Australian Government
National Measurement Institute
Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 6/4C/211

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.

Precisa Instruments 320 Series Weighing Instruments

submitted by W W Wedderburn Pty Ltd
101 Williamson Road
Ingleburn NSW 2565

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 July 2004.

This approval becomes subject to review on **1/11/16**, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern approved – interim certificate issued	19/10/01
1	Pattern approved – certificate issued	21/11/01
2	Variant 1 approved – interim certificate issued	17/07/02
3	Variant 1 approved – certificate issued	22/08/02
4	Pattern and variant 1 reviewed & amended – notification of change issued	1/02/07
5	Pattern & variant 1 updated & reviewed – certificate issued	24/02/12

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number NMI (or NSC) 6/4C/211' 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 Certificates No S1/0/A or No S1/0B.

Special

The National Trade Measurement Regulations restricts the use of metric carat units to the weighing of precious stones and precious metals only, and includes restrictions regarding the maximum capacities and the scale intervals of instruments used for certain purposes (e.g. precious stones and precious metals). Such restrictions must be considered in addition to the contents of this certificate.

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

TECHNICAL SCHEDULE No 6/4C/211

1. Description of Pattern approved on 19/10/01

The Precisa Instruments 320 series of special accuracy class (I) and high accuracy class (II) single interval self-indicating non-automatic weighing instruments of up to 10 200 g maximum capacity as listed in Tables 1 to 3. Typical instruments are shown in Figures 1 to 3.

The instruments are of an electromagnetic force compensation type.

Instruments are approved for use over a limited temperature range as listed in the Tables, and are so marked.

Instruments are not for trading direct with the public, and are so marked.

Instruments have either a liquid crystal (LCD) or an electro-luminescent type display.

Power is supplied by a Precisa type FW3288/15.1092 mains adaptor.

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

1.1 Zero and Tare

Instruments have an initial zero-setting device with a nominal range of not more than 20% of the maximum capacity of the instrument.

The instruments have a combined semi-automatic zero-setting and subtractive tare balancing device (operated by the 'T' key). Operation of this device zeroes the instrument if the load is within the zero-setting range (4% of the maximum capacity of the instrument), otherwise the instrument is tared ('NET' appears). The subtractive taring device operates up to the maximum capacity of the instrument.

A zero-tracking device may also operate to automatically correct to within ±0.5d whenever the instrument comes to rest with the display indicating zero (including net zero).

1.2 Management Functions

Instruments may be fitted with a number of additional functions which display values that are not weighing results (e.g. counting or percentage). The displays of such values are identified by the symbol 'o' before the numerical value or by symbols 'pcs' or '%'. These functions and displays are not approved for trade use.

1.3 Internal Self-Calibration System

Some instruments are fitted with an internal 'self-calibration system' (refer to the Tables). This comprises an internal calibration mass that may be applied to the instrument in an automatic adjustment cycle that is initiated manually by pressing a key, or according to predetermined criteria (time period and/or temperature variation).

The effect of any calibration adjustment due to this system is limited to a difference of ±1e at maximum capacity from the previous calibration value.

1.4 Display Check

A display check is initiated when the instruments are switched on.

1.5 Levelling

The instrument is provided with adjustable feet and adjacent to the level indicator is a notice advising that the 'instrument must be level when in use', or similar wording.

1.6 Floating Range Facility

Some instruments have a 'floating range' feature whereby they only have a differentiated actual scale interval for part of their range (the limit of the 'floating range' for these instruments is shown in the Tables as 'Max FR').

1.7 Descriptive Markings and Notices

The instrument series and type are shown on the instrument nameplate (e.g. 'SERIES: 320XT TYP:220A'). Alternative indications (e.g. XT 220A) may appear elsewhere on the instrument.

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Precisa	
Name or mark of manufacturer's agent	WEDDERBURN	
Pattern approval mark for the instrument	NMI (or NSC) 6/4C/211	
Indication of accuracy class	(I) or (II)	#1
Maximum capacity	*Max* .... g or ct (CM)	#2
Minimum capacity	*Min* ..... g or ct (CM)	#2
Verification scale interval	*e* = ... g or ct (CM)	#2
Actual scale interval	*d* = ... g or ct (CM)	#2, #3
Serial number of the instrument	……	

#1 These markings will reflect the parameters shown in Tables 1 to 3.

#2 These markings shall also be shown near the display of the result if they are not already located there.

#3 For instruments with the 'floating range' feature, the actual scale interval may be shown as (for example) '*d* = 0.1 / 1 g', where the first number is the actual scale interval in the 'floating range' and the second number is the actual scale interval otherwise.

In addition, instruments shall carry a notice stating NOT FOR TRADING DIRECT WITH THE PUBLIC, or similar wording, with the exception of instruments used for the weighing of precious metals and precious stones provided that instruments are located such that the instrument and its display are clearly visible to both parties to the transaction.

1.8 Verification Provision

Provision is made for the application of a verification mark.

1.9 Sealing Provision

Sealing of the calibration adjustments of special accuracy class (I) instruments is not required.

For high accuracy class (II) instruments, sealing of the calibration adjustment is provided by preventing access to the hole that provides access to the calibration switch and by using destructible adhesive labels to prevent separation of the casing of the instrument (Figure 2).

Where instruments are provided with an integral 'self-calibration system', sealing of the instrument does not prevent operation of this system. However the system uses data regarding the value of the internal mass, and alteration of that data is prevented.

1.10 Approved Instruments

Approved instruments of the 320 series are listed in Tables 1 to 3.

- Instruments of the 320 XT series are listed in Table 1.
- Instruments of the 320 XB series are listed in Table 2. These instruments are similar to the 320 XT series instruments, but have a reduced set of functions.

  Those instruments marked 'SC= Y' in Table 2 are required to have the internal 'self-calibration system'. For other series 320 XB instruments the fitting of the 'self-calibration system' is optional.
- Instruments of 320 XB series displaying weighing results in metric carat units are shown in Table 3. The instruments may be used to display mass in either grams (g) or carats (ct or CM), and the table shows parameters for each mode of operation. Refer to the Special Condition of Approval.

2. Description of Variant 1 approved on 11/07/02

Certain models of the Precisa Instruments 320 series of high accuracy class II weighing instruments as listed below fitted with the IP65 option which includes a membrane to seal the gap between the force compensation cell and the top case of the instrument housing (Figure 4) and a waterproof cover for the mains adaptor connection.

The specifications of the instruments remain unchanged from those as listed in Table 1 (for the 320 XT series) and Table 2 (for the 320 XB series), as appropriate.

Models (types) approved for use with the IP65 option are:

- XT series – Types 6200D, 6200D-FR, 8200D, 10200D, 10200D-FR & 10200G; and
- XB series – Types 6200D, 6200D-FR, and 10200G.

TEST PROCEDURE No 6/4C/211

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

Maximum Permissible Errors

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

Ensure that instruments are only being used within the special temperature limits stated elsewhere in this Technical Schedule.

For instruments with an internal self-calibration facility

Prior to verification ensure that the instrument has been adjusted by the internal self-calibration system by continuing to press the 'T' key until the word CALIBRATION appears, and then allow the calibration procedure to proceed to completion (with no load on the platter).

TABLE 1 – Series 320 XT Instruments

Type	Class	Max (g)	Min (g)	e (g)	d (g)	Max FR (#1)	Temp Range	SC (#2)
120A	I	120	0.01	0.001	0.0001		+15°C/+25°C	Y
220A	I	220	0.01	0.001	0.0001		+15°C/+25°C	Y
220A-FR	I	220	0.01	0.001	0.0001	80	+15°C/+25°C	Y
920M	I	920	0.1	0.01	0.001		+15°C/+25°C	Y
320M	II	320	0.02	0.01	0.001		+15°C/+30°C	Y
620M	II	620	0.02	0.01	0.001		+15°C/+30°C	Y
620M-FR	II	620	0.02	0.01	0.001	120	+15°C/+30°C	Y
1200C	II	1200	0.5	0.1	0.01		+15°C/+30°C	Y
2200C	II	2200	0.5	0.1	0.01		+15°C/+30°C	Y
3200D	II	3200	5	0.1	0.1		+15°C/+30°C	Y
4200C	II	4200	0.5	0.1	0.01		+15°C/+30°C	Y
4200C-FR	II	4200	0.5	0.1	0.01	1200	+15°C/+30°C	Y
6200C	II	6200	0.5	0.1	0.01		+15°C/+30°C	Y
6200C-FR	II	6200	0.5	0.1	0.01	2200	+15°C/+30°C	Y
6200D	II	6200	5	1	0.1		+15°C/+30°C	Y
6200D-FR	II	6200	5	1	0.1	1600	+15°C/+30°C	Y
8200D	II	8200	5	1	0.1		+15°C/+30°C	Y
10200D	II	10 200	5	1	0.1		+15°C/+30°C	Y
10200D-FR	II	10 200	5	1	0.1	3200	+15°C/+30°C	Y
10200G	II	10 200	50	1	1		+15°C/+30°C	Y

(#1) Max FR – Maximum capacity of floating range facility (refer clause 1.6)

(#2) SC = Y – Self-calibration system fitted (refer clause 1.5)

TABLE 2 – Series 320 XB Instruments

Type	Class	Max (g)	Min (g)	e (g)	d (g)	Max FR (#1)	Temp Range	SC (#2)
120A	I	120	0.01	0.001	0.0001		+15°C/+25°C	
220A	I	220	0.01	0.001	0.0001		+15°C/+25°C	
160M	II	160	0.02	0.01	0.001		+15°C/+30°C	
320M	II	320	0.02	0.01	0.001		+15°C/+30°C	
320C	II	320	0.5	0.01	0.01		+15°C/+30°C	
620M	II	620	0.02	0.01	0.001		+15°C/+30°C	Y
620M-FR	II	620	0.02	0.01	0.001	120	+15°C/+30°C	Y
620C	II	620	0.5	0.1	0.01		+15°C/+30°C	
1200C	II	1200	0.5	0.1	0.01		+15°C/+30°C	
2200C	II	2200	0.5	0.1	0.01		+15°C/+30°C	
3200C	II	3200	0.5	0.1	0.01		+15°C/+30°C	
3200D	II	3200	5	0.1	0.1		+15°C/+30°C	
4200C	II	4200	0.5	0.1	0.01		+15°C/+30°C	Y
4200C-FR	II	4200	0.5	0.1	0.01	1200	+15°C/+30°C	Y
6200D	II	6200	5	1	0.1		+15°C/+30°C	
6200D-FR	II	6200	5	1	0.1	1600	+15°C/+30°C	
10200G	II	10 200	50	1	1		+15°C/+30°C	

(#1) Max FR – Maximum capacity of floating range facility (refer clause 1.6)

(#2) SC = Y – Self-calibration system fitted (refer clause 1.5). For all other instruments, the fitting of the self-calibration system is optional.

TABLE 3 – Series 320 XB ‘Metric Carat’ Instruments

Type	Class	Max	Min	e	d	Temp
600M-C	I	120 g	0.1 g	0.001 g		+15°C/+25°C
	I	600 ct	0.1 ct	0.01 ct	0.001 ct	+15°C/+25°C
1100M-C	I	220 g	0.1 g	0.001 g		+15°C/+25°C
	I	1100 ct	0.1 ct	0.01 ct	0.001 ct	+15°C/+25°C
3100C-C	II	620 g	0.5 g	0.1 g	0.01 g	+10°C/+30°C
	II	3100 ct	0.5 ct	0.1 ct	0.01 ct	+10°C/+30°C

FIGURE 6/4C/211 – 1

Precisa Instruments 320 XT 220A Weighing Instrument

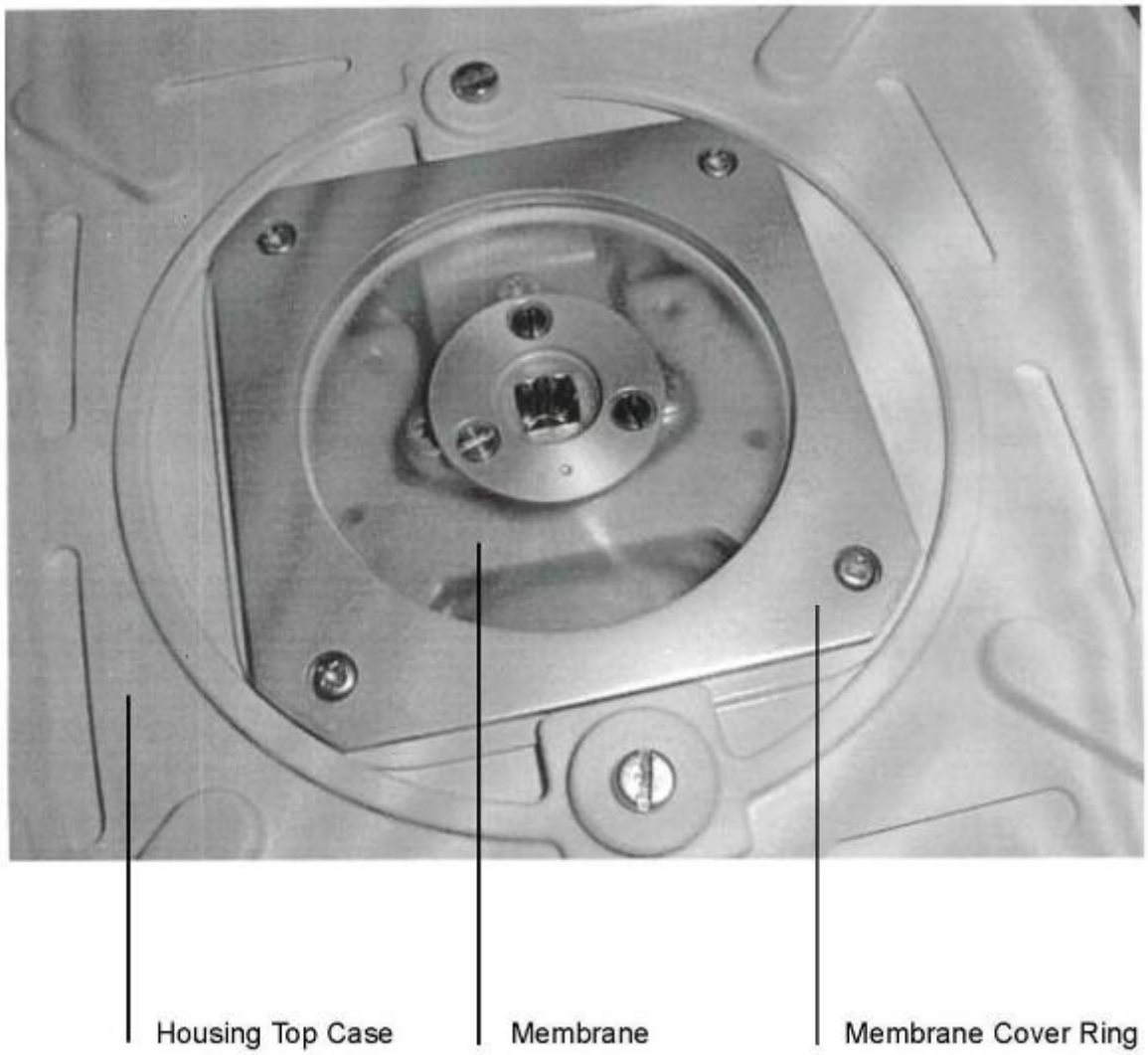
FIGURE 6/4C/211 – 2

Typical Sealing Arrangements

FIGURE 6/4C/211 – 3

Precisa Instruments 320 XB 620M Weighing Instrument

FIGURE 6/4C/211 – 4



Typical IP65 Option Membrane Installation – Variant 1

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