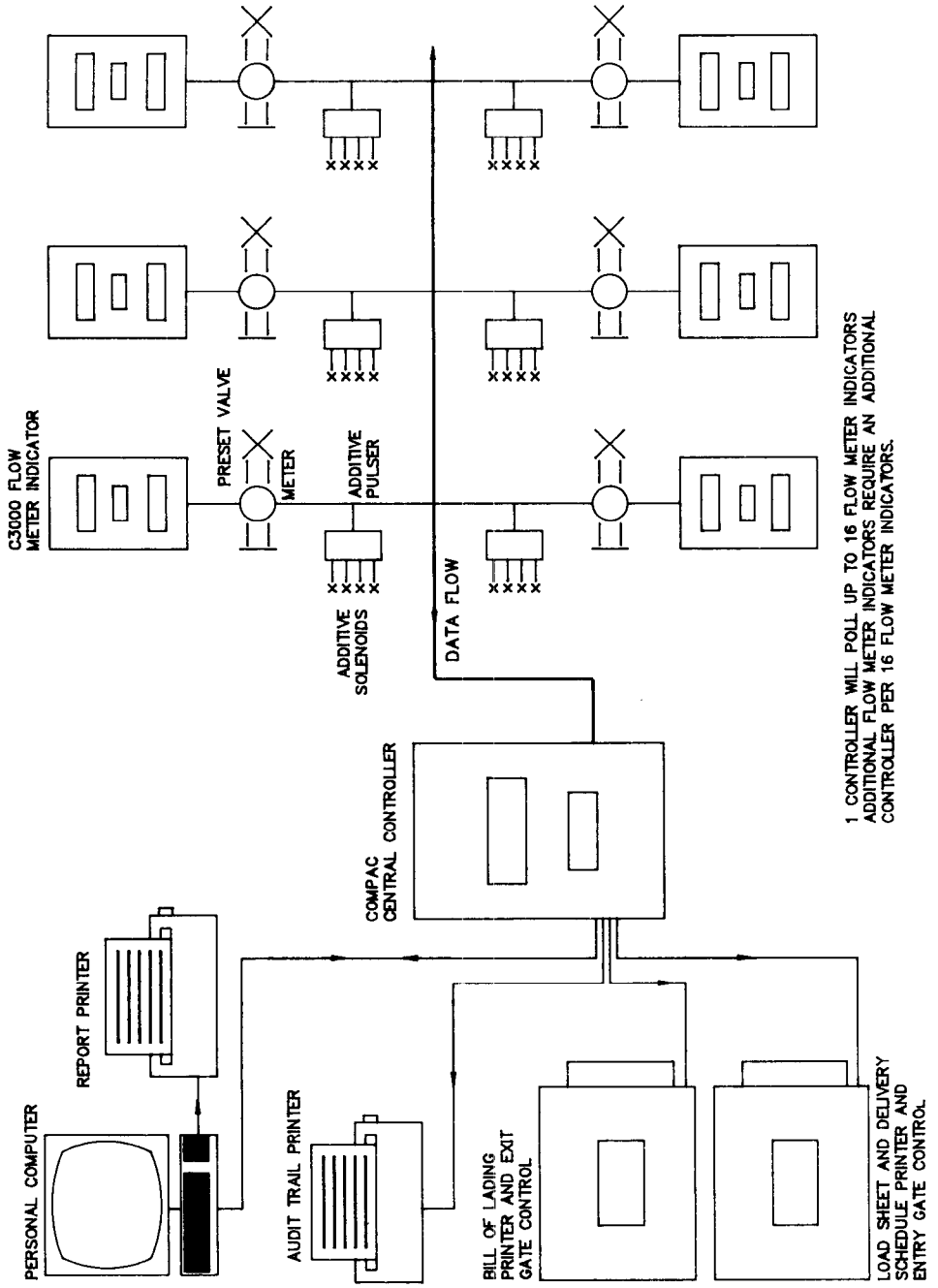
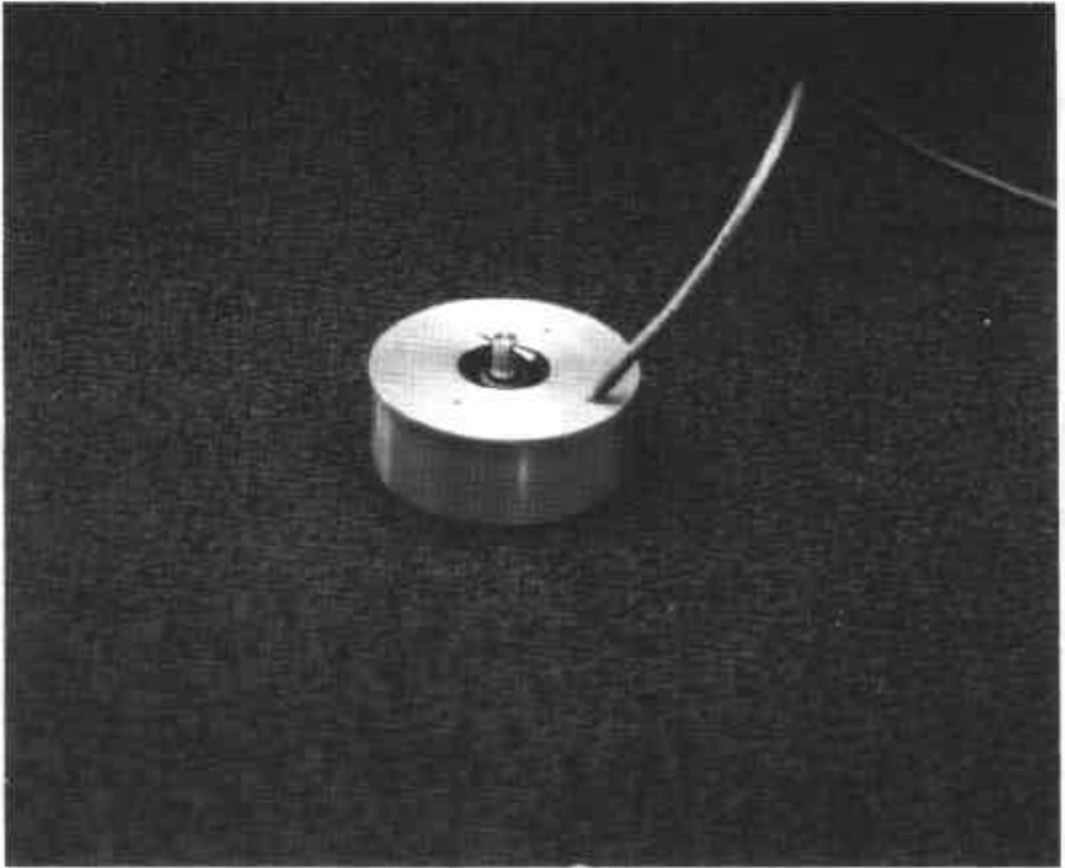


FIGURE S277 -2



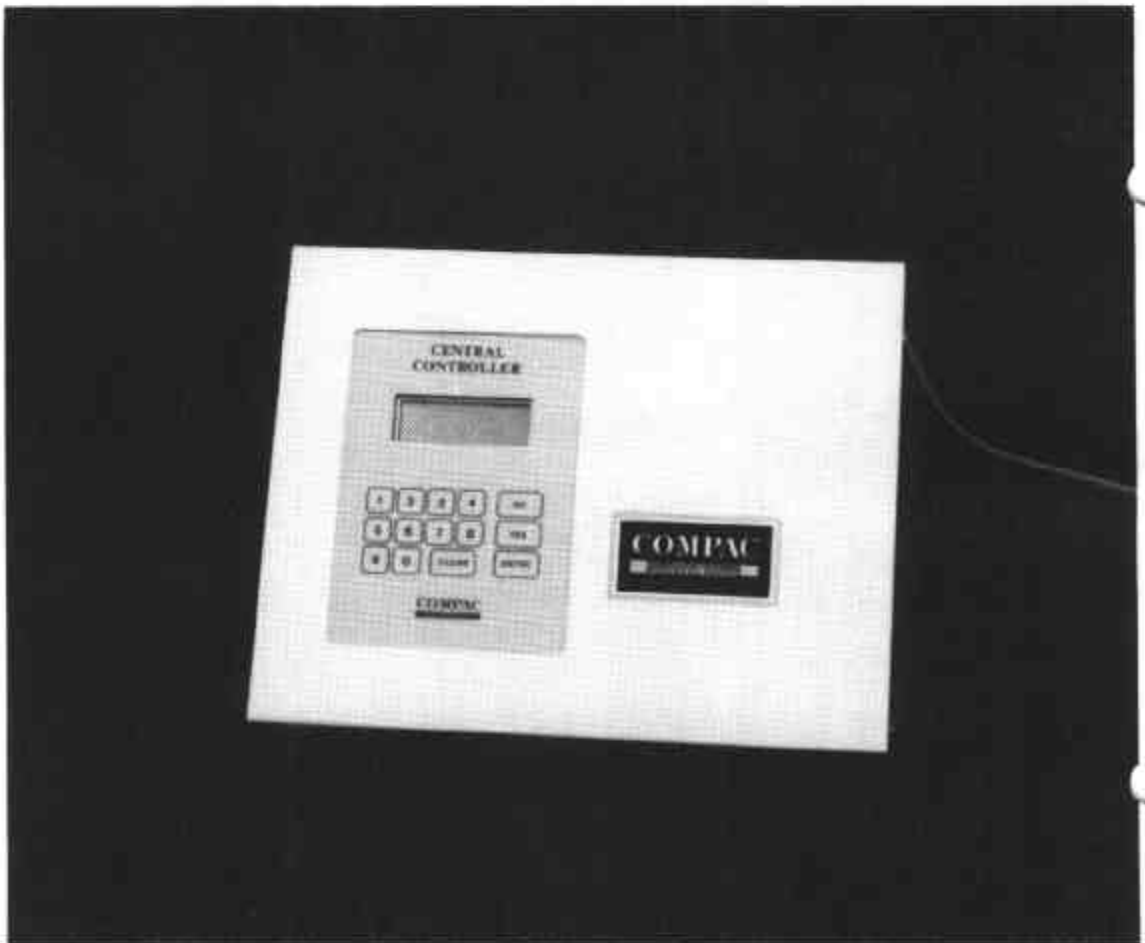
Compac Model C3000H-BM Indicator

FIGURE S277 - 3



Compac Model CU C3000-3CH Pulse Generator

FIGURE S277 - 4



Compac Model CC1200 or CC4800 Central Controller