Australian Government
Department of Industry, Science and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 6/9C/325

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

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

Bucher PAK-WEIGH Model WH-6000 Weighing Instrument

submitted by Bucher Municipal Pty Ltd
19 Astoria Street
Marsden Park NSW 2765

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

This approval has been granted with reference to document NMI R 76, *Non-automatic weighing instruments, Parts 1 and 2*, dated October 2015.

This approval is subject to review at the decision of the Chief Metrologist in accordance with the conditions specified in the document NMI P 106.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern approved – certificate issued	21/07/22
1	Variant 1 approved – certificate issued	25/10/24

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/9C/325' and only by persons authorised by the submittor.

It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) 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 document NMI P 106.

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

The pattern as approved herein or with substitute approved load cells and/or approved indicators, shall comply with General Certificate of Approval No 6B/0.

Note:

New instruments manufactured under this approval shall only use load cells and/or indicators with current Supplementary Certificates of Approval; and

New instruments manufactured under this approval shall comply with 6-wire cable connection requirements between the junction box and the indicator in the case of analogue load cells are connected parallel to each other in a junction box prior to connection to the indicator as shown in Figures 3a and 3b; and

Instruments manufactured or converted under this approval shall only use approved indicators with reference to document NMI R 76 dated October 2015 or later.

Signed by a person authorised by the Chief Metrologist to exercise their powers under Regulation 60 of the *National Measurement Regulations 1999*.

James Cantrill
A/g Manager
Policy and Regulatory Services

TECHNICAL SCHEDULE No 6/9C/325

1. Description of Pattern approved on 21/07/22

A Bucher PAK-WEIGH model WH-6000 class (III) self-indicating non-automatic weighing instrument (Figure 1a) of 200 kg maximum capacity with a verification scale interval of 0.1 kg and with a minimum capacity of 2 kg, and approved for use with up to 2000 verification scale intervals.

Instruments may be fitted with output sockets (output interfacing capability) for the connection of peripheral and/or auxiliary devices.

1.1 Basework

The load receptor (Figure 1b) consists of an electric actuator, ball bearing units and load hopper mounted on a base frame which in turn is supported by four load cells.

1.2 Load Cells

Four Mettler Toledo model SLB215 C3 load cells of 220 kg maximum capacity are used. The load cells are also described in the approval documentation of NMI approval No S698.

1.2.1 Load Cell Connection

The load cells are connected parallel to each other in a junction box; and 6-wire cable connection is used between the junction box and the indicator as shown in Figures 3a and 3b.

1.3 Indicator

A Mettler Toledo model IND360 digital indicator (Figure 2) is used. The indicator is also described in the approval documentation of NMI approval No S816.

1.4 Control Electronics

(*) For items marked (*) below, ‘Compatible and Equivalent’ equipment may be used. ‘Compatible and Equivalent’ refers to equipment of the same or better specifications, requiring no changes to software for satisfactory operation of the complete system.

The weighing system provides an operator interface terminal and control panel by which the operator can control the operation of the instrument, and access the protected weighing data.

Note: The weighing data may also be accessed by other (networked) computers.

The weighing system electronics provide overall system control including interfacing to the networked computers and are housed in a control unit cabinet (Figure 1b), which contains:

- Power supply modules for indicator, interface terminal, communication devices, programmable logic controller (PLC) (*);
- An Omron model NX102 motion control PLC (*);
- An Omron model NA5-9W001B-V1 touchscreen interface terminal (*);
- A safety switch (*);
- Control switches (*);
- A RFID swipe card reader (*);

- A Mettler Toledo model IND360 indicator;
- An Ethernet switch (*);
- An external modem supporting WiFi and/or Ethernet ports and/or mobile broadband (*).

1.4 Zero

A zero-tracking device may be fitted.

The initial zero-setting device has a nominal range of not more than 20% of the maximum capacity of the instrument.

The instrument has a semi-automatic zero-setting device with a nominal range of not more than 4% of the maximum capacity of the instrument.

1.5 Tare

A semi-automatic subtractive taring device of up to the maximum capacity of the instrument may be fitted.

1.6 Power Supply

The instrument operates from a 24V DC power source.

1.7 Display Check

A display check is initiated whenever power is applied.

1.8 Levelling

Instruments are installed in a permanently fixed location.

1.9 Interface

Instruments may be fitted with interfaces for the connection of auxiliary and/or peripheral devices. Any interfaces shall comply with clause 5.3.6 of document NMI R76 (the basic intent of which is that it shall not be possible to alter weighing results via the interfaces).

Any measurement data output from the instrument or its interfaces shall only be used for trade in compliance with General Supplementary Certificate of Approval No S1/0B (in particular in regard to the data and its format).

Indications other than the indications of measured mass (i.e. gross, tare, net, totals) displayed either on the indicator or on an auxiliary or peripheral device, are not for trade use.

Instruments may be fitted with RS485, Ethernet, industrial Ethernet, Profibus, Modbus, analogue outputs and digital inputs/outputs.

1.10 Verification Provision

Provision is made for the application of a verification mark.

1.11 Software

The legally relevant software version and number are described in the approval documentation of the indicator.

1.12 Descriptive Markings and Notices

Instruments are marked with the following data:

Manufacturer's mark, or name written in full	Bucher
Indication of accuracy class	(III)
Pattern approval number for the instrument	NMI 6/9C/325
Pattern approval mark for the indicator	NMI S…
Pattern approval mark for the load cells	NMI S…
Maximum capacity	*Max* ..... kg # 1
Minimum capacity	*Min* ..... kg # 1
Verification scale interval	*e* = ... kg # 1
Serial number of the instrument	……..

#1 These markings are shown near the display of the result.

1.13 Sealing Provision

Sealing provision is described in the approval documentation of the indicator.

2. Description of Variant 1 approved on 25/10/24

A Bucher PAK-WEIGH model WH-6000 platform weighing instrument (Figure 4) of 600 kg maximum capacity with a verification scale interval of 0.2 kg and with a minimum capacity of 4 kg, and approved for use with up to 3000 verification scale intervals.

The indicator and control electronics panel may be mounted on any side of the protection cage.

2.1 Basework

The Mettler Toledo model PCC 2158 basework (Figure 5) has the load receptor directly supported by four load cells which are fitted with rocker pin assemblies.

The load receptor dimensions are of 800 x 800 mm or 1200 x 1200 mm.

2.2 Load Cells

Four Mettler Toledo model SBC-05 C3 load cells of 500 kg maximum capacity are used. The load cells are also described in the approval documentation of NMI approval No S427.

2.2.1 Load Cell Connection

The load cells are connected parallel to each other in a junction box; and 6-wire cable connection is used between the junction box and the indicator as shown in Figures 3a and 3b.

2.3 Levelling

The basework is permanently fixed above ground with a loading ramp. Note that care shall be taken to ensure that the ramp does not interfere with the platform.

TEST PROCEDURE No 6/9C/325

Instruments shall be tested in accordance with any relevant tests specified in the National Instrument Test Procedures.

The instrument shall not be adjusted to anything other than as close as practical to zero error, even when these values are within the maximum permissible errors.

Maximum Permissible Errors

The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

Re-location

Verification of the instrument is required following any re-location of the instrument.

FIGURE 6/9C/325 - 1

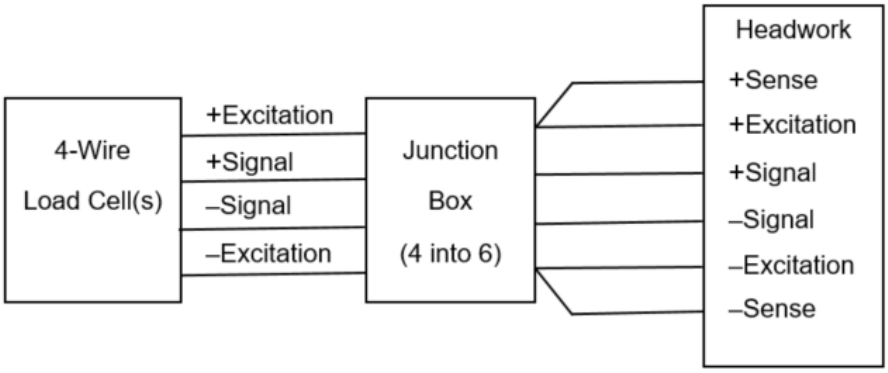
(a) Bucher PAK-WEIGH Model WH-6000 Weighing Instrument

(b) Bucher PAK-WEIGH Model WH-6000 Load Hopper and Control Panel

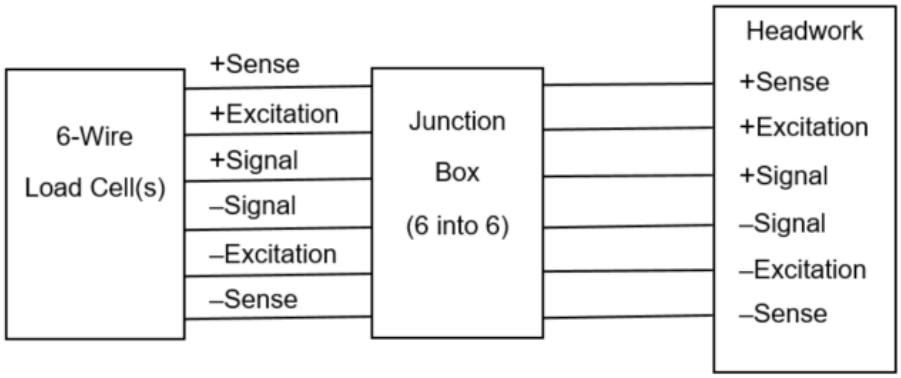
FIGURE 6/9C/325 – 2

Mettler Toledo Model IND360 Digital Indicator

FIGURE 6/9C/325 - 3



a) 4-Wire Analogue Load Cell Connection Using Junction Box



b) 6-Wire Analogue Load Cell Connection Using Junction Box

FIGURE 6/9C/325 - 4

Bucher PAK-WEIGH Model WH-6000 Weighing Instrument With a Platform (Variant 1)

FIGURE 6/9C/325 - 5

Mettler Toledo Model PCC 2158 Platform

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