



NATIONAL STANDARDS COMMISSION

NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 5/6B/66

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

Brooks Model B1-42 Flowmetering System

submitted by K J Baillie Pty Ltd 12 Whiting Street ARTARMON NSW 2064.

"ONDITIONS OF APPROVAL

This approval is subject to review on or after 1/3/91. This approval expires in respect of new instruments on 1/3/92.

Instruments purporting to comply with this approval shall be marked NSC No 5/6B/66.

This approval may be withdrawn if instruments are constructed and used other than as described in the drawings and specifications lodged with the Commission.

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

Signed Binh

Executive Director

Descriptive Advice

Pattern:

Brooks model B1-42 flowmetering system.

Technical Schedule No 5/6B/66 describes the pattern.

Filing Advice

The documentation for this approval comprises:

opproved 27/2/86

Certificate of Approval No 5/68/66 dated 10/10/86. Technical Schedule No 5/68/66 dated 10/10/86. Test Procedure No 5/68/66 dated 10/10/86. Figures 1 to 5 dated 10/10/86.



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 5/6B/66

Pattern: Brooks Model B1-42 Flowmetering System.

Submittor: K J Baillie Pty Ltd 12 Whiting Street ARTARMON NSW 2064.

1. Description of Pattern

A bulk flowmetering system using a Brooks model B1-42 flowmeter (Figure 1) which is approved for use with liquids having a viscosity range of 0.4 mPa.s to 10 mPa.s at any flow rate between 375 L/min and 75 L/min respectively.

1.1 Pipeline Flowmetering System

The system (refer to Figure 2) comprises:

- (1) A supply tank which may be fitted with a low-level detection device.
- (11) A pump of either positive displacement or centrifugal type in the latter case the pump is mounted lower than the minimum level of liquid in the supply tank. The supply pipe from the tank has a continuous fall to the pump.

If the pump is not for the exclusive use of the flowmeter, the flow rate through the meter must stay within the appropriate flow rate range for all combinations of alternative uses of the pump.

- (111) Non-return values or an arrangement of the components and piping to ensure that the system remains full of liquid at all times, and that reverse flow or syphoning is prevented.
- (iv) A Brooks model B1-42 flowmeter with split-compartment gas purger/strainer with or without an automatic shut-off valve assembly with hookup linkage controlled by the two-stage Veeder-Root preset indicator.
- (v) The meter may be fitted with any of the following assemblies:
 - (a) A Veeder-Root model VR788700 zero-start indicator with or without (c).
 - (b) A Veeder-Root model VR 789000 zero or accumulative-start single-handle indicator/printer with or without (c).
 - (c) A Veeder-Root two-stage preset indicator (which is not for trade use and must be so marked).
- (vi) An outlet control valve located downstream of the meter with no intermediate outlet. Provision shall be made for a pressure gauge to be connected downstream of the meter.

A flow rate control valve may be fitted downstream of the meter.

1.2 Loading-rack Flowmetering System

This system is similar to the pipeline system except that the outlet control valve is replaced by one of the following:

(a) Top-loading arrangement (Figure 3) - the highest point of the pipework forms a weir at a fixed level from which the delivery pipe drains to the outlet for all configurations of the loading arm whilst in operation. The outlet control valve is installed at or upstream of the highest point and a syphon breaker is installed to ensure complete draining of the pipework downstream of the weir.

Alternatively, an anti-drain valve which retains a pressure of not less than 55 kPa may be installed at the delivery point of the pipework; or

(b) Bottom-loading arrangement - a dry-break coupling located at the delivery point of the pipework.

1.3 Drum-filling Flowmetering System

This system (Figure 4) is similar to the pipeline and loading-rack systems except for the following:

- (a) The meter is fitted with a Veeder-Root two-stage preset indicator, with automatic shut-off valve and linkage assembly controlled by the preset indicator which is set to repeat deliveries of 200 litres. This indicator is marked PRESET FOR 200 LITRES, and is used with or without the following:
 - (i) A Veeder-Root model VR788700 indicator, or
 - (ii) A Veeder-Root model VR789000 indicator/ticket printer.
- (b) The outlet is a nozzle with an anti-drain valve installed either in the nozzle or immediately before it, and having a retaining pressure of not less than 55 kPa.

1.5 Features Common to All Systems

1.5.1 Markings

The following information shall be clearly and permanently marked on one or more permanently attached nameplates:

Manufacturer's name or mark		
Model number		
Serial number		
NSC approval number	NSC	No 5/6B/66
Maximum flow rate	375	L/min
Minimum flow rate	75	L/min
Nominal flow rate*		L/min
Minimum delivery (pipeline/loading-rack systems)		L
Batch delivery (drum-filling systems)	200	L
Type of liquid for which the meter is verified		

*To be included when flow rate is within ± 5% of nominal. In addition, except for drum-filling systems, if a preset indicator is fitted it shall be marked NOT FOR TRADE USE.

1.5.2 Verification Provision

.

Provision is made for a verification mark to be applied.

The indicator assembly may be sealed by passing a sealing wire through the attachment-mounting bolts terminating in a lead seal. The calibrator may be sealed by the lead stamping plug provided.

TEST PROCEDURE No 5/6B/66

Instruments should be tested in accordance with the Formal Conference Inspector's Handbook, with the liquid with which they will be used and which is marked on the data plate.

The maximum permissible errors applicable during a verification test are specified in Document 118, First Edition dated May 1982.



S





FIGURE 5/6B/66-2

Pipeline System - Schematic Diagram

5/68/66 10/10/86



FIGURE 5/68/66-3

Looding-rock System - Schematic Diogram

5/68/66 10/10/86



.



.

FIGURE 5/68/66-5

