Certificate
Pursuant to section 12 of the Weights and Measures Act 1985

Certification No 2335/1 Revision 1

Valid Until 16 July 2010

In accordance with the provisions of section 12 of the Weights and Measures Act 1985, the Secretary of State for Trade and Industry hereby certifies as suitable for use for trade a pattern of an automatic weighing machine for dispensing predetermined loads of powdered or granular materials having the following characteristics:-

An automatic weighing machine of the gravimetric filling type comprising of a Bran + Luebbe MiniPond 25-BMN controller incorporating a microprocessor, a material feed mechanism, and a weigher comprising of a weigh frame suspended on a cantilever loadcell.

Nominal Capacity:	***26 kg***
Scale interval:	***0.02 kg***

Under the provisions of section 12(6) of the said Act, the validity of this certificate is limited as shown above.

Under the provisions of section 12(5) of the said Act, this certificate is subject to the conditions in section 7 of the descriptive annex.

Note: This certificate relates to the suitability of the equipment for use for trade only in respect of its metrological characteristics. It does not constitute or imply any guarantee as to the safety of the equipment in use for trade or otherwise.

Submitted by: ***Autopak Machinery Ltd***
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This revision replaces earlier versions of this certificate.

Signatory: G. Glas
for Chief Executive
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Date: 19 August 2009
Reference No: T1105/0041

CERTIFICATION NO 2335/1 Revision 1

Descriptive Annex

1 NAME AND TYPE OF INSTRUMENT

The machine is as described in Certification Number 2335, but having alternative construction for filling valve type bags with powders. The model is designated a Turbo Packer and is designed to dispense loads of free-flowing powder or granular material, to a predetermined weight. Material is propelled by air pressure through a spout which is inserted into the self closing aperture of the bag.

The machine has a nominal capacity of 26 kg and a scale interval of 0.02 kg.

2 CONSTRUCTION

2.1 Mechanical

2.1.1 The system comprises of the following parts:

(i) feed device
(ii) weight indicator
(iii) weighing unit / filling station
(iv) process control cabinet.

2.1.2 The weighing unit (Figure 1) comprises:

(i) a weigh frame
(ii) a load cell
(iii) a support frame
(iv) a filling spout and pneumatic bag clamp

2.1.3 The weigh frame (1) is supported four horizontal flexures (2) which provide lateral stability to the weigh frame. The load cell (3) is mounted onto the support frame (4) of the filling machine and is connected to the top of the weigh frame. A filling spout (5), fitted with a pneumatic bag clamp (6) and a pneumatic bag valve seal (7), is connected via a flexible coupling (8) to a regulated pinch valve (9) which is fitted to the cylindrical pressure chamber (10). A bag support (11), when fitted, is connected to the lower part of the weigh frame. A spout purge tube is fitted inside the filling spout. Adjustable screw stops limit vertical movement of the weigh frame and protect against overload of the load cell.

2.1.4 The flow of material into the pressure chamber is by way of gravity from a supply hopper. The pressure chamber is fitted with a material-low-level sensor (12) and a pneumatically operated butterfly valve (13). The chamber pressurisation valve (14) is mounted on a hinged door (15) at the base of the pressure chamber. The door allows access to the inside of the pressure chamber.

2.1.5 The weight indicator is fitted onto the control cabinet which is mounted on the weigher frame. Mounted below the indicator are:

two press buttons;	(i)	Blower ON
	(ii)	Blower OFF
and two switches;	(i)	Weight check ON/OFF
	(ii)	Clean ON/OFF.

2.2 Pneumatics

2.2.1 The air supply is fed through a filter-regulator-lubricator unit, which is equipped with a pressure gauge on the regulated side, and is then supplied to the chamber pressurisation valve and bag clamp.

2.2.2 The pressure regulator is set to 70 psi. A pressure switch detects pressures below 70 psi and prevents the start of a weigh cycle in the event of low air pressure.

2.3 Loadcell

2.3.1 The load cell is fitted to the machine is shown in Table 1 below.

Table 1

Load Cell Manufacturer	Load cell Model	Mounting Drawing No.	E Max	v Min	n Max
Revere Transducers Europe	SHBxM	1000-15	200 kg	E_{max}/ 10000	3000

2.4 Software

2.4.1 The MiniPond 25-BMN control terminal is controlled by the Bran + Luebbe PICOS operating system

2.5 Legends

2.5.1 A rating plate is fitted to the front of the MT25 MiniTerminal and bears the following legends:

Manufacturers name:	Bran+Luebbe
Nominal Capacity:	26 kg
Scale Interval	0.02 kg
Minimum Air Pressure	70 psi
Minimum fill time	15 secs
Certificate No	2335/1

2.5.2 A rating plate is fitted to the side of the weigher support frame and bears the following legends:

Manufacturers name:	G A Services Ltd
Nominal Capacity:	26 kg
Scale Interval	0.02 kg
Minimum Air Pressure	70 psi
Minimum fill time	15 secs
Certificate No	2335/1

2.5.3 A further notice is displayed above the mains air pressure gauge, situated on the front of the weigher.

THE WEIGHMENT MUST BE DISCARDED IF THE AIR PRESSURE FALLS BELOW 70 PSI

2.6 Calibration and Sealing

2.6.1 The calibration mode is accessed via the removal of a metal cover on the rear of the MT25 MiniTerminal, held in place by a security screw, to give access to a calibration device. The cover protects the calibration device and the load cell connector from unauthorised access.

2.6.2 The calibration jumper is removed to enable the operation of the calibration dialogue. The calibration dialogue is carried out interactively using the digital display and keyboard.

2.6.3 The security screw is sealed with wire and lead seal to the metal cover.

2.7 Stamping

2.7.1 A stamping plug is provided, adjacent to the rating plate, on the side of the weigher frame.

3 OPERATION

3.1 General

3.1.1 The ON switch is pressed, on the MiniPond 25/DataPond 25 unit which then goes through a self test routine illuminating all segments of the display and illuminating the LED annunciators. The weight display will auto zero, provided that the zero is within the zero capture range. The push buttons now become active.

3.1.2 The target weight, 1 of 4, is selected using the set point entry button. Alternatively if a remote switch is connected to the I/O connector, this can be used to select the correct weighment.

3.1.3 Material is fed into the pressure chamber until the low level probe is activated. The butterfly valve closes to seal the chamber.

3.1.3 The operator ensures that a bag is placed over the neck of the delivery spout, and presses the start button. The filling cycle commences if the low air pressure sensor is not activated.

3.1.4 The bag is automatically clamped to the filling spout and the spout seal inflated.

3.1.5 The chamber is pressurised and the pinch valve is opened fully. The pressure of air inside the chamber forces fluidised material out of the chamber, through the pinch valve and into the bag via the filling spout until a pre-determined weight is reached (SETP C).

3.1.6 The pinch valve partially closes to give a fine feed. Material continues to flow into the bag until the pre-set cut-off value is achieved. The pinch valve then closes completely and the chamber is de-pressurised. The cut-off value allows for material that is "in flight" between the pinch valve and the bag, and is calculated as the Target Weight minus the After-flow value.

3.1.7 The filling spout is then cleared by a purge of air through the spout purge tube. After a settling time the spout seal and the bag clamp are de-pressurised. The bag is released and removed from the neck of the delivery spout. The first bag of the fill cycle will fill at a slower rate whilst the controller establishes the flow rate of the material.

3.2 Interlocks

3.2.1 The nominal weight can only be set when in the 'Set point mode'. The entry of 'Set point mode' parameters is protected against unauthorised access by the use of a special code which is restricted to management personnel only.

3.2.2 All keys are disabled when in filling mode except:

(i) Zero key
(ii) Start filling
(iii) Set point key

3.2.3 If any weighment is found to be outside the upper and lower tolerances, the weighment can not be discharged automatically and an alarm is given.

3.2.4 Weighing can not start unless the weigh scale reading is within ¼ of a scale interval of zero.

3.2.5 Zeroing can not be done automatically outside the limits of +3% or -1% of zero.

3.2.6 Weighing cannot start unless the air pressure is above 70 psi.

4 AUTHORISED ALTERNATIVES

4.1 Having a red push button switch marked **EMERGENCY STOP** provided on a cabinet mounted on the weigher frame . The operation of this button removes power to the weigher, stops the weighing operation and terminates the batch immediately.

4.2 Having an Epson LX 400 or LX 800 series printer connected to the Centronics and/or Serial interface of the controller. The interface must bear the legend **"FOR MANAGEMENT PURPOSES ONLY"**.

4.2.1 The printer may be used in the following modes:

(i) All individual weighments
(ii) Incorrect weighments only
(iii) Report on number of weighments and total weight for session.

4.3 Having a bag support fitted to the lower part of the weigh frame.

4.4 Having two load cells mounted onto the support frame of the filling machine and connected to the top of the weigh frame, as shown in Figure 2.

4.5 Having the following metrological characteristics for the instrument (single or dual load cell configurations):

Nominal Capacity: 26 kg
Scale interval: 0.05 kg

5 RECOMMENDED TESTS

5.1 The following test should be carried out in addition to those specified in the Automatic Weighing Machine Regulations (SI 1320 1986) to determine the conformity with the pattern:

5.1.1 Using the MT25 MiniTerminal display and test weights, test the machine as far as practicable in accordance with the Non-Automatic Weighing Machine Regulations (SI 876 1988) for a machine of the same capacity and scale interval.

5.2 Material tests should be carried out using the range of materials to be packed at each installation, to determine the suitability of the machine for those materials.

5.2.1 Determine if the material is liable to compact when left for extended periods. If so the material must not be left in the machine, and a notice shall then be displayed in a prominent position on the weigher, as shown below:

ENSURE WEIGHER IS FLUSHED OF ALL MATERIAL AT THE END OF A BATCH

5.3 Material tests should be carried out with the machine set close to the specified minimum feed time.

5.4 Determine the number of fills ("n"), at the start of a new batch, that exceed the error allowances whilst the machine is optimising. A notice shall then be displayed in a prominent position on the weigher, as shown below:

AT THE START OF A NEW BATCH THE FIRST "n" BAGS MUST BE DISCARDED

6 CERTIFICATION NO

6.1 The system bears the Certification Number 2335/1

7 CONDITIONS

7.1 Under the provisions of section 12(5) of the Weights and Measures Act 1985 this certificate is subject to the following conditions:

7.1.1 Where under section 5.2, the material is found to compact when left for extended periods, the material must not be left in the machine. Therefore at the end of a batch, when the remaining material does not activate the high level sensor, the residual material must be flushed into a bag, and the partial weighment discarded. A notice shall be displayed in a prominent position on the weigher to flush the machine of any residual material and discard the partial weighment.

7.1.2 Where under Section 5.4, at the start of a new batch, a number of fills "**n**" are determined to exceed the error allowances whilst the machine is optimising. A notice shall be displayed in a prominent position on the weigher to discard the first "**n**" bags.

8 FIGURES

Figure 1 The Turbo Weigher - General Arrangement
Figure 2 The Turbo Weigher - General Arrangement (two load cell version)

9 CERTIFICATE HISTORY

ISSUE NO.	DATE	DESCRIPTION
Cert 2335/1	07 June 1996	Type approval first issued.
Cert 2335/1 revision 1	19 August 2009	Consolidation of the certificate (Amendment 1 to Cert 2335/1 included as authorised alternative 4.3.) Authorised alternative 4.4 added. Change of manufacturer's name from: G A Services Ltd Unit F3 Field Industrial Estate Clover Street off Lowmoor Road Kirkby-in-Ashfield Nottingham NG17 7LJ

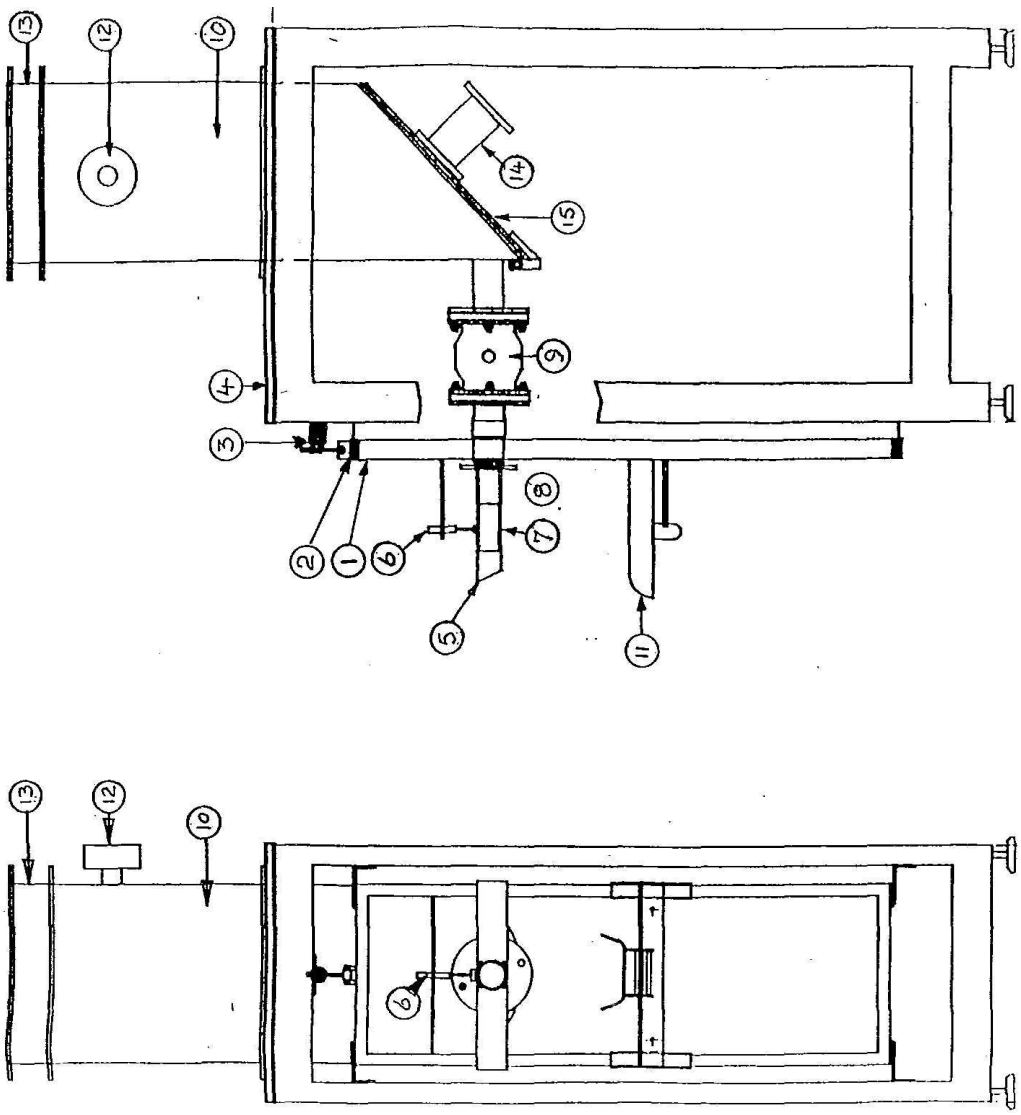

Figure 1 The Turbo Weigher - General Arrangement

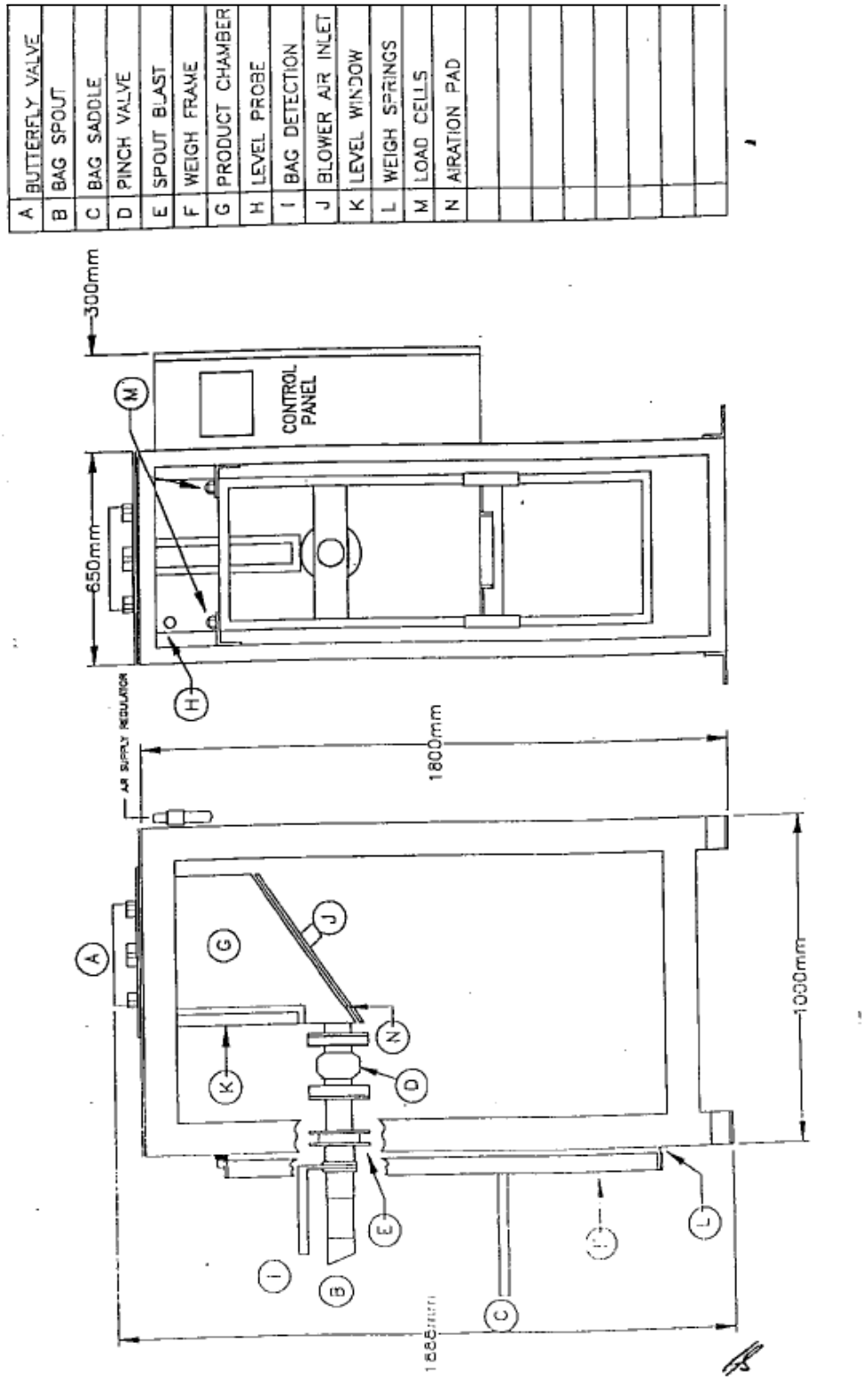

Figure 2 The Turbo Weigher - General Arrangement (two load cell version)

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