Australian Government
Department of Industry, Science and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 6/4C/318

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.

Ohaus Model Defender D52XW60WQDL Weighing Instrument

submitted by Ohaus Australia Pty Ltd
Unit 3, 220 Turner Street
Port Melbourne VIC 3207

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 & variants 1 to 3 approved – interim certificate issued	09/03/21
1	Pattern & variants 1 to 4 approved – certificate issued	30/01/23

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/4C/318' 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.

This approval shall NOT be used in conjunction with General Certificate of Approval No 6B/0.

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

Darryl Hines
Manager
Policy and Regulatory Services

TECHNICAL SCHEDULE No 6/4C/318

1. Description of Pattern approved on 09/03/21

An Ohaus model Defender D52XW60WQDL class (III) multi-interval self-indicating non-automatic weighing instrument (Figure 1) with a verification scale interval e_1 of 0.01 kg up to 30 kg and with a verification scale interval e_2 of 0.02 kg from 30 kg to the maximum capacity of 60 kg. The minimum capacity is 0.2 kg.

Instruments are marked 'NOT FOR TRADING DIRECT WITH THE PUBLIC' (or similar wording) unless the maximum capacity of the instrument is greater than 100 kg (i.e. as may be the case for variant 2).

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

1.1 Basework

The Ohaus model D60WQDL basework (Figure 4a) has the load receptor directly supported by a single load cell. The load receptor has a nominal dimension of 400 mm × 400 mm, and typically uses a stainless steel type construction.

1.2 Load cell

A Mettler Toledo model 0785 C3 load cell with CH humidity class of 100 kg maximum capacity is used.

1.3 Indicator

An Ohaus model TD52XW digital indicator (Figure 3a) having a stainless steel enclosure is used. The indicator is described in the documentation of approval NMI S768.

The indicator may be mounted on a column (Figures 1) or it may also be located remotely.

1.4 Zero

A zero-tracking device may be fitted.

The initial zero-setting device of the pattern 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 tare device of up to maximum capacity of the instrument may be fitted.

A pre-set taring device of up to the maximum of the first partial weighing range for a multi-interval instrument may also be fitted.

1.6 Display Check

A display check is initiated whenever power is applied.

1.7 Power Supply

The instrument operates from mains AC power (100–240 V AC, nominal) and/or by an optional 7.4 V DC rechargeable battery pack.

1.8 Levelling

The instrument is provided with adjustable feet and a level indicator.

The instrument is to be used in a level condition as indicated by the level indicator.

1.9 Additional Features

Instruments may be fitted with certain additional functions including counting, percent weighing, check weighing, 'Lo/OK/Hi' display, accumulation of statistical information regarding weighings, and a 'library' function to allow storing/recall of 'under/accept/over' values and pre-set tare values against ID numbers. The additional functions (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 approved for trade use.

Instruments may also be fitted with an 'animal weighing' function. This function shall not be used for trade use.

1.10 Interfaces

The indicator 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 R 76 (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 NMI 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 RS232, RS485, USB, Ethernet and digital inputs/outputs.

1.11 Verification Provision

Provision is made for the application of a verification mark.

1.12 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Ohaus Corporation
Indication of accuracy class	(III)
Pattern approval number for the instrument	NMI 6/4C/318
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 in the electronic markings field above the display of the result.

In addition, instruments shall carry a notice stating NOT TO BE USED FOR TRADING DIRECT WITH THE PUBLIC, or similar wording (see 1. *Description of Pattern* above).

1.13 Software

The legally relevant software is designated Sr 1.xx, where 'xxx' refers to the identification of non-legally relevant software.

The software version and number can be seen in the switch-on display sequence (when the power is first applied to the instrument).

1.14 Sealing Provision

Provision is made for the calibration to be sealed by setting a switch on the main board within the instrument to 'ON' position, and then preventing access within the protective cover (Figures 6a and 6b).

The switch status (Figure 7) can be seen in the switch-on display sequence when the power is first applied to the instrument.

- If the switch is in the 'ON' position, the instrument will display 'LEGAL FOR TRADE ON'. In this case the instrument may be verified.
- Otherwise the instrument will display 'LEGAL FOR TRADE OFF'' in which case the instrument should not be verified until the switch has been correctly set to the 'ON' position.

Sealing to prevent access within the protective cover may be achieved by the application of lead and wire type seals or similar with a drilled screw or using a destructive label placed over the securing screw in the protective cover as shown in Figures 6a and 6b.

2. Description of Variant 1 approved on 09/03/21

The Ohaus model Defender D52XW series instruments in certain other multi-interval capacities as listed in Table 1 and as shown in Figure 1 (the pattern is shown in **bold**).

3. Description of Variant 2 approved on 09/03/21

The Ohaus model Defender D52XW series instruments which are similar to the pattern but using a Mettler Toledo model 0805 C3 load cell with SH humidity class in certain multi-interval capacities as listed in Tables 2a and 2b and as shown in Figure 1 and Figure 4b.

4. Description of Variant 3 approved on 09/03/21

The Ohaus model Defender D52P series instruments which are similar to the pattern and variants 1 to 2 but using an Ohaus model TD52P digital indicator (Figure 3b) and typically having a stainless steel platform supported by a painted steel frame (Figure 5a) in certain multi-interval capacities as listed in Tables 1, 2a and 2b and as shown in Figure 2, Figure 5a and Figure 5b.

The indicator is described in the documentation of approval NMI S768.

5. Description of Variant 4 approved on 30/01/23

Single load cell baseworks of this approval used with a compatible approved indicator (Supplementary approval with reference to document **NMI R 76 dated October 2015 or later**) provided the conditions set out below are met. In this case instruments may be known according to the basework model number (e.g. model D15WQDR). Any devices and features described in the approval for the indicator shall apply to this instrument.

Note: Only submittor-authorised manufacture or conversion is permitted under this variant.

The basework is connected to the indicator directly without lengthening the load cell cable.

The minimum temperature limit of the instrument is equal to the greater of the lower temperature limit of the basework or indicator. The maximum temperature limit is equal to the lesser of the upper temperature limit of the basework or indicator. The temperature range of the instrument shall be a minimum of 30 °C (e.g., 0 °C to 40 °C or 5 °C to 35 °C).

Note: Where no special temperature limits are given in the **Descriptive Markings and Notices**, then the temperature limits are -10 °C to 40 °C. If the temperature limits of the instrument are other than -10 °C to +40 °C, additional marking of special temperature limits must be added to the existing descriptive markings.

In addition to the markings specified in clause **1.12 Descriptive Markings and Notices**, instruments are marked with the NMI approval number for the indicator used, together in the same location. Where the resulting instrument is a multiple range instrument, appropriate markings regarding the ranges and scale intervals shall be provided in accordance with the Supplementary Certificate for the indicator.

The approved single load cell baseworks and their limiting characteristics are given in Tables 3 to 6.

The conditions to be met are given below, and include calculations using the following terms:

Ex = Excitation voltage from indicator (V)

LC_Sens = Load cell sensitivity (mV/V)

E_{max} = Load cell maximum capacity (kg)

IZSR = Initial zero setting range for the indicator (kg) (positive range only)

DL = Dead load of load receptor (kg)

T^+ = Additive tare capacity (kg)

U_{min} = Minimum input voltage for the indicator (mV)

Indicator Sensitivity = Minimum sensitivity value per verification scale interval for the indicator (µV)

e = verification scale interval of the instrument (kg). ***In the case of multiple range or multi-interval instruments, any reference to 'e' refers to the smallest verification scale interval (i.e. e_1).***

e_1, e_2, … = verification scale interval of each range for multiple range instruments (or partial weighing ranges for multi-interval instruments), e_1 refers to the smallest verification interval.

Max = the maximum capacity of the instrument. This refers to the maximum capacity of the highest range (i.e. Max_r for multiple range instruments).

Max_r = the maximum capacity of the instrument for a multiple range instrument, i.e. the maximum capacity of the highest range.

Max_1 Max_2 … = the maximum capacity of the various ranges for a multiple range instrument. Max_1 refers to the maximum capacity of the smallest range.

n_{LC} = the maximum number of verification intervals for which the load cell or basework is approved (e.g. 3000 for a 'class C3' load cell).

DR = dead load output return value for the load cell. Note: Many load cells do not have a specified DR value.

The conditions are:

- The excitation voltage used is within the range approved for the baseworks.
- The load cell input impedance is within the impedance range approved for the indicator.
- The maximum load applied to the load cell (live load plus any dead load) does not exceed the load cell maximum capacity, i.e.

  $Max + DL + IZSR + T^+ \leq E_{max}$
- The verification scale interval is not less than the minimum value specified. ***In the case of multiple range or multi-interval instruments, the verification scale interval refers to the smallest verification scale interval (i.e. e_1).***
- The number of verification scale intervals of the instrument is less than or equal to the *maximum number of verification intervals* specified for the load cell and also for the approved indicator. ***In the case of multiple range or multi-interval instruments, the number of verification scale intervals refers to the largest number in any weighing range or partial weighing range (i.e. the largest of Max_1/e_1, Max_2/e_2 etc).***
- The signal voltage per verification scale interval is not less than the minimum sensitivity value per verification scale interval for the indicator (as specified in the approval documentation for the indicator), i.e.

  Indicator Sensitivity $\leq 1000 \times Ex \times LC\_Sens \times e / E_{max}$

  In the case of multiple range or multi-interval instruments, *e* is replaced by e_1.
- The input voltage for the indicator (when the basework is unloaded) is not less than the minimum input voltage for the indicator (as specified in the approval documentation for the indicator), i.e.

  $U_{min} \leq Ex \times LC\_Sens \times DL / E_{max}$

  Where U_{min} is not given in the Supplementary Certificate of Approval for the indicator, U_{min} = 0 mV.

<u>Additional requirement for multiple range operation:</u>

In the case of indicators which are configured to form a multiple range weighing instrument the instrument shall comply with the following conditions:

(i) The smallest verification scale interval (e_1) shall satisfy the following:

$$e_1 \geq DR \times Max_r / E_{max}$$

Of course (i) cannot apply where a value of 'Dead load output return' DR is not given. In this case the smallest verification scale interval (e_1) shall satisfy the following:

$$e_1 \geq 0.4 \times Max_r / n_{LC}$$

<u>Additional requirement for multi-interval operation:</u>

In the case of indicators which are configured to form a multi-interval weighing instrument the instrument shall comply with the following conditions:

(i) The smallest verification scale interval (e_1) shall satisfy the following:

$$e_1 \geq 2 \times DR \times Max / E_{max}$$

Of course (i) cannot apply where a value of 'Dead load output return' DR is not given. In this case the smallest verification scale interval (e_1) shall satisfy the following:

$$e_1 \geq Max / n_{LC}$$

(ii) The instrument shall also satisfy the following condition with the exception of the last partial weighing range:

$$Max_i / e_{i+1} \geq 500 \text{ (e.g. } Max_1/e_2 \geq 500 \text{ and } Max_2/e_3 \geq 500)$$

TEST PROCEDURE No 6/4C/318

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*.

For multi-interval and multiple range instruments with verification scale intervals of e_1, e_2 …, apply e_1 for zero adjustment, and maximum permissible errors apply e_1, e_2 …, as applicable for the load.

TABLE 1

Instrument Model	D52#6**QDR	D52#15**QDR	D52#15**QDL	D52#30**QDL	**D52#60**QDL**	D52P15RTDR	D52P30RTDR	D52P60RTDR
Basework Model	D6**QDR	D15**QDR	D15**QDL	D30**QDL	**D60**QDL**	D15RTDR	D30RTDR	D60RTDR
Platform Size	305 x 305 mm	305 x 305 mm	400 x 400 mm	400 x 400 mm	**400 x 400 mm**	305 x 355 mm	305 x 355 mm	305 x 355 mm
Maximum Capacity (Max_1/Max_2)	3/6 kg	6/15 kg	6/15 kg	15/30 kg	**30/60 kg**	6/15 kg	15/30 kg	30/60 kg
Minimum Capacity (*Min*)	0.02 kg	0.04 kg	0.04 kg	0.1 kg	**0.2 kg**	0.04 kg	0.1 kg	0.2 kg
Verification Scale Interval (e_1/e_2)	0.001/0.002 kg	0.002/0.005 kg	0.002/0.005 kg	0.005/0.01 kg	**0.01/0.02 kg**	0.002/0.005 kg	0.005/0.01 kg	0.01/0.02 kg
Load Cell Maximum Capacity (E_{max})	Mettler Toledo 0785 C3 CH 11 kg	Mettler Toledo 0785 C3 CH 22 kg	Mettler Toledo 0785 C3 CH 22 kg	Mettler Toledo 0785 C3 CH 50 kg	**Mettler Toledo 0785 C3 CH 100 kg**	Mettler Toledo 0785 C3 CH 22 kg	Mettler Toledo 0785 C3 CH 50 kg	Mettler Toledo 0785 C3 CH 100 kg

Note:

- where # in the model number represents the construction materials of indicator, e.g. P is ABS and XW is stainless steel.
- where ** in the model numbers represents the construction materials of basework, e.g. W is stainless steel and R is painted steel.

TABLE 2a

Instrument Model	D52#60**TDL	D52#150**TDL	D52#60**QDX	D52#150**QDX
Basework Model	D60**TDL	D150**TDL	D60**QDX	D150**QDX
Platform Size	400 x 500 mm	400 x 500 mm	500 x 500 mm	500 x 500 mm
Maximum Capacity (Max_1/Max_2)	30/60 kg	60/150 kg	30/60 kg	60/150 kg
Minimum Capacity (Min)	0.2 kg	0.4 kg	0.2 kg	0.4 kg
Verification Scale Interval (e_1/e_2)	0.01/0.02 kg	0.02/0.05 kg	0.01/0.02 kg	0.02/0.05 kg
Load Cell Maximum Capacity (E_{max})	Mettler Toledo 0805 C3 SH 100 kg	Mettler Toledo 0805 C3 SH 250 kg	Mettler Toledo 0805 C3 SH 100 kg	Mettler Toledo 0805 C3 SH 250 kg

Note:

- where # in the model number represents the construction materials of indicator, e.g. P is ABS and XW is stainless steel.
- where ** in the model numbers represents the construction materials of basework, e.g. W is stainless steel and R is painted steel.

TABLE 2b

Instrument Model	D52#60**QDV	D52#150**QDV	D52#300**QDV	D52#150**TDV	D52#300**TDV	D52#600**TDV
Basework Model	D60**QDV	D150**QDV	D300**QDV	D150**TDV	D300**TDV	D600**TDV
Platform Size	610 x 610 mm	610 x 610 mm	610 x 610 mm	600 x 800 mm	600 x 800 mm	600 x 800 mm
Maximum Capacity (Max_1/Max_2)	30/60 kg	60/150 kg	150/300 kg	60/150 kg	150/300 kg	300/600 kg
Minimum Capacity (*Min*)	0.2 kg	0.4 kg	1 kg	0.4 kg	1 kg	2 kg
Verification Scale Interval (e_1/e_2)	0.01/0.02 kg	0.02/0.05 kg	0.05/0.1 kg	0.02/0.05 kg	0.05/0.1 kg	0.1/0.2 kg
Load Cell Maximum Capacity (E_{max})	Mettler Toledo 0805 C3 SH 100 kg	Mettler Toledo 0805 C3 SH 250 kg	Mettler Toledo 0805 C3 SH 500 kg	Mettler Toledo 0805 C3 SH 250 kg	Mettler Toledo 0805 C3 SH 500 kg	Mettler Toledo 0805 C3 SH 750 kg

Note:

- where # in the model number represents the construction materials of indicator, e.g. P is ABS and XW is stainless steel.
- where ** in the model numbers represents the construction materials of basework, e.g. W is stainless steel and R is painted steel.

TABLE 3

Basework Model	D6WQDR	D15WQDR	D15WQDL	D30WQDL	D60WQDL
Platform Size (mm)	305 x 305	305 x 305	400 x 400	400 x 400	400 x 400
Basework Maximum Capacity (kg)	6	15	15	30	60
Typical Verification Scale Interval (kg)	0.002	0.005	0.005	0.01	0.02
Maximum Number of Verification Scale Intervals (n_{max})	3000	3000	3000	3000	3000
Dead Load of Platform (kg)	2.8	2.8	4.5	4.5	4.5
Load Cell Used	Mettler Toledo 0785 C3 CH				
Load Cell Maximum Capacity (E_{max}) (kg)	11	22	22	50	100
n_{LC}	3000	3000	3000	3000	3000
Minimum Value of Verification Scale Interval for basework (kg)	0.001	0.002	0.002	0.005	0.01
Minimum Dead Load Output Return DR (kg)	0.0009	0.0015	0.0015	0.0042	0.0083
Operating Temperature Range (°C)	-10 to 40				
Output Rating at E_{max} (mV/V)	2				
Input Impedance (Ω)	415				
Excitation Voltage (V AC or DC)	5 – 15				
Cable Lengths (m)	2				
Number of Leads (plus shield)	6				

TABLE 4a

Basework Model	D6RQDR	D15RQDR	D15RQDL	D30RQDL	D60RQDL
Platform Size (mm)	305 x 305	305 x 305	400 x 400	400 x 400	400 x 400
Basework Maximum Capacity (kg)	6	15	15	30	60
Typical Verification Scale Interval (kg)	0.002	0.005	0.005	0.01	0.02
Maximum Number of Verification Scale Intervals (n_{max})	3000	3000	3000	3000	3000
Dead Load of Platform (kg)	3.1 kg	3.1 kg	3.8 kg	3.8 kg	3.8 kg
Load Cell Used	Mettler Toledo 0785 C3 CH				
Load Cell Maximum Capacity (E_{max}) (kg)	11	22	22	50	100
n_{LC}	3000	3000	3000	3000	3000
Minimum Value of Verification Scale Interval for basework (kg)	0.001	0.002	0.002	0.005	0.01
Minimum Dead Load Output Return DR (kg)	0.0009	0.0015	0.0015	0.0042	0.0083
Operating Temperature Range (°C)	-10 to 40				
Output Rating at E_{max} (mV/V)	2				
Input Impedance (Ω)	415				
Excitation Voltage (V AC or DC)	5 – 15				
Cable Lengths (m)	2				
Number of Leads (plus shield)	6				

TABLE 4b

Basework Model	D15RTDR	D30RTDR	D60RTDR
Platform Size (mm)	305 x 355	305 x 355	305 x 355
Basework Maximum Capacity (kg)	15	30	60
Typical Verification Scale Interval (kg)	0.005	0.01	0.02
Maximum Number of Verification Scale Intervals (n_{max})	3000	3000	3000
Dead Load of Platform (kg)	4.5	4.5	4.5
Load Cell Used	Mettler Toledo 0785 C3 CH		
Load Cell Maximum Capacity (E_{max}) (kg)	22	50	100
n_{LC}	3000	3000	3000
Minimum Value of Verification Scale Interval for basework (kg)	0.002	0.005	0.01
Minimum Dead Load Output Return DR (kg)	0.0015	0.0042	0.0083
Operating Temperature Range (°C)	-10 to 40		
Output Rating at E_{max} (mV/V)	2		
Input Impedance (Ω)	415		
Excitation Voltage (V AC or DC)	5 – 15		
Cable Lengths (m)	2		
Number of Leads (plus shield)	6		

TABLE 5a

Basework Model	D60WTDL	D150WTDL	D60WQDX	D150WQDX	D60WQDV
Platform Size (mm)	400 x 500	400 x 500	500 x 500	500 x 500	610 x 610
Basework Maximum Capacity (kg)	60	150	60	150	60
Typical Verification Scale Interval (kg)	0.02	0.05	0.02	0.05	0.02
Maximum Number of Verification Scale Intervals (n_{max})	3000	3000	3000	3000	3000
Dead Load of Platform (kg)	8	8	9	9	17.1
Load Cell Used	Mettler Toledo 0805 C3 SH				
Load Cell Maximum Capacity (E_{max}) (kg)	100	250	100	250	100
n_{LC}	3000	3000	3000	3000	3000
Minimum Value of Verification Scale Interval for basework (kg)	0.01	0.02	0.01	0.02	0.01
Minimum Dead Load Output Return DR (kg)	0.0083	0.0167	0.0083	0.0167	0.0083
Operating Temperature Range (°C)	-10 to 40				
Output Rating at E_{max} (mV/V)	2				
Input Impedance (Ω)	415				
Excitation Voltage (V AC or DC)	5 – 15				
Cable Lengths (m)	2.3				
Number of Leads (plus shield)	6				

TABLE 5b

Basework Model	D150WQDV	D300WQDV	D150WTDV	D300WTDV	D600WTDV
Platform Size (mm)	610 x 610	610 x 610	600 x 800	600 x 800	600 x 800
Basework Maximum Capacity (kg)	150	300	150	300	600
Typical Verification Scale Interval (kg)	0.05	0.1	0.05	0.1	0.2
Maximum Number of Verification Scale Intervals (n_{max})	3000	3000	3000	3000	3000
Dead Load of Platform (kg)	17.1	17.1	23.2	23.2	23.2
Load Cell Used	Mettler Toledo 0805 C3 SH				
Load Cell Maximum Capacity (E_{max}) (kg)	250	500	250	500	750
n_{LC}	3000	3000	3000	3000	3000
Minimum Value of Verification Scale Interval for basework (kg)	0.02	0.05	0.02	0.05	0.1
Minimum Dead Load Output Return DR (kg)	0.0167	0.0417	0.0167	0.0417	0.0625
Operating Temperature Range (°C)	-10 to 40				
Output Rating at E_{max} (mV/V)	2				
Input Impedance (Ω)	415				
Excitation Voltage (V AC or DC)	5 – 15				
Cable Lengths (m)	2.3				
Number of Leads (plus shield)	6				

TABLE 6a

Basework Model	D60RTDL	D150RTDL	D60RQDX	D150RQDX	D60RQDV
Platform Size (mm)	400 x 500	400 x 500	500 x 500	500 x 500	610 x 610
Basework Maximum Capacity (kg)	60	150	60	150	60
Typical Verification Scale Interval (kg)	0.02	0.05	0.02	0.05	0.02
Maximum Number of Verification Scale Intervals (n_{max})	3000	3000	3000	3000	3000
Dead Load of Platform (kg)	6.5	6.5	10.4	10.4	18.3
Load Cell Used	Mettler Toledo 0805 C3 SH				
Load Cell Maximum Capacity (E_{max}) (kg)	100	250	100	250	100
n_{LC}	3000	3000	3000	3000	3000
Minimum Value of Verification Scale Interval for basework (kg)	0.01	0.02	0.01	0.02	0.01
Minimum Dead Load Output Return DR (kg)	0.0083	0.0167	0.0083	0.0167	0.0083
Operating Temperature Range (°C)	-10 to 40				
Output Rating at E_{max} (mV/V)	2				
Input Impedance (Ω)	415				
Excitation Voltage (V AC or DC)	5 – 15				
Cable Lengths (m)	2.3				
Number of Leads (plus shield)	6				

TABLE 6b

Basework Model	D150RQDV	D300RQDV	D150RTDV	D300RTDV	D600RTDV
Platform Size (mm)	610 x 610	610 x 610	600 x 800	600 x 800	600 x 800
Basework Maximum Capacity (kg)	150	300	150	300	600
Typical Verification Scale Interval (kg)	0.05	0.1	0.05	0.1	0.2
Maximum Number of Verification Scale Intervals (n_{max})	3000	3000	3000	3000	3000
Dead Load of Platform (kg)	18.3	18.3	24.5	24.5	24.5
Load Cell Used	Mettler Toledo 0805 C3 SH				
Load Cell Maximum Capacity (E_{max}) (kg)	250	500	250	500	750
n_{LC}	3000	3000	3000	3000	3000
Minimum Value of Verification Scale Interval for basework (kg)	0.02	0.05	0.02	0.05	0.1
Minimum Dead Load Output Return DR (kg)	0.0167	0.0417	0.0167	0.0417	0.0625
Operating Temperature Range (°C)	-10 to 40				
Output Rating at E_{max} (mV/V)	2				
Input Impedance (Ω)	415				
Excitation Voltage (V AC or DC)	5 – 15				
Cable Lengths (m)	2.3				
Number of Leads (plus shield)	6				

FIGURE 6/4C/318 – 1

Ohaus Model D52XW Series Weighing Instrument

FIGURE 6/4C/318 – 2

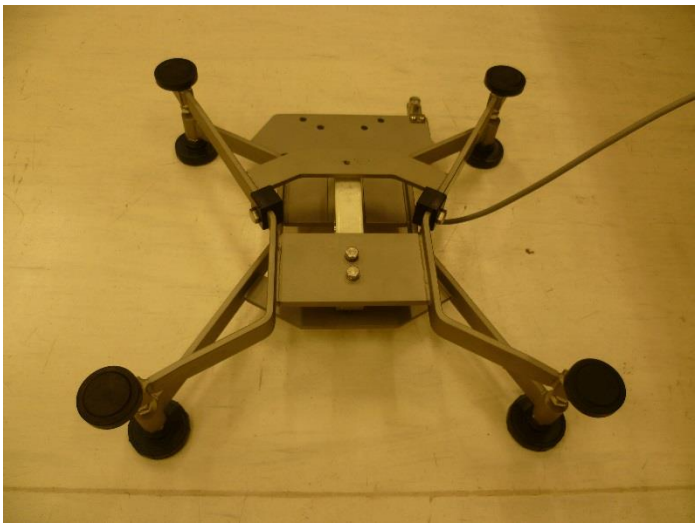
Ohaus Model D52P Series Weighing Instrument

FIGURE 6/4C/318 – 3

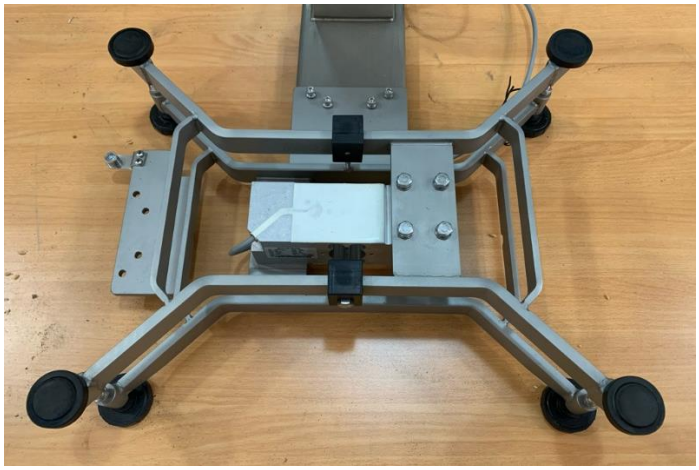
(a) Ohaus Model TD52XW Digital Indicator

(b) Ohaus Model TD52P Digital Indicator

FIGURE 6/4C/318 – 4

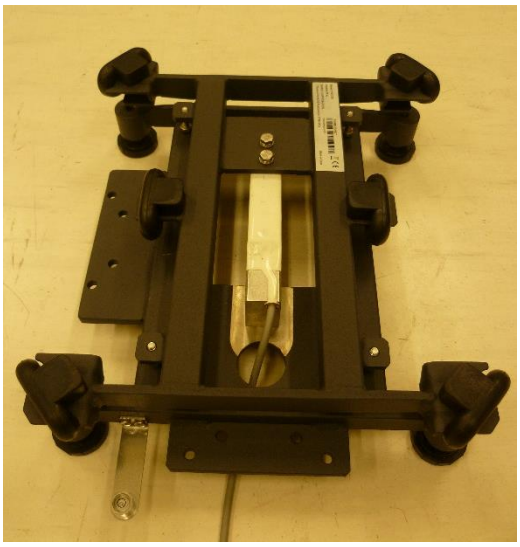


(a) Ohaus Model D52XW Series Basework Fitted with a Mettler Toledo 0785 Load Cell

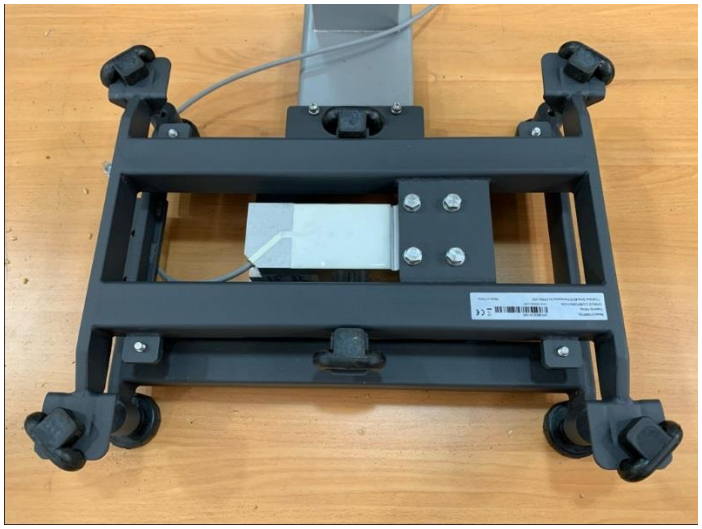


(a) Ohaus Model D52XW Series Basework Fitted with a Mettler Toledo 0805 Load Cell

FIGURE 6/4C/318 – 5

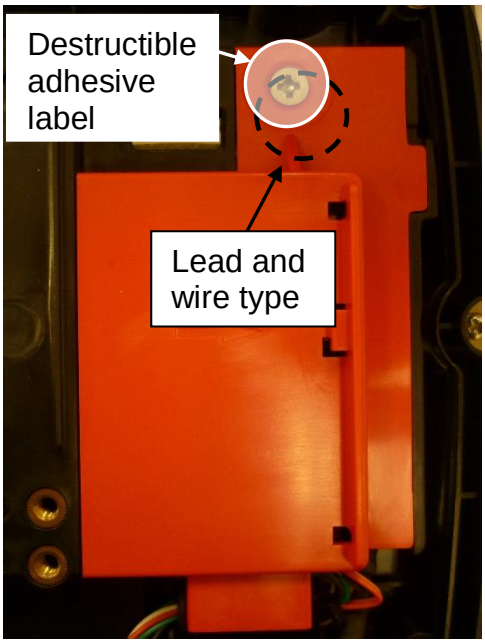


(a) Ohaus Model D52P Series Basework Fitted with a Mettler Toledo 0785 Load Cell



(b) Ohaus Model D52P Series Basework Fitted with a Mettler Toledo 0805 Load Cell

FIGURE 6/4C/318 – 6

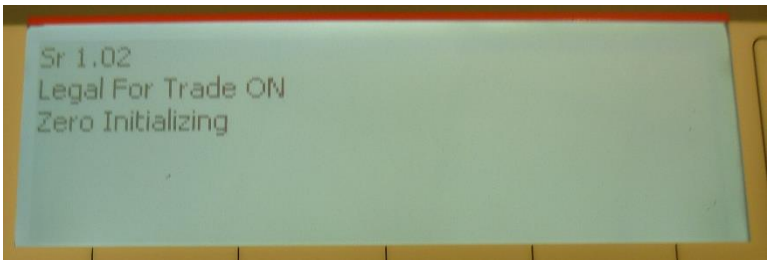


(a) Sealing of TD52XW Digital Indicator

(b) Sealing of TD52P Digital Indicator

Typical Sealing Methods

FIGURE 6/4C/318 – 7



Calibration Switch Status

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