



Australian Government

National Measurement  
Institute

Bradfield Road, West Lindfield NSW 2070

**Interim  
Provisional  
Certificate of Approval  
NMI P5/6B/218**

**VALID FOR VERIFICATION PURPOSES UNTIL 16 SEPTEMBER 2014**

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.

Alfons Haar Model PreciPURE C 1350 Liquid-Measuring System

submitted by      HAAR Australia Pty Ltd  
                            3/10 Law Court  
                            Sunshine West      VIC      3020

**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 117, Measuring Systems for Liquids Other than Water, dated July 2004.

**DOCUMENT HISTORY**

Rev	Reason/Details	Date
0	Pattern provisionally approved – interim certificate issued	16/12/13
1	Pattern amended (validity date) – interim certificate issued	20/03/14
2	Pattern amended (validity date) – interim certificate issued	21/07/14

## CONDITIONS OF APPROVAL

### General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI P5/6B/218' and only by persons authorised by the submitter.

It is the submitter'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 No S1/0B.

### Special Conditions of Approval: (Provisional Approval)

This approval is limited to five (5) instrument/s only having serial numbers which may be obtained from NMI.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI P5/6B/218' and only by persons authorised by the submitter. (Note: The 'P' in the approval number may be a temporary marking.)

The approval will remain provisional pending completion of satisfactory testing and evaluation.

In the event of unsatisfactory performance the approval may be cancelled (or altered).

The submitter shall implement such modifications as required by NMI. In the event that such modifications (if any are required by NMI) are not made to the satisfaction of NMI, this approval may be withdrawn.

### Note to Verifiers:

A suitable verification test procedure may be obtained from NMI.

#### 1. Description of Pattern **provisionally approved on 16/12/13**

An Alfons Haar model PreciPURE C 1350 (#) bulk flowmetering system incorporating an Alfons Haar model TU100 A2/3.5 100 mm turbine flowmeter with an Alfons Haar model IGELZ TU pulse transmitter interfaced to an Alfons Haar model X-Master 4 calculator/indicator for bulk metering of petroleum products other than LPG.

Approved products include various grades of liquid hydrocarbons including petrol/ethanol blends and pure ethanol ('E100') and various grades of pure biodiesel and biodiesel/distillate blends (to Australian government standard).

(#) Abbreviated model number – the full model number of the system may include a number of alphanumeric suffixes which are not metrologically significant, e.g. PreciPURE C 1350 LL 6-300 V2V1L2 G SG M-S.

The field of operation of the measuring system is determined by the following characteristics:

- Minimum measured quantity ( $V_{min}$ )                      1000 L (#1)  
   300 L (#2)
  - Maximum flow rate ( $Q_{max}$ )                                    1000 L/min
  - Minimum flow rate ( $Q_{min}$ )                                    130 L/min
  - Maximum pressure of the liquid ( $P_{max}$ )                    5100 kPa
  - Minimum pressure of the liquid ( $P_{min}$ )                    1000 kPa (nominal)                    (#3)
  - Range of liquids viscosity                                    0.4 to 20 mPa.s (at 20°C)                    (#4)
  - Liquid temperature range                                    -10°C to 50°C
  - Ambient temperature range                                   -25°C to 55°C
  - Accuracy class    0.5
  - Applications    May be vehicle-mounted
- (#1) Dry hose delivery
- (#2) Wet hose delivery
- (#3) Minimum pressure required for effective operation of the gas elimination device.
- (#4) The flowmeter is adjusted for use with one product viscosity for which it is to be verified and as marked on the data plate.

The supply tank, which may incorporate a detector for low liquid-level. A positive displacement, centrifugal or submersible turbine type pump may be used to provide flow through one or more flowmeters.

Systems are fitted with an Alfons Haar model PreciNODE SME 'bubble detector' for sensing vapour in the system.

The measurement transducer is Alfons Haar model TU100 A2/3.5 100 mm (4") turbine flowmeter with dual pick-off coils producing an electrical output signal proportional to volume throughput. The pick-off signal is conditioned by a dual signal pre-amplifier to produce a 0 to 5 V square wave output signal.

- Input supply voltage is 15 to 32 V DC
- Nominal k-factor for the turbine meter is 4.77 pulses/litre per channel
- Maximum pulse output is 119.25 Hz per channel (nominal)
- Cyclic volume is 0.419 L

For use with an Alfons Haar model X-master 4 calculator/indicator which has a graphics display and numerical/function soft keys housed in an aluminium enclosure.

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



Mario Zamora

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