

GWD WILDCAT BAGGING SCALE



EQUIPMENT SALES | PARTS | MANUFACTURING

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The GWD Wildcat is a gross weigh bagging scale; meaning the product is weighed in the bag. The Wildcat provides an economical approach to filling bags from 10 lbs. to 110 lbs. with an electronic digital bagging scale. Typical production speeds and accuracies allow for up to eight bags per minute at +/- 2 ounces per bag. The scale is shipped fully assembled (scale housing, spout and programmable controller) and is calibrated at the factory.

The inlet opening of the scale is 9" x 7" and the overall height is 25" on a Center Grip and 27.5" on a Dust Tight version. The top of the scale should be in the area of 6'2" from the floor, thus making the bottom of the spout 48" from the floor, which is ideal working height. However, if other restrictions such as longer bag size or height limitations apply, this 6'2" dimension can be modified slightly. The programmable controller panel may be installed normally within the operator's sight and reach.

A power supply of 110V-1PH-60Hz or 220V-1PH-50Hz is required and 60 P.S.I. air pressure; at approximately 3-4 CFM at maximum speed. The air is connected into our filter/regulator system. Our system is a 2-part regulator and regulates the air pressure required to operate the spout system, which is used for clamping the bag in place. The first regulator is normally set between 50-60 P.S.I., depending on the exact amount of air required to hold your bag. For example, a 50 lb. bag would require more air pressure to hold in place than a 25 lb. bag.

The second regulator is typically set at 35-40 P.S.I. and controls the air pressure to the flow gate and feed gate. It is extremely important that you understand the two regulators and their purposes. If the internal gate pressure is turned up to match the air pressure on the bag clamps, this will cause damage to the housing of the scale.

The air system on the GWD Wildcat Scale consists of a complete set of valves to provide the air pressure to the air cylinders. These valves are located on the back of the control cabinet on the right hand side of the scale. The valves are base mounted so that they can be easily removed and cleaned, if necessary, without having to rewire.

The air fittings used on the entire scale are swivel type quick-disconnect so that the air lines can easily be removed. The valves have speed control adjusts on the sides so that you can adjust the speeds of all air cylinders throughout the scale. These have been set at the factory. However, if you would like the clamps to open faster or close slower, this adjustment is easily made with a screwdriver.

The GWD Wildcat Scale is supplied with either a Center Grip spout, which is our standard model, or a Dust Tight model; used when the product produces high amounts of dust.

The operator will place a bag on the spout and with either a hand wand switch or foot pedal, the operator will close the clamps, securing the bag in place and ready to fill. When the clamps start to close, the start delay timer will engage as well. This timer (after timing out) sends an impulse to open the internal gravity gate. The gate is held open through the filling cycle and closed after the final weight (minus prelim) is reached.

Understanding the flow characteristics of your individual product is extremely important. If you will note, the air cylinders can be adjusted so that you have more or less opening size for the slow filling stage of your product. Heavy products such as minerals will require a smaller opening, and lighter products such as seed, oats, etc. will require larger openings. Generally, a 50 lb. bag should have an overall fill time of 4-6 seconds. The dribble mode, or slow fill, should be no less than 1 second.

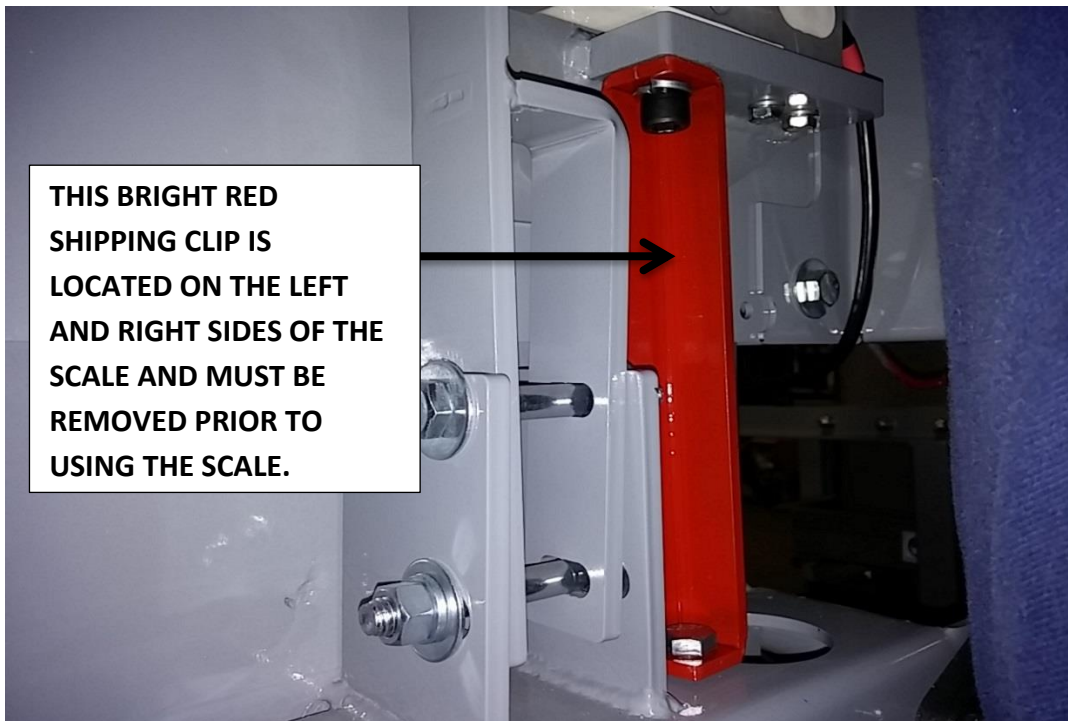
After you have an understanding of the scale functions, please proceed slowly through the following instructions:

1. Install scale on surge hopper, making sure that it is level.
2. Provide air into the filter/regulator system.
3. Be careful **not to weld** in the immediate area of the scale. Improper grounding will damage the load cells. Make sure to disconnect the cells from the summing box/power source before performing any welds in the area of the scale.
4. Connect the electric service required per schematic.
5. Make sure all electrical and pneumatic lines are connected per schematic.
6. Power on the programmable controller.
7. Set controller per the controller instruction manual.
8. Place bag on spout and begin operating scale.

Since the GWD Wildcat scale is controlled by the programmable controller, it is extremely important to follow the attached Rinstrum R423 operating instructions when programming the controller to your specific needs.

The Wildcat is truly a simple scale to understand and use and will provide many years of reliable service.

(2) BRIGHT RED SHIPPING CLIPS TO BE REMOVED PRIOR TO INITIAL USE



2 load cell rubber washers



When tightening the load cell bolts, start by hand tightening until it cannot be turned any more by hand. Using a wrench, give it 1 full turn from that point, and you're done!

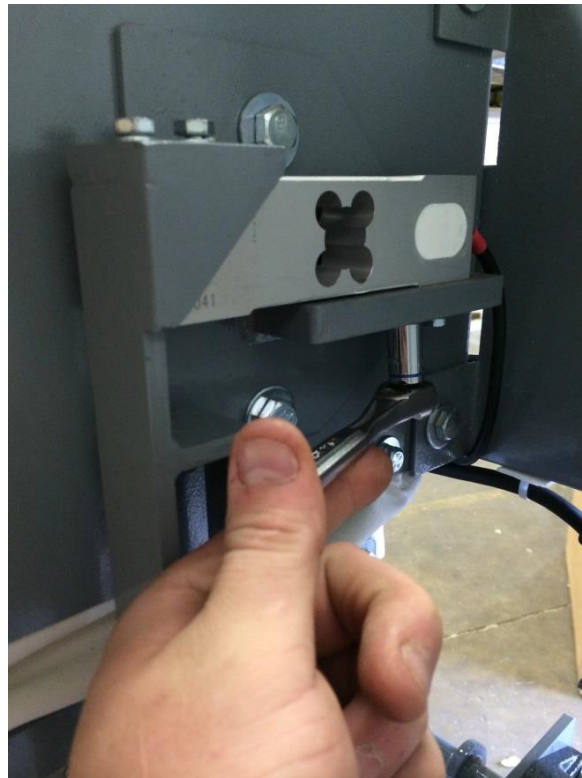
Replacing Load Cells

Wildcat scales are supplied with matched load cells with quick connect fittings. The scale has been pre-calibrated at the factory with the load cells.

The load cells are identical and cannot be confused as to right or left side.

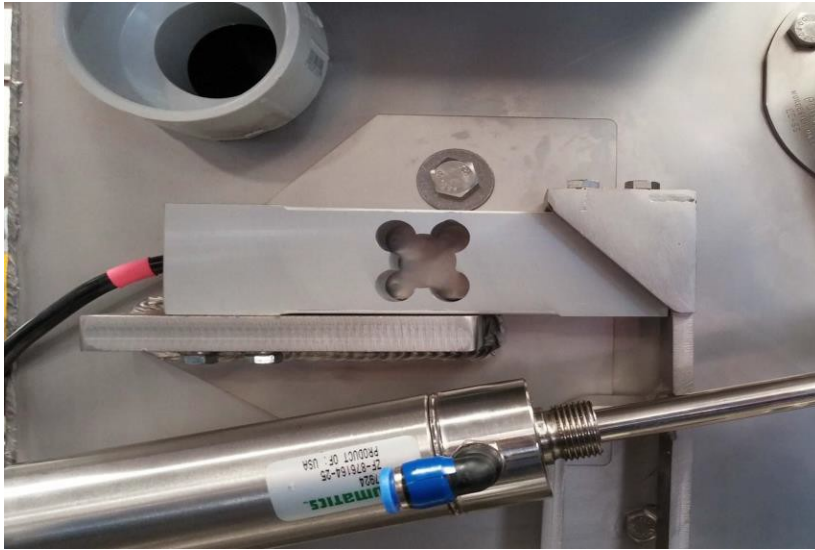
The load cells can be installed upside down which can cause issues with operation. Please note photograph(A) which shows the proper installation of the load cells.

Photograph A



Load cells should not be installed prior to any welding in the immediate area. If there is not proper a ground, then the load cells can be damaged.

Photograph B - Permanent load cell and correct mounting position



TROUBLESHOOTING THE GWD WILDCAT SCALE

CLAMPS WON'T CLOSE

1. Power on
2. Air pressure applied
3. Bag clamp valve energized (Check light on valve)
(Check wire connection on valve and terminal)
4. Air line restriction or blockage
5. Binding of air cylinder

CLAMPS CLOSE AND GATE WILL NOT OPEN

1. Gate valve energized (2 valves on 2 speed)
(Check wire connection on valve and terminal)
2. Air line restriction or blockage
3. Binding of air cylinder

CLAMPS CLOSE AND GATE WILL NOT OPEN, THEN RELEASE BAG

1. Check settings on programmable controller

SCALE FILLS VERY SLOW

1. Check flow restrictor
2. Check cutoff valves
3. Check for restriction in the chute area.

BAG CLAMP SAFETY

Bag clamps (spouts)

The most ergonomically correct height for the spout is 48 inches (1.2 meters) to the floor. Exception to this rule is that the bag-closing conveyor should not be lower than 12 inches (300mm) to the floor. If the bag is taller than 36-37 inches (915mm-940mm) then the height of the scale will have to be adjusted upward to ensure a gap to allow the bag to fall and clear the spout.

Bags are placed on the spouts manually by the operator. The clamps are operated by a foot pedal, hand wand switch or special order push buttons. Normally, in plants where fertilizer, salt or other corrosive products are handled, foot pedals are not recommended. When environmental conditions allow, foot pedals are the most operator friendly device.

Hanging the bags safely is critical to a successful operation. Bags manufactured of paper or laminated polypropylene have excellent rigidity and are the easiest to work with. Poly woven, cloth and low-density polyethylene bags have the least rigidity and are more difficult for the operator to hang.

Bags with rigidity are generally placed by the operator in the following manner:

1. Grab the bag with the right hand approximately 12" (300mm) from the top.
2. Slide the bag over the right end of the spout, allowing the shape of the spout to open the bag.
3. When the bag is approximately 4" (100mm) on the spout, activate the clamping assembly.
4. Operator's right hand will now be approximately 8" (200mm) below the clamps.

On bags with less rigidity, the operator's hand(s) will need to be closer to the top of the bag. Subsequently, closer to the bag clamps and with more care needing to be taken by the operator.

On cloth and low density polypropylene bags, two hands may be required to hang the bag. The operator needs to make sure his/her hands are clear of the spout assembly before activating the clamp switch/foot pedal.

The bag clamps not only support bags during filling, but are also designed to control dust; Dust Tight vs. Center Grip. To control dust, the spout assembly and brackets that hold the bag must be of very close tolerance. Close tolerance also means pinch point. All Dust Tight spouts are designed with spring-loaded brackets that hold the belting

material against the bag/scale. This minimizes the risk to the operator's hand, but the dust tight design is more cumbersome to most operators than the Center Grip spout.

The industry standard rule is that the spout circumference needs to be at least 5" (125mm) smaller than the inside circumference of the smallest bag being used. If the circumference of the spout and the circumference of the bag are 5" or less, it will be cumbersome for the operator to place the bag on the spout assembly.

The dust tight (DT) spouts and center grip (CG) spouts are available in a variety of sizes, customized to the bags being used in today's typical operations. The shape of the spout is pecan shaped. This helps in opening the bag during placement and does not misshape the bag during the filling operation. It is important that the bag not be misshaped to ensure an easier motion of the operator to close the bag after it has been filled and discharged.

Not all spouts are identical in size or shape. Some products pass through round spouts more easily. Round spouts, however, are generally harder for operators to use than pecan shaped spouts.

A separate air regulator is provided for all bag clamps. Each pneumatic system valve cylinder includes speed control. The amount of air pressure required is trial and error. The amount of air used should only be enough to firmly hold the heaviest bag without any slippage. The speed controls are factory set and clearly marked "Do Not Adjust" in three languages; English, Spanish and French. Do not adjust the speed controls.

On GWD model scales, operators can operate the bag clamp without the possibility of the product passing through. In run mode, the operation of the clamp will activate the product flow. In hold, the clamps can be operated without activating product flow. Operators who want to test their skill on spouts using the GWD models, they must first put the scale in "hold" mode first or risk discharging and wasting product. Placing the scale in "hold" mode will prevent any spillage.

If a finger should happen to be caught in the spout assembly, do not panic. We are not aware of any broken bones in 30+ years of manufacturing these products. Any injuries incurred are typically due to the operator panicking and pulling the finger out. Our clamps require 50-60 P.S.I. normally to hold a 50 lb. bag. Operators normally cannot pull out of this clamp assembly with said pressure. By pulling out, the skin can be torn or a fingernail can be lost, depending on the position of the hand when clamped. Generally, it is far better for the operator not to panic and to wait for the release of air pressure.

If the scale has an automatic release, bag clamps will automatically open in a few seconds, releasing the operator. For quicker release, please refer to the following:

1. F1 key turns bag clamps off. the clamps will automatically open.
2. Press in the Emergency Stop Switch. All pneumatics will return to home position.
3. On any model scale, "quick disconnect" air fittings have been supplied. Disconnect the air coming into the scale and pressure will be released.

Safety is everyone's concern. New operators should manually hang bags without product until they feel secure. Do not operate if you feel your personal skill levels do not allow you to operate this spout safely.

CALIBRATION PROCEDEURES **for JEM International Gross Weigh and Net Weigh Bagging Scales**

1. Calibrating Brackets/ Strap have been supplied to support the calibration weights. It is important to remember that the weights must be used to counter balance themselves. We cannot have two weights on one side of the unit and no weights on the opposite side. It is extremely important to remember the manner in which the scale is used; all weight will be centered on the scale.
2. The calibration brackets/ straps have their actual weight marked on them and the weights are also clearly marked.
3. Gross Weigh Scale – Hang calibration strap centered on front and rear of the spout with the hooks hanging on the center grip or dust tight $\frac{3}{4}$ " rod. For a gross weigh scale without a center grip or dust tight spout a different calibration set is provided.
4. Net Weigh Scale - Hang two brackets on the weigh hopper halo, or mount to brackets from load cells.
5. Once the brackets/ straps have been hung on the scale, you will add two known weight to the calibration bracket/ straps. We recommend using certified calibration weights for this process. You can calibrate now to the final weight – being the weight of the two known weights plus the weight of the brackets or strap. Another option is to zero out the weight of the brackets or straps and simply calibrate to the weight of the known certified calibration weights.

For example: If you have two 30 pound weights and two brackets weighing 2 pounds each, you have 64 pounds of known weight that can be calibrated.

Once this calibration is complete, you have certified that your scale is correct to either 60 or 64 pounds of weight.

6. You can add a bag onto the spout or add product into the weigh hopper that will weigh less than this amount. Since you have calibrated to 60 or 64 pounds with known weights, then the scale is accurate up to this point with an unknown weight.

For example: If you add 50 pounds to the weigh hopper or to the bag, you are now reading 50 pounds on the digital controller and this is a weight that has been certified.

At this point, you can now add two 30 pound weights and the final weight should be 60 pounds more than the weight you put into the weigh hopper or into the bag.

If you added exactly 50 pounds of product into the weigh hopper or into the bag, you should read 110 pounds when you add the 60 pounds of known weights. This is a build-up test and now the scale has been certified up to 110 pounds.

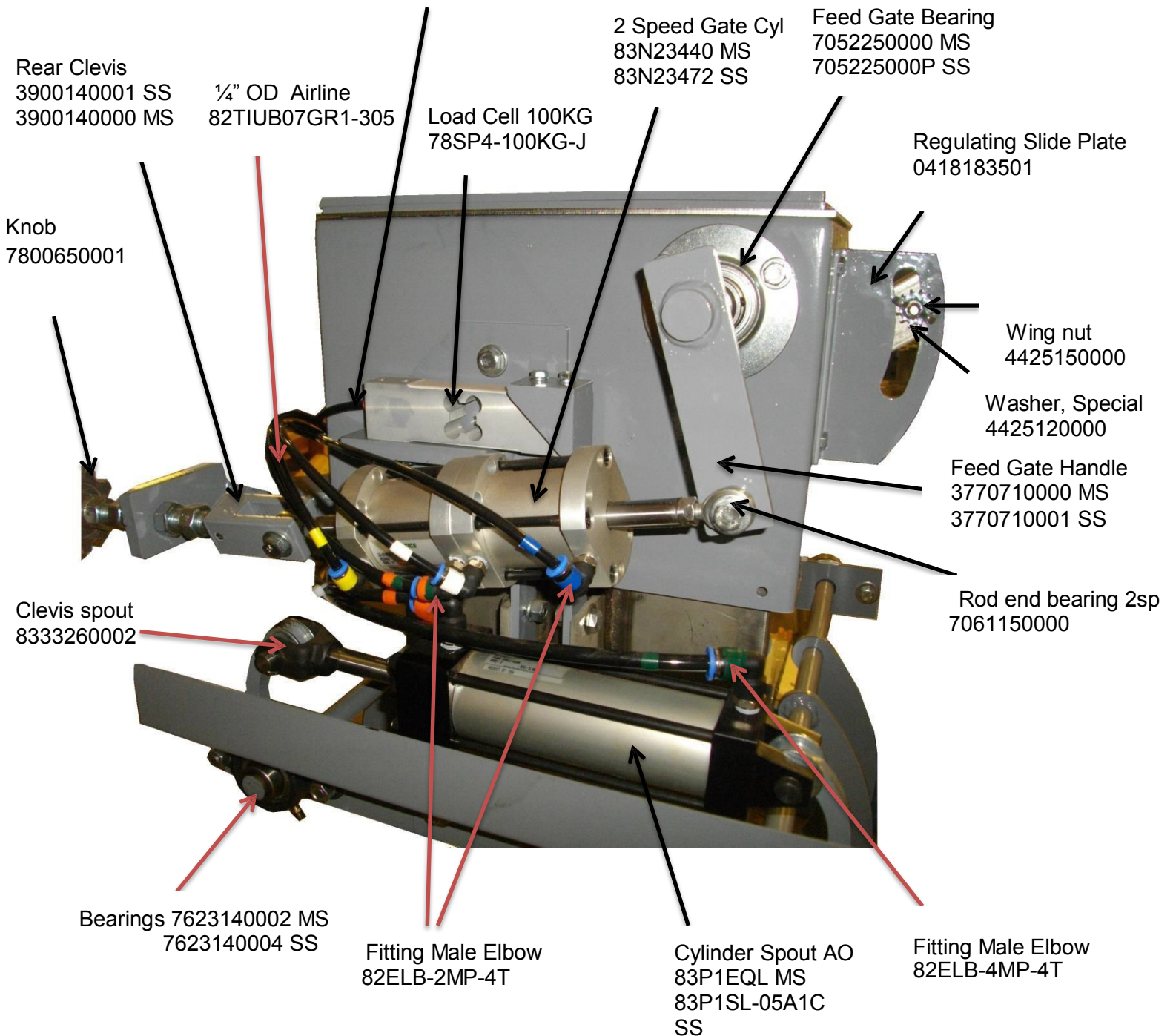
7. Store the weights and the brackets in an area where they will not fall and chip or be damaged in any way.

Proper Scale Calibration Technique



GWD WILDCAT PARTS DIAGRAM

Load cell assembly consists of:
 78MC5J2 2 Load Cell Junction5 Pin
 78MC501 Cable, 5 Pin M-F Core 1m (Standard)



Filter Regulator Assembly, 14 Series
3770330145-J (Assembly includes part numbers below):

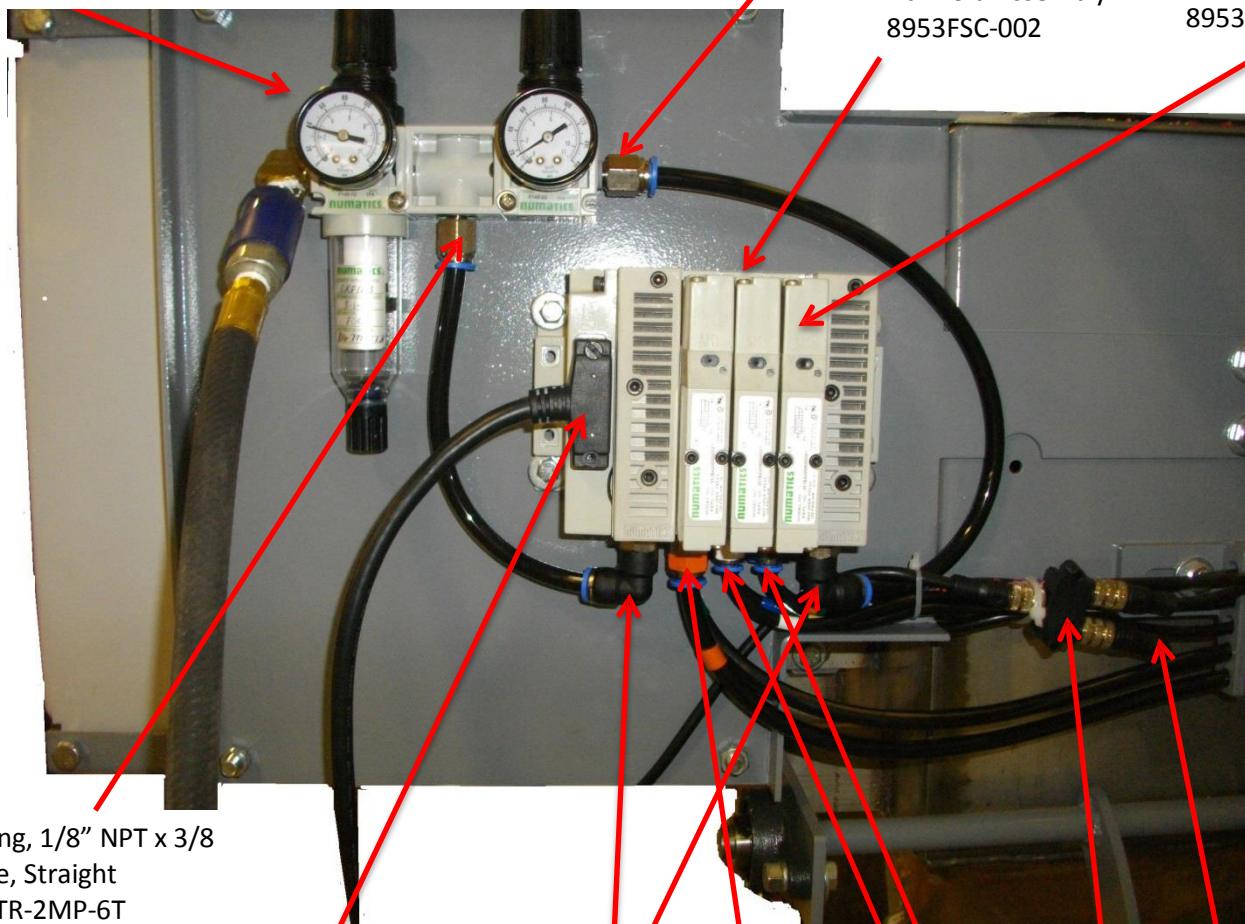
GWD PARTS DIAGRAM

Filter Regulator 14 Series
3770330140-J
Gauge 14 Series
3770330142-J
Diverter 14 Series
3770330143
Filter Bowl Kit Series 14
3770330148
Regulator Mounting Bracket
3770330146
Regulator Adj Knob Series 14
3770330149

Fitting, 1/4" NPT x 3/8"
Tube, Straight
82STR-4MP-6T

Val 2005, 3 Station
Manifold Assembly
8953FSC-002

2005 Valve, Speed
Control
8953FSC-001



Fitting, 1/8" NPT x 3/8"
Tube, Straight
82STR-2MP-6T

Fitting, Male Elbow,
3/8 NPT X 3/8 Tube
82ELB-6MP-6T

Fitting, Male Straight;
1/8 NPT X 1/4 Tube
82STR-2MP-4T

Cable, 5 Pin M-F
5 Core 6MM
MC501

Interface Cable, 90 DEG, 25 Pin,
Sub-D, Female 15", 22 AWG
25-15-90

2 Load Cell Junction 5
Pin Moulded
MC5J2

Fitting Male Straight;
3/8 NPT x 3/8 Tube
82STR-6MP-6T

JEM INTERNATIONAL, INC.
PHONE: 913-441-4788 FAX: 913-441-1711

PART #	DESCRIPTION		
0024257909	Chute seal		
0024257911	Chute seal plate MS		
0379823601	Slide bar MS		
0379833601	Slide bar spacer MS		
0379943601	Gate stop bar MS		
0418176601	Regulator Slide handle MS		
0418183501	Regulating slide plate MS		
3600500000	Rod, gate adjust MS		
3700510000	Foot switch		
3770180001	Cylinder brkt (1 spd.) MS Belt Fed		
3770190002	Cylinder brkt (2 spd.) MS		
3770330140-J	Filter/Regulator 14 Series		
3770330142-J	Pressure Gauge 14 Series		
3770330145-J	Filter/Regulator Assy. 14 Series		
3770330148	Filter Bowl Kit 14 Series		
3770710000	Feed gate handle MS		
3799990001	Bag clamp		
3900140000	Rear clevis (2 speed only) MS		
39PWC002	Housing MS		
4425120000	Special washer		
4425950000	Wing nut		
5418150001	Top chute MS		
5418220001	Regulating slide MS		

GWD PARTS PG 2

PART #	DESCRIPTION		
5423910001	Chute gate MS		
54PGW001	Dust Skirt bar MS upper		
7052250000	Feed Gate bearing		
7061150000	Rod end bearing (2 speed)		
7061490000	Rod end bearing (1 speed)		
7675400003	Decal; Increase Flow		
7800650001	Knob, Aluminum		
78MC503	Load Cell Cable		
78MC5J2	Load Cell Junction		
78SP4-100KG-J	Load Cell 100Kg		
82ELB-2MP-4T	1/8" NPT X 1/4" Tube Fitting		
82ELB-4MP-4T	1/4" NPT X 1/4" Tube Fitting		
82STR-2MP-6T	1/8" NPT X 3/8" Tube Fitting		
82STR-4MP-6T	1/4" NPT X 3/8" Tube Fitting		
82TIUB07GR1-305	1/4" OD airline		
82TIUB11GR1-153	3/8" OD airline		
8332850000	Gate Cylinder MS		
8333260002	Clevis w/ pin		
83N23440-K	Seal Kit- 2 speed gate cylinder MS		
83P1EQL-K	Seal kit, spout MS		
8953FSC-001	Speed Control Valve		
8953FSC-002	3 Station Valve Assy. 24 VDC		
8953FSC-24	Valve & Solenoid Assembly		

25" DUST TIGHT SPOUT MS PARTS LIST

QTY	ITEM #	DESCRIPTION
1	0423955501	SWAY BRACKET MS
1	3799990001	BAG CLAMP
1	37PWC005	LOAD CELL HANGER BRACKET RH LONG
1	37PWC006	LOAD CELL HANGER BRACKET LH LONG
2	37PWC011	SHIPPING BRACKET MS
4	5448200005	SPRING
4	5448200035	HEX COUPLING NUT MS
4	54PGW002	DUST SKIRT BAR LOWER MS
1	54PSP5002	SPOUT AO-25 MS
4	54PSP5024	SPOUT "L" BRACKET DT MS
4	7623140002	BEARING SPOUT ¾" MS
2	82ELB-4MP-6T	FITTING MALE ELBOW
1	8333260002	CLEVIS AO SPOUT
1	83P1EQL	CYLINDER SPOUT MS
1	9178000010	DUST SKIRT AO WILDCAT

C-31-MS-GWD SPOUT DT WILDCAT 31" MS

QTY	ITEM #	DESCRIPTION
1	0423955501	SWAY BRACKET MS
1	0423955502	SWAY BRACKET SS
1	3799990001	BAG CLAMP
1	37PWC005	LOAD CELL HANGER BRACKET RH LONG
1	37PWC006	LOAD CELL HANGER BRACKET LH LONG
2	37PWC011	SHIPPING BRACKET MS
4	5448200005	SPRING
4	5448200035	HEX COUPLING NUT MS
4	5448200036	HEX COUPLING NUT SS
4	54PGW002	DUST SKIRT BAR LOWER MS
4	54PGW002S	DUST SKIRT BAR LOWER SS
1	54PSP5006	SPOUT AO-31 MS
1	54PSP5006S	SPOUT AO-31 SS
4	54PSP5024	SPOUT "L" BRACKET DT MS
4	54PSP5024S	SPOUT "L" BRACKET DT SS
4	7623140002	BEARING SPOUT ¾" MS
4	7623140004	BEARING SPOUT ¾" SS
2	82ELB-4MP-6T	FITTING MALE ELBOW
1	8333260002	CLEVIS AO SPOUT
1	83P1EQL	CYLINDER SPOUT MS
1	83P1SL-05A1C	CYLINDER SPOUT SS
1	9178000010	DUST SKIRT AO WILDCAT



Rinstrum
JEM-BAT-100
Digital Controller Manual
For Gross Weigh Scales















JEM International | 6867 Martindale | Shawnee. KS 66218
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R400 SERIES

ZERO/SPAN CALIBRATION PROCEDURE

With the indicator powered on and in normal weighing mode, perform the following functions to calibrate the R400 series indicators.

(Please note that some variation may exist between firmware versions.)

1. Press and hold the  +  <POWER> + <F3> keys together for a few seconds until **"Full Setup"** is displayed and then let go.
 - a. The display should now read **"GEN.OPT"**
2. Press the  <ZERO> key a few times until **"SCALE"** is displayed.
3. Press the  <TARE> key a few times until **"CAL"** is displayed.
4. Press the  <SELECT> key one time to display **"ZERO" "CAL ?"**.
5. Press the  <OK> key one time. The current live weight will be displayed, along with **"CONT. ?"**
6. Remove all weight from the scale spout, and press the  <OK> key to proceed
 - a. **"Z in P"** (Zero in Process) will be displayed briefly followed by the newly captured zero reference point and **"DONE"**
7. Press the  <OK> key one time to return to **"ZERO" "CAL ?"**.
8. Press the  <SELECT> key one time to display **"SPAN" "CAL ?"**.
9. Press the  <OK> key one time. The current live weight will be displayed, along with **"CONT. ?"**
10. Add your desired span calibration weight to the scale spout.
11. Press the  <OK> key one time. **"WEIGHT"** will be displayed, along with a field to enter the span weight value.
12. Enter the desired span weight value with the keypad, and then press the  <OK> key.
 - a. **"S in P"** (Span in Process) will be displayed briefly followed by the newly captured span reference point and **"DONE"**
13. Press the  <OK> key one time to accept the value and return to **"SPAN" "CAL ?"**.
14. Press the  <POWER> key one time to save the changes and exit full setup.

Recipe Data Base Usage



ADDING A NEW RECIPE

The recipe data base function saves the following information in the database for switching between products.

Target weight
Slow fill amount
Flight
Feeder fast percentage
Feeder slow percentage
Fill delay timer
Check delay timer (spike time)
Bag Delay timer

The best method would be add the name of the recipe first then enter the parameters.

To enter a new recipe name complete the following:

1. Press and hold the UP Arrow key.
2. NAME will appear on the top of the indicator. The current recipe will be on the bottom.
3. USE the alpha-numeric keypad to enter the name of the product you wish to use. You may enter as long of a name as you wish. (Just write over the current recipe name that appears)
4. Press the OK key.
5. The indicator will show you the current recipe you just created as well as its recipe code.

This is now the active recipe in the indicator. You can now change whatever parameter you so desire and they will be saved to that recipe when you switch to another.

SWITCHING BETWEEN RECIPES

To switch between recipes complete the following.

1. Press the SELECT key.
2. Code will appear on the screen.
 - a. Each recipe when entered is assigned a user defined name, ie the name you type in, and a code.
3. You may press OK and enter the code number if you know it or press the arrow key until NAME displays on the screen.
4. When name appears on the screen press OK.
5. Use the arrow keys to cycle threew the names of the recipes until you find the one you would like to select and press OK.
6. This is now the active recipe.

DELETING A RECIPE

1. Press and hold the down arrow key with the recipe you wish to delete as the current recipe.
2. The screen will display REMOVE CODE XX. With XX being the code number of the current recipe.
3. Press the OK key.
4. The recipe is now deleted.

Updating the Rinstrum LUA Module Remotely

To remotely update the LUA module in the Rinstrum you will need the following hardware items:

1. A windows based laptop
2. A WIFI internet connection at the scale. This can be the companies WIFI connection or a hot spot WIFI connection. Most smart phones can be used as a hot spot.
3. An Ethernet patch cable to connect from the computer to the LUA module.
 - a. A hard wired Ethernet connection can also be made from the LUA module to the local network. If this is done we will change the DHCP setting in the indicator and will need the computer to be on the same network as the one the scale is hard wired to.

To remotely update the LUA module in the Rinstrum you will need the following software items installed on the windows based laptop.

1. Team Viewer – <http://www.iembaggingsscales.com/contact-us.php>

The following software can be downloaded and installed from the following link:

https://www.dropbox.com/sh/7ifiaojvb284vjm/AAD_UJJRKXz_MwCdxHVXrKyJa?dl=0

2. LUA development environment (recommended)
3. USB-Serial Driver (recommended)
4. View 400 (recommended)

Software items 2-4 are recommended but not required. However, if they are not installed prior us, JEM International, accessing your computer to update the LUA module we will have to install them once we are on your computer.

JEM International

Service or Technical Support: 913-441-4788

Email: info@jemscales.com

Explanation of the 'CHK.DLY' (CHECK DELAY) timer and its function:

The CHK.DLY timer is a timer within the operational program that does not allow the weight to be observed for that given amount of time. The idea is to prevent premature shut off of the filling cycle when it is in that given fill cycle. i.e.. Fast feed/Slow feed.

If you imagine standing in front of a floor scale and you weigh 200.00lbs. and you were to jump on to that scale, it would spike above your 200.00lbs. and then level off at 200.00lbs. The same thing happens when product first reaches the weigh hopper during fast feed and then again when it switches from fast to slow feed. If this time value was not set high enough then the scale would prematurely switch over to slow feed which in return will increase its filling time. On the other hand, it would 'SPIKE' when it switched over to slow feed and prematurely observe the final cut off point of the feeder and the result will be under weight.

This timer value is dependent upon what model scale, the size of the weigh hopper, and the bulk density of the product being ran.

The following are typical time values for the different types of scale models supplied by JEM International:

Eagle Net weigh - .80 seconds to 1.25 seconds

Falcon Net weigh - .5 seconds to 1.0 second

Wildcat Gross weigh - .6 seconds to 1.25 seconds

Application Name:

JEM-423-BAT-100 Gross Weigh

Application Overview:

This application is for a 2 speed gross weigh controller that allows for single scale operation.

Operation Sequence:

1. With the scale in "IDLE" the operator will select a recipe and/or edit the target and timer values accordingly. More details found in the Operator Configuration section.
2. The operator will hold the bag in place on the fill spout, and then trigger the fill start by pressing the foot or wand switch.
3. The bag clamp output turns on to hold the bag in place, and then the fast and slow fill outputs turn on to fill the bag.
 - a. If the FILL.DLY(Fill Delay) timer is set it will count down after the bag clamp for X number of seconds before turning on the fill outputs.
4. The bag continues to fill until it reaches the target weight.
5. After the filling is complete the bag is released and drops on the conveyor. There are 2 possible scenarios for this bag clamp release, as follows:
 - a. If the operator has configured the BAG.DLY timer, it will countdown on the display and then turn off the bag clamp output to drop the bag.
 - b. If the operator has latched the foot switch, or is holding it manually then the display will show BAG HOLD CHECK until the foot switch is unlatched. When the foot switch is unlatched the bag clamp output turns off and the bag is dropped.
6. After the bag is dropped the cycle counter will increase, and the data for that bag will be stored in the indicator. See DataStore section for details on data collection. The display will then read IDLE and is ready for a new filling cycle.

Operator Configuration:

(The functionality below highlights what is required to operate this system as it is designed to operate. For additional info on additional key operation please see the indicator operator and reference manuals)

Data Entry:

(Data is entered with the alpha-numerical keypad on the right side of the unit. Remember, after making changes to data you must press the OK key to accept it and again to return to weighing mode.)

Up / Down Arrow keys:

- **Short Press:** These keys are used to scroll through options in the operator menus.
- **Long Press:** Perform secondary function to ADD and new recipe or DELETE the currently active recipe.

Cancel (C) and OK keys:

These keys are used respectively to clear data from an entry field and to accept changes to the data.

Numpad keys:

- **Short Press:** *to enter alphanumeric data in the current field.*
- **Long Press:** *Allows access to the menus outlined in Operator Configuration.*

SELECT key:

- **Short Press:** *Allows the operator to view and change the currently active recipe.*
- **Long Press:** *Allows access to Operator Configuration menu containing all TARGETS, FLIGHT, and TIMERS.*

CLOCK key:

Press and hold the CLOCK (1) key to view and edit the current time and date settings for the indicator.

COUNT key:

Press and hold the COUNT (3) key to view, edit, and clear the available bag and cycle counters.

- **BAG.CNT:** *is the number of bags that have been run for the currently selected recipe.*
- **CLEAR:** *allows the operator to clear the selected counter and return it to 0 by pressing the (OK) key. Press the CANCEL (C) key to not clear the counter.*

TOTAL key:

Press and hold the TOTAL (4) key to view and clear the totals for the currently selected recipe, and grand totals for all recipes.

- **CLEAR TOTALS:** *While in the totals menu, press and hold the DEL (DOWN ARROW) key to be prompted to clear all totals. Clear totals by pressing the (OK) key. Press the CANCEL (C) key to not clear the totals.*

TIMER key:

Press and hold the TIMER (6) key to view and edit the available timers.

- **FILL.DLY:** *is the amount of time after the bag clamp is released, that the unit waits before refilling the hopper.*
- **CHK.DLY:** *is a timer that prevents the scale from looking at the current weight after the fast fill or slow fill outputs change from on to off. This is used to prevent ending the fill cycle prematurely if there is a spike in the weight from product rushing into the bag or hopper.*
- **BAG.DLY:** *is the amount of time after the discharge is complete, that the unit waits to turn off the bag clamp output.*

TARGET key:

Press and hold the TARGET (7) key to view and edit the available targets and variable feeder speeds. Variable feeders may include a vibratory feeder, auger feeder, belt feeder, or etc...

- **TARGET:** *This is the final fill target.*
- **SLO.FIL:** *This is the amount of product filled in slow fill.*

FLIGHT key:

Pressing and holding the FLIGHT (8) key allows the operator to view and edit the current FLIGHT value. Flight is the amount of material in the air after both fast and slow fill feeders have cut off.

(eg: 50.00lb final target with SLO.FIL set to 10.00lb and Flight set to 0.50lb. The unit will fast fill to 40.00lb, then slow fill to 49.50lb and turn off, then reach its target of 50.00lb when the remaining product in the air falls into the bag.)

INFO key:

Press and hold the INFO (+/-) key to view the application name and version information.

ACC key:

Press and hold the ACC (0) key to view the accessories menu.

- *This menu holds diagnostic information for the indicator and all installed accessory modules.*

H.WARE key:

Press and hold the H.WARE (.) key to view the hardware menu.

- **MVV:** *select this option to view the millivolt per volt (mV/V) value sensed by the indicator.*

Function keys:

F1 – Start Batch
F2 – Pause Batch
F3 – Abort Batch

Cycle Light:

The cycle light illuminates to identify the portion of the slow fill that is outside of the DLY.CHK(Spike Time). This is used as a troubleshooting tool to insure that the unit is in slow fill long enough for accurate bag weights.

On – Off Switch:

The On – Off switch is used to turn the scale controller on or off.

Emergency Stop:

(This switch has 2 positions, pulled out is the normal operating position, and pushed in, in case of emergencies. The functionality is defined as follows.)

- a. When the Emergency Stop is pulled out the scale will operate normally.

- b. When the Emergency Stop is pushed in the, power is removed from the relay rack, solenoid valves, and feeders. This will also retract the bag clamp to its open position.
 - a. *The scale controller will be placed in a pause condition. Once the Emergency Stop has been returned to the pulled out position the operator may resume normal operation by triggering a start with the F1 key.*

Foot Switch:

(The foot switch has 2 built in functions as follows.)

- a. When the foot switch is pressed it triggers the Start Batch event to start the filling process.
- b. If the foot switch is held or latched, the bag will not drop at the end of the fill cycle until it is released or unlatched.

Recipe Database:

- Select a recipe from the database:
 - Enter the recipe menu with a short press of the “**SELECT**” key.
 - The currently selected recipe name and code number will display for a few seconds followed by the recipe select menu. Use the **ARROW KEYS** to scroll through the options and press “**OK**” to select it.
 - Recipe menu options:
 - **CODE:** allows the operator to select a recipe from the database by entering the recipe code.
 - **NAME:** allows the operator to select a recipe by scrolling through a list of all recipe names.
 - **LOT.NUM:** allows the operator to assign a lot number to the product currently being run. This lot number gets stored with each weighment in DataStore.
 - **QUIT:** exit menu and return to normal weighing mode.
- Add a new recipe to the database:
 - From weighing mode “**IDLE**”, press and hold the up arrow “**ADD**” key for 2 seconds.
 - The operator will be prompted to enter a new recipe name. The field will be pre-populated with the currently selected recipe name.
 - Use the arrow keys to change the cursor position and or the “**C**” clear key to delete any unwanted characters.
 - Enter the new recipe name using the keypad and then press “**OK**” to accept it.
 - The operator will be prompted that the new recipe has been created and the code number that was assigned to it.
 - The new recipe is created with the same settings as the previously selected recipe. These settings can be altered and stored at any time by entering new values in any of the **TARGETS**, **FLIGHT**, or **TIMERS**.

- Remove a recipe from the database:
 - From weighing mode “**IDLE**”, press and hold the down arrow “**DEL**” key for 2 seconds.
 - The operator will be prompted to remove the currently selected recipe code.
 - Press the “**OK**” key to remove the recipe.
 - Press the “**C**” key to exit without removing the recipe.

DataStore:

To collect the data from the scale indicator the operator may perform the following procedure.

1. Stop the filling / batching sequence by pressing the “**ABORT**” key. The indicator will display “**IDLE**” on the lower portion of the display.
2. Insert a **BLANK** USB flash drive into the USB port found on the M4223 module that is located on the back of the indicator.
 - a. The Indicator will analyse the flash drive, and then open the USB menu automatically.
3. The indicator will display “USB” on the upper portion of the display, and a prompt in the lower right corner to “USE ARROWS OR REMOVE USB”
4. The operator may choose from the following 3 options by using the arrow keys to scroll through the options and then pressing the “OK” key to accept the option.
 - a. **“TO USB”** – is used to download the data files from the indicator.
 - *The data files that are downloaded will contain the Datastore_XXXXXXX.csv file, where XXXXXXX is the serial number of the indicator. This Datastore_XXXXXXX.csv file can be opened in a pc software like Excel to view the captured data from each filling cycle.*
 - b. **“FROM USB”** – is used to upload new data files to the indicator if an update to the indicator software is required.
 - *This option should not be chosen unless asked to do so by JEM International personnel.*
 - c. **“EJECT USB”** – This option can be chosen to safely remove the USB flash drive from the indicator.
 - *“USB REMOVE” will be displayed when it is safe to remove the usb drive.*
 - *Once removed the indicator will return to “IDLE” and be ready for use. If a software update was loaded the indicator will automatically reboot to apply the update.*



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Load Cell
Single Point
Model: L6N Series
 n_{max} : 5 000, Class III, Single/Multiple Cell
Capacity: 3 kg to 200 kg
Accuracy Class: III

Submitted By:

Zemic (USA), Inc.
9252 Hall Road
Downey, CA 90241
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Fax: 626-938-0202
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Standard Features and Options

- The specific load cell capacities, v_{min} values, and minimum dead loads covered by this Certificate are listed on page two.
- Model L6N (350 Ω Bridge Nom), wiring color code:
 - Red (+Input), Blue (+Sense), White (-Output), Black (-Input), Brown (-Sense), Green (+Output)

Standard Features:

- Nominal Output: 2.0 mV/V
- Aluminum Material
- 6 Wire Design

This device was evaluated under the National Type Evaluation Program and was found to comply with the applicable technical requirements of "NIST Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Tim Tyson
Chairman, NCWM, Inc.

Randy Jennings
Chairman, National Type Evaluation Program Committee
Issued: June 17, 2011

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**Zemic (USA), Inc.**

Load Cell / L6N Series

Model	Capacity	v_{\min} Class III Single Cell, $n = 5000$	v_{\min} Class III Multiple Cell, $n = 5000$	Minimum Dead Load
L6N	3 kg	0.0002 kg	0.0002 kg	0 kg
L6N	5 kg	0.0004 kg	0.0004 kg	0 kg
L6N	8 kg	0.0006 kg	0.0006 kg	0 kg
L6N	10 kg*	0.0008 kg	0.0008 kg	0 kg
L6N	15 kg	0.0012 kg	0.0012 kg	0 kg
L6N	20 kg	0.0016 kg	0.0016 kg	0 kg
L6N	30 kg	0.0024 kg	0.0024 kg	0 kg
L6N	50 kg*	0.0040 kg	0.0040 kg	0 kg
L6N	75 kg	0.0060 kg	0.0060 kg	0 kg
L6N	100 kg	0.0080 kg	0.0080 kg	0 kg
L6N	150 kg	0.0120 kg	0.0120 kg	0 kg
L6N	200 kg	0.0160 kg	0.0160 kg	0 kg

*2 load cells tested

Application: The load cells may be used in Class III scales for single and multiple cell applications consistent with the model designations, number of scale divisions, and parameters specified in this certificate. Load cells of a given accuracy class may be used in applications with lower accuracy class requirements provided the number of scale divisions, the v_{\min} value, and temperature range are suitable for the application. The manufacturer may market the load cell with fewer divisions (n_{\max}) and with greater v_{\min} values than those listed on the certificate. However, the load cells must be marked with the appropriate n_{\max} and v_{\min} for which the load cell may be used.

Identification: A pressure sensitive identification label located on the cell states manufacturer name, model number, serial number, rated capacity, rated output, v_{\min} , class, CC number, and country of origin. Other pertinent information will be specified on the Calibration Certificate accompanying the cell.

Test Conditions: Test data was analyzed for the 10 kg and 50 kg load cells submitted. Testing was conducted using deadweights as the reference standard. The load cells were tested over a temperature range of -10 °C to 40 °C with three tests run on each cell at each temperature. The temperature effect on zero was measured and a time dependence (creep) test was performed. The data was analyzed for single and multiple load cell applications.

Evaluated By: K. Jones (CA)

Type Evaluation Criteria Used: NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 2011. NCWM, Publication 14: Weighing Devices, 2011.

Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Information Reviewed By: J. Truex (NCWM)

Example of Device:

L6N Series Load Cell



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Indicating Element
Digital Electronic
Models: R420 and R423
 n_{\max} : 10 000
Accuracy Class: III / III L

Submitted By:

Rinstrum, Inc.
1349 Piedmont Drive
Troy, Michigan 48083
Tel: 248-680-0320
Fax: 248-499-1331
Contact: John Lawn
Email: john.lawn@rinstrum.com
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Standard Features and Options

- Semi-Automatic (push button) Zero Setting Mechanism (SAZSM)
- Automatic Zero Tracking (AZT)
- Initial Zero Setting Mechanism (IZSM)
- Semi-Automatic (push button) Tare
- Keyboard Tare
- Multiple Tare Memories
- Gross/Net/Tare Display
- Alphanumeric Display
- Operator Prompted Display
- Units Selection (lb, kg, oz, g, t)
- Gross/Net Accumulation
- Multi-Point Linearity Calibration
- Liquid Crystal Display (LCD)
- AC or DC Power
- ABS Plastic Enclosure (R420)
- Stainless Steel Enclosure (R423)
- Category II Audit Trail
- Silicon Rubber Keypad (R420)
- Membrane Keypad (R423)
- Configurable Function Keys
- Password Protection
- Vehicle Weighing (Inbound / Outbound)
- Configurable Set Points
- Database Memory
- RS-232/485 Communications Port
- User Programmable for Non-metrological Functions
- Multiple Programmable Print Formats
- Rinstrum Viewer Configuration Software (PC)

Temperature Range: -10 °C to 40 °C (14 °F to 104 °F)

This device was evaluated under the National Type Evaluation Program and was found to comply with the applicable technical requirements of "NIST Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

John Gaccione
Chairman, NCWM, Inc.

Stephen Benjamin
Committee Chair, National Type Evaluation Program Committee
Issued: June 3, 2014

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**Rinstrum, Inc.**

Indicating Element / R420 and R423

Application: General-purpose indicator for use with certified and compatible weighing/load receiving elements.

Identification: An adhesive identification badge containing all required information is located on the front of the device. This badge repeats the word “VOID” when removed.

Sealing: These devices are equipped with non-resettable counters that increment every time the unit is calibrated or configured. To view the counters:

1. Press and hold the power key for 3 seconds to turn off the indicator.
2. Press the power key to turn the indicator back on.
3. The event counters will be displayed during the power up sequence for approximately two seconds.
 - a. The calibration counter will be identified by C.xxxxx (example: C.00005).
 - b. The setup configuration counter will be identified by F.xxxxx (example: F.00005).

The device’s setup mode may be accessed via front panel keys protected with a 6-digit PIN code, by default. Alternatively setup mode can be accessed via a button marked "setup" located on the rear of the indicator which can be protected using traditional physical seals in addition to the PIN code. Enable the rear "setup" button as follows:

The setup button is located on the rear of the unit, above the load cell connector on both the R420 and R423.

1. Press and release the setup button to access the setup mode and make changes or calibrate.
2. Press and release the [ZERO] key multiple times until “SCALE” is displayed.
3. Press and release the [TARE] key multiple times until “OPTION” is displayed.
4. Press and release the [SELECT] key multiple times until “R.ENTRY” is displayed.
5. Press and release the [UP ARROW] key one time until “R.ENTRY” is set to “ON”.
6. Press and release the [OK] key one time to accept the change.
7. Press and release the [POWER] key one time to save the changes and exit setup mode.
8. The setup mode cannot be accessed again without pressing the rear "setup" button, and is sealed by the following methods:
 - a. Standard ABS and Stainless Steel housed units are sealed by a physical seal in the form of a wire security seal placed through 2 of the drilled head screws holding the rear cover onto the main housing, or by placing a destructible label on the unit extending from the main housing onto the properly installed rear cover.
 - b. For panel mount applications place the physical seal plastic cover over the load cell connector and setup button and secure into position with the drilled head screws. Thread wire security seal through both drill head screws, or install destructible label from security cover to indicator housing, as required.

Test Conditions: The emphasis of the evaluation was on the device design, operation, marking requirements, performance, and compliance with influence factors. Models R420 and R423 were submitted for evaluation and interfaced with a load cell simulator. Several increasing/decreasing load tests, and warm up tests were performed. The device was tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). Tests were also conducted using 90 VAC to 260 VAC, and 12 VDC to 24 VDC. The indicating element was also interfaced with a weighing/load receiving element to verify compliance with zero, zone of uncertainty, motion detection, and printer format requirements.

Evaluated By: T. Buck (OH)

Type Evaluation Criteria Used: *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2014 Edition. *NCWM Publication 14 Weighing Devices*, 2014 Edition.

Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Information Reviewed By: J. Truex (NCWM)



Rinstrum, Inc.
Indicating Element / R420 and R423

Examples of Device:



R420



R423

