**International Society of Weighing & Measurement** 









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### International Society of Weighing & Measurement ( or ISWM)

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### **September 7**

Board of Director's Meeting
Myrtle Beach, Beach Cove Resort
9:00 a.m. through 1:00 p.m.
Contact: Ann Crowley, Ann@iswm.org

### **September 8 – 9, 2023**

South Atlantic Division Meeting (with HB 44 class on Friday) Myrtle Beach, Beach Cove Resort Contact: Todd Fowler, todd@greenvillescale.com

### November 1 - 3,2023

Central NW Division Meeting with HB44 Class I Hotel & Conference Center, Champaign, IL Contact: Kristin, kshuey@ciscale.com

Note: We are planning an ISWM Conference in the February – March time frame for 2024. We will publish the dates and location as soon as possible

### **Magazine Submittal Deadlines:**

Winter 2023/2024 11/15/23

The circle denotes the next available issue open for submissions.

### **ISWM 2023 Board of Directors**

### **Executive Committee**

### President 2021-2023

George Williamson

Greenville Scale Company, Inc.

### Vice President 2022-2023

Tammy Schmidtz

NBS Calibrations

### **Executive Committee Member 2021–2023**

Jerry Finnegan (Past President) Anyload, Inc.

### **Executive Committee Member 2022–2024**

**OPEN** 

### **Executive Committee Member 2022–2024**

Bill Ramey

Coti Global Sensors

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Carlos Lares Ponce..... International

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Rob Woodward...... Manufacturing Division

### **International Society of Weighing & Measurement**

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## Introducing Ann and Jennifer

By George Williamson

ISWM President

would like to welcome our two new Executive personnel to the ISWM.

Ann Crowley is our new Executive Director. Ann has been in the scale industry for many years if not a decade or two. Ann has also been active in the ISWM for many years. These years of experience will be a great asset for our organization as Ann guides the ISWM into the future.

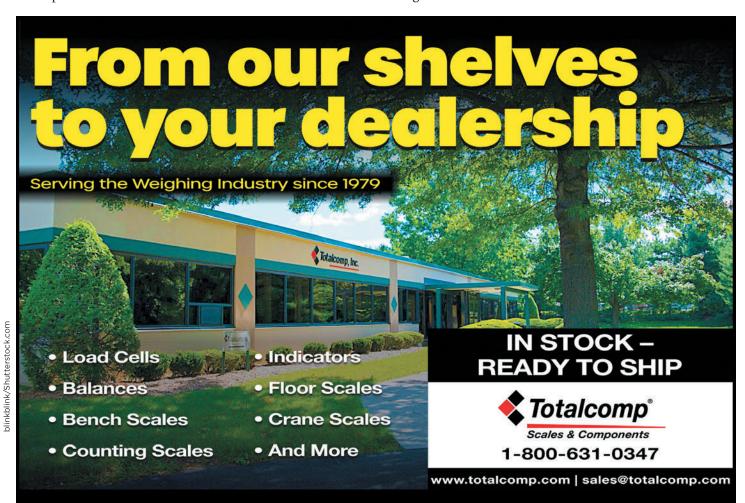
Jennifer Fox is our new Admin/Controller Specialist. Jennifer will be taking care of the ISWM accounting, filling in for Ann when needed, and helping the ISWM put on the best conferences possible.



With these two new staff members I believe the future of the ISWM is in good hands and the future is looking very bright.

I would also like to thank John Hughes for his service to the ISWM in the Executive Directors position. John has led the ISWM out of the slump we were in along with leading us through the very difficult time of Covid. John, I hope you enjoy your full retirement. I know I am very grateful for all you have done for the ISWM.

Thank you again for your commitment to the ISWM. Sincerely, George Williamson





### **Meet Ann Crowley ISWM** Executive Director



Ann Crowley is semi-retired and currently doing Handbook 44 Training for Rice Lake Weighing Systems. This job includes staying up to date with changes in Handbook 44 and keeping the training as interesting as possible. She does eight to ten training sessions a year currently. Prior to retiring, Ann was

Precision Products Director at Rice Lake Weighing Systems.

Ann believes that the weighing is a core business in America and worldwide. She loves this industry and has been involved in the weighing business for over thirty years. Her experience includes working in a family scale business, Inside Sales Manager, Service Manager, and Product Manager for Rice Lake Weighing, and Regional Sales Manager for Setra.

During Ann's career she has had the opportunity to attend and pass NIST Basic Mass Metrology and Intermediate Metrology courses at NIST and receive Certificates in NCWM Professional Certification Program in Small Capacity, Medium Capacity and Large Capacity Weighing systems.

Ann also volunteers during tax season to manage an AARP tax site at the Donelson, Tennessee senior center. At this site the volunteers' interview and prepare tax returns for all. This is a busy site with five volunteers. Ann and her husband Chuck also manage the technical set up and installation of computers, routers, and printers for District II.

Outside of work and volunteering, Ann and Chuck have one son, James, who is married to Erica with one grandchild, Echo.

Ann looks forward to her new role as Executive Director. Please contact Ann at ann@iswm.org.

Ann will be replacing the primary functions of John's position and with the addition of Jennifer we expect to have more organizational time to help us grow and improve our value to ISWM members.

We are very pleased to have Ann join us! (Executive Committee)

### **Meet Jennifer Fox ISWM Admin Specialist and Controller**



Jennifer Fox is an Illinois native and currently lives in the rural Danville area with her husband, Ryan, and their three children, Ethan, Hayden, and Aubrey.

She brings over 20 years of administrative experience, primarily in finance. Jennifer studied Business Administration Technol-

ogy at Danville Area Community College. In her previous roles she has worked in consumer lending at Old National Bank, and in Wealth Management at First Midwest Bank, where she was given the opportunity to be on a team of colleagues that implemented and facilitated a new electronic data management system. Her most recent role led her to the Walker Ag Group as a Payroll Administrator and Accounting Assistant.

> Jennifer has been involved with the Scale industry through a family business, Central

> > Illinois Scale Company. She believes that the ISWM organization creates a valuable image for the industry and promotes the awareness and knowledge that is necessary to keep it relevant within the industry as well as with the public.

In her free time, she enjoys traveling, spending time with her family and being involved in her children's various sports and activities.

Jennifer will be replacing our contracted accountant and tax specialist as well as taking charge of the ISWM member database

and monthly financial reporting. She has years of experience in QuickBooks along with general accounting and will bring a welcome iteration on our ability to do a better job in the day-to-day business of the ISWM.

(Executive Committee)

We are very pleased to have Jennifer join us!



### **Dealer/Distributor**

**Load Cell Systems** 7443 Burlington Turnpike Towanda, PA 18848 607-426-1467 joe@loadcellsystems.com Greater New York

### **Dealer/Distributor Corporate**

### Joe Hance

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### **Dealer/Distributor Corporate**

### **Sam Hance**

**Load Cell Systems** 7443 Burlington Turnpike Towanda, PA 18848 607-426-1467 sam@loadcellsystems.com Greater New York

### **Administration Jennifer Fox**

### **ISWM**

14818 S. Markley Rd. Danville, IL 61834 217-304-5725 jennifer@iswm.org Central Northwest

### **New Member**

Company Name City/Town, State Zi Phone Number newmemberemail@

### New\_Member Nan Company Name

Phone Number

newmemberemail@server.com

### **New\_Member Name**

**Company Name** Phone Number

newmember

### NOTE:

We have plenty of room for new members!

We have plenty of room for new members!

And you know who they should be 
And you know who they should be 
so please encourage them to join today! Point them to our website:

Now.ISDWM.org or have them contact

Now.ISDWM.org or have them contact

Now.ISDWM.org or have them contact

Now.ISDWM.org

Out.Org

Out.O

Phone Number

newmemberemail@server.com





## In-Person Division Meetings, What's the Fuss?

by John Hughes

recently read an article about why it is best to meet in person rather than a Zoom Meeting or not meeting at all. I can sum it up in a few key points:

- It is good to hear and learn about your industry from "experts". In-person creates a shared exchange with those present and makes a clear time and space for this experience.
- 2. It is great to be with others who share your experience in the industry. The side conversations are the best part of the learning.
- 3. You can get to know people who have more experience (good and bad) than you do, and it will help you to learn the easy way vs. doing "everything" for yourself.
- 4. It is wonderful to experience the energy of new entrants to the market you share.
- 5. Sharing your knowledge with others (excluding the dealer down the street) is a great feeling that forms a bond within your group or organization.

- Friends with very similar interests to yours are made and kept for years.
- 7. Mixing business with pleasure is an excellent side benefit!

COVID-19 sure put the brakes on this activity, and it is a breath of fresh air to see the ISWM divisions (South Atlantic and Central NW) starting to get back to in-person meetings. It is not just the ISWM who experienced a lack of meetings and a decline in membership. Many non-profits have been through this same issue!

I asked a few of our members how they saw this restriction and then return to normal – here is what they said:

**Bill Ramey**, *Coti Global Sensors* - I totally agree. The in-person networking, along with what you learn in person is always 100% better.

**Bill Moutenot,** *Totalcomp* – > Why does it make sense to have in-person ISWM Division meetings vs. virtual? If you can't answer this question, you prob-

ably don't enjoy looking at someone in the eye while you are speaking with them along with several other reasons. Face to face meetings are more productive and have less distractions. Meeting in- person also helps you to build trust and create strong business relationships which just cannot be substituted through virtual meetings not to mention workshops, training sessions such as handbook 44, and keynote presentations. Over the past 30+ years attending ISWM division meetings along with national meetings throughout the country, it has proven to be very effective in strengthening our organization through these in-person events.

- > Lastly, in-person division meetings have the power to invigorate members sense of pride and belonging within the ISWM community.
- > By embracing the benefits of inperson division meetings, the ISWM can rejuvenate itself, and continue to lead in the realm of Weights and Measures globally.

Rudy Kolaci – Totalcomp - "I like looking someone in the face and shaking their hand. It makes me feel good and I think it makes them feel good also."

Ryan Fox, Central Illinois Scale - What does an hour-long 1st grade Zoom class and an ISWM Board of Directors meeting have in common? Both become unproductive and chaotic after 30 minutes. As a collaborative and enthusiastic group, we have ideas and thoughts and want to be heard and listened to at the same time; virtual meetings do not allow for this extensive discussion. Virtual and Zoom meetings can be productive for smaller groups working to accomplish simple tasks. With larger groups and longer meetings virtual meetings tend to have an increased number of distractions, interruptions, and loss of focus for both the people attending and speaking. Our community is changing and over the last several years the number of dealers has drastically decreased

and the ability to see new products is as easy as watching a YouTube video.

Yet, ISWM group meetings are still important, but the landscape has changed and so must we. For the ISWM in person meetings are our social network. Meetings are attended to share experiences and learn about new products and methods. As a small niche community, we enjoy sharing successes and failures and learn we are not alone in the struggles our industry faces. For future success the small chapter meetings may need to become a thing of the past and instead the focus should be on moving the meetings around the country to engage more members. As a collective unit we should lean into what makes the meetings and this community great and that is the friendships that are developed through networking and engaging the membership. Building attendance, the way we have been trying seems to be failing. Bi-Annual meetings / Expos have not added attendance; and chapter meetings are struggling to get involvement from members both for leadership and attendance. There is potential to grow but the approach might have to change. The ISWM will have to pivot, evolve, and challenge itself with new ideas to grow and survive in this new age.

In Conclusion: At the end of this idea collection, I am left with a feeling that we need to give this serious thought as to how to improve our in-person offerings both at the division level and at the national conferences. For me, past conferences and division meetings were always enjoyable, even though I was mostly working... Familiar faces and good friends always brought me joy – add learning to that and I thought the investment in time and energy were well worth the effort!

I am especially happy to see two division meetings on the near horizon. More to come I'll bet!





### Dimensioning Benefits Freight Forwarding and Cross-border Processing

he use of dimensioning systems in cross-border shipping can help freight forwarders comply with regulations, speed up customs clearance, improve supply chain management, reduce costs and enhance customer service. COVID-19 sure put the brakes on this activity, and it is a breath of fresh air to see the ISWM divisions (South Atlantic and Central NW) starting to get back to in-person meetings. It is not just the ISWM who experienced a lack of meetings and a decline in membership. Many non-profits have been through this same issue!

### **Accurate Dimensioning**

Accurate weight and dimension measurements are essential for determining the best method for transporting products. Using freight dimensioning systems can help you ensure accurate freight dimensioning, reducing errors and preventing overcharges or undercharges on invoices.

### Compliant with Regulations and Efficient Customs Clearance

Accurate measurements provided by dimensioning systems ensure shipments meet the requirements for cross-border transport. This speeds up customs clearance as well as reduces time and cost for all parties. Integrating your dimensioning system with transport management software allows you to easily



populate weights and dimensions on your electronic bill to ensure accurate carrier quoting.

### Improved Efficiency and Surface Visibility

Automated dimensioning systems allow you to quickly capture measurements, increasing efficiency when processing freight shipments. Some dimensioning systems can also connect directly to your material handling software to streamline freight processing and tracking.

### Optimized Space Utilization and Cost Reduction

By accurately measuring the size of shipments, dimensioning systems can help you optimize space in containers, trucks and other transport vehicles to reduce shipping costs and improve efficiency.

### **Enhanced Customer Service**

By optimizing the packaging of a parcel and providing accurate dimensions of shipments, dimensioning systems allow you to choose the correct shipping class and compare costs immediately. This ensures your shipments are delivered on time with no extra wait in the carrier's facility.

### **Improved Supply Chain Management**

Dimensioning systems can provide realtime information on the status of crossborder shipments, allowing you to more efficiently manage international shipments. You can also use dimensioning information to optimize your supply chain management processes and reduce delays.

As a leading manufacturer of dimensioning and weighing systems, Rice Lake Weighing Systems offers a range of solutions to assist in cross-border processing. Rice Lake's team of dimensioning experts are available to answer questions and help you find the best solution for your processes.



Rice Lake Weighing Systems' Master belt scales optimize bulk material processing for nearly every application, including food, animal feed, recycling, chemical, steel, sand and gravel quarries. High-quality weigh frames and components ensure systems operate efficiently and provide an accurate weight output.

### **Master Belt Scale Systems**

- Weigh frames for every capacity need
- · Speed sensor to monitor belt speed
- Integrators specially designed for belt scales

### **What Makes Rice Lake Different**

- Application consultations with industry experts
- Integration with existing systems
- 24/7/365 customer support



800-472-6703 www.ricelake.com



### The INTERCOMP/ REMPREX Solution

### **Background**

Located just outside one of the largest cities in the US, a major Class I railroad carrier operates an around-the-clock intermodal terminal – one of the busiest and most important terminals for intermodal distribution, due in part to its proximity with a major shipping consolidation hub that accounts for approximately 40% of its outbound traffic.

Efficiency, reliability and safety are priority operational requirements at virtually every modern intermodal, railyard, port, distribution and transportation center. On an average day at the facility, as many as 950 trucks deliver rail-bound containers and an equal number of outbound trucks receive containers from arriving trains. This active facility routinely loads and unloads up to a dozen fully laden, 8,000 ft. Class I trains per day.

With this heavy level of terminal traffic, the rail carrier enlisted REMPREX to equip the facility with its Automated Gate System (AGS) freight checkpoints. The REMPREX system deploys automated gate kiosks and optical recognition technologies to facilitate passage, security and identity validation, and terminal movement of trucks and containers, helping to optimize the terminal operations and provide data critical to traffic coordination. The rail carrier also identified the role that weighing can play in enhanced operations, asking Intercomp to collaborate with REMPREX to help cre-

ate a first-of-breed solution for improving the facility's operational efficiency and collection of real-time data.

### Challenges

As the rail carrier sought ways to move trucks and trailers more efficiently through their terminal, they were also working on another problem. Overweight containers have always presented a particular challenge and a lost opportunity for rail operators. Terminal operators had to rely on bills of lading as a single point of truth in container loads, or dramatically impact their operational flow by subjecting suspect loads to inefficient manual weighing, either via truck scale or with extra handling that ties up a valuable crane. Without the ability to weigh every container truck entering the yard efficiently and effectively, these decisions fell upon on-site personnel to subjectively identify and manually validate potential overweight, underweight or shifted loads, often creating bottlenecks and delays, as well as lost revenues and safety concerns. According to REMPREX, yard hostlers encountered containers as much as 30% overweight.

"Container weights are extremely important for proper planning and placement of container loads on trains, vessels, and barges because the compounding effect of inaccurate weights can cause safety and efficiency issues across all modes of transport," said Gerry Bisaillon, REMPREX VP





of Optimization and Engineering. "For example, the number of locomotives on a train varies depending on the total weight of its cars, so inaccurate weights can result in poor train performance or wasted resources. Too much weight on barges and vessels can have obvious serious consequences, and too little weight is a potential for lost revenue. Accurately identifying the weight of a unit as it enters the facility enables load planners to avoid the delays, inefficiencies and accidents caused by under- and over-weight containers."

### Solution

The rail carrier had been evaluating Intercomp's LS630-WIM™ portable Weigh-In-Motion scales as proof-of-concept to help validate the percentage of under- and overweight inbound containers, as a prelude to deploying fixed weighing solutions at the terminal entrance. The carrier challenged Intercomp to explore the possibilities of integrating its Weigh-In-Motion technology seamlessly with the REMPREX system, and a collaboration was born.

Keith Jackson, REMPREX Director of Client Solutions, who managed the implementation, described the challenges of Weigh-in-Motion integration to the high pace of the AGS. "Effective integration of Weigh-in-Motion requires the portal vendor to receive weigh data from the WIM system and then pass it along to the gate system or client system once the weigh data is tied to the portal passage of the vehicle. After testing of the data flow and timing, as well as tuning of the physical scales, we were successfully able to fully integrate the Intercomp WIM system with our CAMCO portals."

For this unique solution, REMPREX partnered with Intercomp to integrate their Weigh-In-Motion (WIM) Strip Sensors featuring robust, OIML R134 certified

Continued on page 14







strain gauge technology. Acknowledged industry wide as the most accurate and reliable means to weigh the largest truck-borne loads at speed, Intercomp WIM sensors are designed to perform in high-throughput and extreme temperature conditions that are a constant reality at the facility's location.

Integrated with the REMPREX AGS, the advanced capabilities of WIM sensors automatically record gross vehicle weights that are immediately verified against the carrier's bill of lading, simultaneously measuring axle weights to quickly identify uneven loads and load shifts that may become a safety issue for the intermodal's crane operators.

Intercomp's WIM sensors can be integrated into operating systems ranging from analog output to API. The systems collect axle, group, and GVW for attended or unattended systems with control barriers, traffic lights, cameras, and ticket or report generation for a wide range of applications. OIML R134 certified\* and sized up to 13 ft (4 m) wide to accommodate oversized vehicles, the sensors are easily installed within 3" (75 mm) wide channels in the pavement, offering minimal disruption and labor associated with installation and maintenance.

Bisaillon noted that in critical, 24/7/365 operations such as this, delays and interruptions for large scale installations or maintenance downtime are not feasible, or at best, very costly. Intercomp's largely maintenance-free technology and vastly simplified sensor installation provides another significant advantage versus other systems.

### Results

In 2018, working closely with Intercomp engineers, REMPREX deployed the first-of-its-kind integration of in-motion weighing and weight data acquisition to the facility's automated gates. This WIM solution has added a new dimension of highly accurate, real time weighing and correlation of incoming container load weights, without compromising the throughput gains provided by the REMPREX gate automation.

The advantages gained and capabilities enabled through a robust Weigh-In-Motion solution with the proven REMPREX

AGS system offers the carrier improved remote terminal operations and a new data stream from which additional revenues, safety standards and load controls can be maintained.

Jackson concurs, describing the customer benefits that have been gained by the Intercomp WIM system. "The Weigh in Motion system successfully captures axle weights, gross vehicle weight, axle spacing, and vehicle speed for intermodal traffic. Our customer has been able to use this weigh data to identify traffic with misreported weights, which has been of great financial benefit to them and has created a safer rail environment."

For REMPREX, the capabilities of Intercomp's WIM solutions offer a vision into the future of their next generation solutions, as it works to further integrate its technology platform with the demands and variables associated with transportation. By integrating vital new data streams including weighing technologies, REMPREX expects to leverage live data and its proprietary operating platform to provide more advanced and more efficient automation solutions, expanding into more advanced tracking and point-to-point monitoring, predictive actions and data-driven operational efficiencies.

Tim Ash, REMPREX Chief Solutions Officer noted how the Intercomp WIM solutions have helped add value to the REMPREX technology platform. "The technology that REMPREX develops and integrates into operations provides visibility to all functions inside a terminal, helping us with compliance and fluidity. Everything we do at REMPREX is designed to improve the throughput of the supply chain and incorporating technology through good partnerships enables us to evolve intermodal though our solutions. The Intercomp WIM solution is a key piece of that evolution."

### **Intercomp Technology Overview**

Designed from NTEP/OIML approved scale technology, Intercomp Strip Sensors measure the magnitude of mechanical quantities such as force, torque, load and pressure to provide the system requirements specified with precision scale tech-

nology. This turnkey solution enables compliance with accepted metrology, standardization, testing, certification and accreditation used by legal metrology authorities and industries worldwide. Intercomp Strip Sensors are capable of meeting or exceeding ASTM E1318-09 Type III and COST 323 A(5) performance requirements, and certified to the OIML R134 Weigh-In-Motion standard.

WIM systems driven by Intercomp Strip Sensors can automatically record and display wheel-load weights, axle weights, gross vehicle weights and other parameters as needed, at a wide range of speeds. Violation codes and definitions can be customized by the user, enabling streamlined screening of traffic.

Learn more about Intercomp WIM Strip Sensors. Used for tolling and various other Low- and High-Speed WIM applications, Intercomp WIM Strip Sensors combine the best attributes of a precision strain gauge-based scale and the robust form factor of an in-road strip sensor.

More information is available at intercompcompany.com or contact Intercomp directly for application assistance.

### ABOUT REMPREX

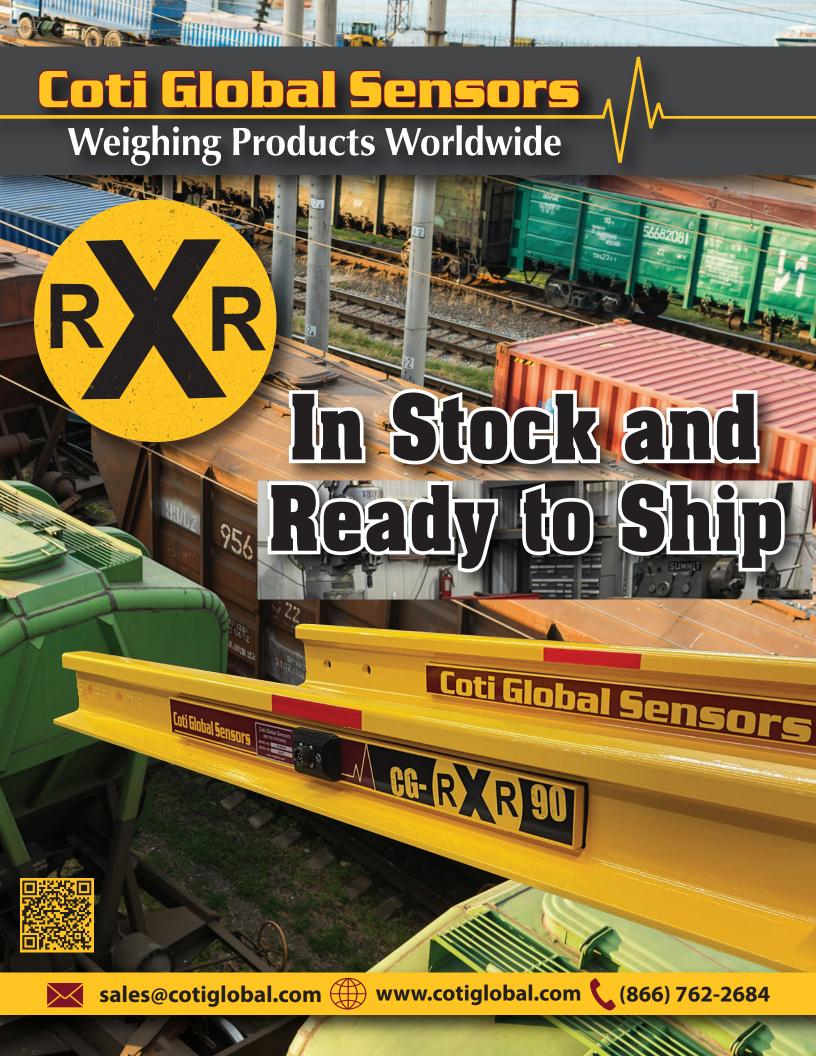
REMPREX creates customized intermodal logistics and transportation services solutions tailored to the goals of the facility customer by combining a broad suite of value-added services and technologies, including leveraging data insights, inspection and monitoring technologies, and human-assisted management from its centralized 24/7 Remote Operations Center (ROC).

remprex.com

### ABOUT INTERCOMP

Intercomp Company is the world's largest manufacturer superior-quality portable and in-ground weighing systems relied upon in aerospace, transportation, automotive, defense, industrial, agricultural and numerous other industries, worldwide. Headquartered in Medina, Minnesota, Intercomp is ISO 9001:2015 certified, with manufacturing facilities in the U.S. and the United Kingdom and services around the globe.

intercompcompany.com



### Morehouse Shackle Load Pin

orehouse is well known for calibrating loadcells of all types to the highest accuracy in the industry.

And for 50 years, we have scratched our heads at the poor performance of load pins compared to all other loadcell types. Even the slightest change in loading conditions causes drastic changes in load readings.

These errors can go completely unnoticed in standard calibration. Just taking the load pin out of the shackle and putting it back in, we see reproducibility errors of up to 10 %.

After years of iterations, Morehouse has redesigned the shackle load pin and taken it from the accuracy of a fish scale to a precision measurement instrument.

### The Shackle Load Pin Test

We compared one of our shackle load pins to that of one of the better manufacturers on the market.

One might be curious about how we define one of the better. That is easy; running a calibration lab, we see all kinds of instrumentation. When we calibrate an instrument, we look at the history of that device and similar devices from the manufacturer.

When the current calibration compares well with the last calibration, we feel good about the calibration. If it does not, we become more vigilant in finding out why.

Until now, we were utterly biased that this one manufacturer had the best shackle load pin. Knowing who we perceived as the best manufacturer of shackle load pins, we decided on what manufacturer to test the Morehouse shackle load pin against.

The test we did was simple. Put the shackle load pins in our Morehouse 30k deadweight machine with weights



Figure 1 Fish Scale and Morehouse Shackle Load Pin.

known to be within  $\pm$  0.002 % of applied force.

Use the same setup and adapters with each load cell. Exercise the shackle pin load cells three times. Then record readings over the range. Record another set of readings to obtain repeatability data. This step is important because we do not move or change anything in the setup.

Then we take the pin out of the shackle load pin and put the pin in the other direction (180-degree switch shown in Figure 4)

### The Shackle Load Pin Data

The data was collected using the above test to calculate repeatability and reproducibility.



Figure 2 Morehouse Prototype Shackle Load Pin Test.

The maximum relative repeatability error without rotation for the More-

Morehouse Shackle Load Pin Test					
Force No Rotation		Rotated 180			
Applied	Re	Repeatability Data		degrees	Reproducibility
1000	1008.4	1008.4	0.00%	996.6	1.17%
2000	2003.9	2004.7	0.04%	1995.7	0.45%
3000	2999.7	2999.8	0.00%	2996.3	0.12%
4000	3996.7	3997.2	0.01%	3996.7	0.01%
5000	4996.3	4996.7	0.01%	4995.4	0.03%
6000	5996.6	5998.6	0.03%	5994.3	0.07%
7000	6999.5	7000.1	0.01%	6994.1	0.09%
8000	8000.7	8002.8	0.03%	7994.2	0.11%
9000	9003	9003.6	0.01%	8993.7	0.11%
9500	9504.8	9505.5	0.01%	9496.2	0.10%
5000	5032.6	5032.7	0.00%	5011	0.43%

Figure 3 Morehouse Data

house unit was 0.04 %. The maximum relative reproducibility error with rotation was 1.17 %.

**Note:** The maximum relative reproducibility error of 1.17% was the worst at the first test point.

The maximum relative repeatability error without rotation for the Other unit was 0.36 %. The maximum relative reproducibility error with rotation was 4.42 %.

Note: The maximum relative reproducibility error of 4.12 % was the worst



Figure 4 Other Manufacturer Reproducibility Test

at the first test point. Both units have the maximum relative reproducibility error at the first force point.

### Comparing the Two Units

### Ratio Showing the Morehouse Shackle Load Pin to be of Superior Performance

	Repeatability	Reproducibility	
	231.60	3.76	
	4.72	8.36	
	43.45	30.22	
	15.35	258.25	
	24.81	119.27	
	5.20	41.59	
	20.92	33.10	
	6.40	25.48	
	23.86	24.00	
	19.33	26.61	
Max	231.60	258.25	
Min	4.72	3.76	

Figure 6 Comparison Ratio Morehouse Versus Other

### Relative Repeatability Error Between Both Units

When we look over the comparison data, we see, at a minimum, the repeatability data of the Morehouse unit is 4.72 better

and, on some points, up to 231.60 times

If we take the average of all data points, the Morehouse unit is around 39.56 times more repeatable than the other manufacturer.

### Relative Reproducibility Error Between Both Units

When we look over the comparison data, we see, at a minimum, the reproducibility data of the Morehouse unit is 3.76 better and, on some points, up to 43.5 times better.

If we take the average of all data points, the Morehouse unit is around 57.06 times more reproducible than the other manufacturer.

### **Shackle Load Pin Conclusion**

The results speak for themselves. We are thrilled with the performance of our new shackle load pins. Though we also want you to test these for yourself. If you have any load pins, please go ahead and run the same test plan.

What are the results? We are willing to bet they might be worse than what we are showing for the other manufacturer's shackle load pin.

We feel we have a solution if the results are not what you want them to be.

Everything we do, we believe in changing how people think about force and torque calibration. We challenge the "just calibrate it" mentality by educating our customers on what matters and what causes significant errors, and focus on reducing them.

Morehouse makes simple-to-use calibration products. We build awesome force equipment that is plumb, level, square, and rigid and provide unparalleled calibration service with less than two-week lead times.

Contact us at 717-843-0081 to speak to a live person or email:

info@mhforce.com for more information.

Other Shackle Load Pin Test					
Force		No Rotation		Rotated 180	Reproducibility
Applied	Applied Repeatability Data		degrees		
1000	1002.6	1000.3	0.23%	1045.2	4.42%
2000	2020.6	2016.8	0.19%	2093.6	3.76%
3000	3039.6	3035.2	0.14%	3143.6	3.53%
4000	4065.4	4057.6	0.19%	4190.2	3.23%
5000	5089.9	5079.8	0.20%	5239.2	3.10%
6000	6115.8	6105.2	0.17%	6289.2	2.98%
7000	7143	7130.2	0.18%	7334.6	2.84%
8000	8168	8154.3	0.17%	8379.9	2.74%
9000	9189.9	9175.3	0.16%	9419.8	2.64%
9500	9698.7	9684.9	0.14%	9939.5	2.60%
5000	5218.4	5199.4	0.36%	5333.4	2.55%

Figure 5 Morehouse Prototype Shackle Load Pin Test

### The brand you can trust High performance weighing products and solutions









Become a selected global Partner









We provide products and solutions that increase the reliability, safety and efficiency of production and packaging lines:

- From floor scales, bench top scales and innovative digital load cells we offer a wide range of solutions
- Products to support processes from goods-in to goods-out whether automated or manual
- Over 150 years' experience in the development of innovative technologies
- Dedicated personnel to take your call
- Partner and OEM opportunities available



For more detailed information, please contact us directly by mail

info-us@minebea-intec.com

### Minebea Intec USA, Inc.

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Phone 866.963.8587 ext. 8623 Office

Mobile 631.921.9344



### Legally Required Weighing for Pharmacies

Precise weighing plays a crucial role in the dispensing of medications, where accurate measurement of compounds and dosages are essential for patient safety and efficacy. With over 40 years of experience in compounding and pill counting, A&D has become a market leader by providing the right choice when quality, safety, and precision matter.

The FX-300iN features everything needed for Pharmacy applications such as an innovative hybrid weighing cell from A&D which results in stabiliza-

tion times as fast as I second. A removable draft shield with a top lid that conveniently opens for easy access is also standard. The FX-300iN weighs up to 320 grams with

precision readability of 0.001g standard, and 0.01g when in Legal for Trade mode. RS232 connectivity and pill counting software are also included in every model, with Bluetooth and Ethernet options available.

FX-300iN models meet Class A pharmacy requirements and comply with standards and regulations established by NCWM. Standard in-use cover and spill guard combined with 10x overload protection ensure years of trouble-free use and it's all backed by a 5-year warranty. Contact your local A&D sales representative for more information.

### Adam Equipment Welcomes Two New Trade-Approved Additions to its Product Lineup

OXFORD, Conn., July 31, 2023 -- Global scale manufacturer Adam Equipment added two more trade-approved options to its product offerings in the Americas: the Swift range of price computing retail scales and the Cruiser CKT-M range

of bench checkweighing scales. Both Swift and Cruiser CKT-M feature NTEP approval for setting prices based on weight.

### 1. Swift Price Computing Retail Scales

Perfect for delis, farmers markets, catering or other retail operations that need a price computing scale, the easy-to-clean Swift features a generous II.8" x 8.3" stainless steel pan, as well as front and rear displays (backlit LCD with

o.6"/15mm-high digits) so both the user and customer can see

the weight, unit price and total price. A pillar option makes it even easier for customers to view the weight and pricing results.

For convenience, Swift offers a rechargeable battery (up to 90 hours on a single charge) and can store up to 161 PLUs for quick recall of often-used products.

With a list price starting at \$425, Swift is available in eight models (four with pillars, four without), ranging in capacity from 3lb/6lb to 3olb/6olb and readabilities from 0.001lb/0.002lb to 0.01lb/0.02lb.

2. Cruiser CKT-M

The newest addition to our Cruiser lineup, the

NTEP-approved

Cruiser CKT-M bench checkweighing scale offers a compact footprint for limited workspaces, durable construction and unmatched value for industrial weighing. Applications include basic weighing, parts counting and approved check weighing to help users meet regulatory requirements.

A color-changing backlit display (with 0.6"/15mm-high digits) shows if a sample is under, over or within preset limits, supplemented by an audible

alarm. The scale features 150 PLUs for fast recall (50 each for weighing, parts counting and percentage weighing).

A rechargeable battery powers CKT-M for up to 70 hours of operation.

The approved CKT-M – which has a list price of \$655 – is available in four models from 9lb/4kg to 90lb/4okg with readabilities from 0.002lb/1g to 0.02lb/1og. Each model offers an ample 11.8" x 8.3" stainless steel pan.

CKT-M joins Adam's growing Cruiser family of products, which includes CCT bench counting scales, CKT bench checkweighing scales and CDT dual parts counting scales.

To learn more about Swift and CKT-M, visit www.adamequipment.com.

### Anyload's Robust 563WS Interchangeable Weigh Bar Load Cells

Conceived out of a commitment to meeting market demands while enhancing product quality, the 563WS is designed to significantly overcome long lead times and high costs traditionally associated with weigh bar replacements. This is achieved through its unique interchangeable design that seamlessly integrates with existing systems.

Engineered using shear beam technology, these load cells offer heightened precision and durability compared to traditional bending beam counterparts. Each unit is OIML MAA C6 and NTEP I:10,000 Class III / III L, Multiple Cell, certified and individually tested to 150% overload, emphasizing Anyload's commitment to consistent reliability.



By introducing the 563WS stainless steel weigh bar load cells, Anyload continues to demonstrate its industry leadership, blending technological innovation

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with practical improvements. Inventory for the two weigh bar styles and multiple capacities, especially the 6oKlb and 75Klb versions, have been prepositioned in Anyload's BC, Canada and New Jersey warehouses, and a steady manufacturing plan has been implemented to meet industry demands.

For data sheets, quote requests, and more information, please visit: www.anyload.com/

### RICE LAKE

### Rice Lake Offers a Complete Line of Bulk Weighing Products

Rice Lake, Wis.—Rice Lake Weighing Systems offers a wide range of bulk material scale systems to meet the accuracy needs of industries around the world, no matter what material is being handled. To efficiently move and weigh material, Rice Lake offers a complete line of bulk material scale systems including belt scales, screw weigh systems, flowmeters, loss-in-weight systems, bulk weighers and more.



Whether weighing produce on a belt scale during harvest season or blending dry materials with a flow meter, Rice Lake's experts can recommend the best solution for every application. Rice Lake offers 24/7/365 support with facilities and distributors around the world. Organizations with existing bulk weighing equipment can also work directly with a Rice Lake expert to discuss replacements for outdated or discontinued equipment from other manufacturers.

With a proven history of providing high-quality weighing products, Rice Lake Weighing Systems was founded on the principle of excellent customer service. With offices in the United States of America, the Netherlands, Italy and more, product support from industry experts will always be available. Learn more about Rice Lake's bulk material weighing solutions or contact Rice Lake to discuss specific application requirements.

Rice Lake Weighing Systems is a global leader in the weighing industry, providing innovative weighing, measuring and process control systems. With manufacturing and support facilities across North America, Central and South America, Europe, Asia and Oceania, Rice Lake Weighing Systems offers over 40,000 products and dedicated customer service to customers around the world.

### RICE LAKE WEIGHING SYSTEMS

### Rice Lake's New Hi-Torque Crane Scale

Rice Lake, Wis.—Rice Lake Weighing Systems is excited to present the MSI-9600HT Port-A-Weigh Plus Hi-Torque wireless crane scale, a powerful new MSI crane scale integrated with ScaleCore technology.

Models are available with up to a 200,000-pound capacity and the MSI-9600HT also features a 200% Safe and 500% Ultimate Safety Factor to help avoid overloading accidents.

The MSI-9600-HT has a vibrant, extra-large, six-digit LED display to show either red, green or orange digits, ensuring operators can view weight in any light condition.

The enclosure, made with IP66 marine grade alloy anodized aluminum, features a rear-battery casting with snap-closure—keeping everything weathertight

and making the MSI-9600HT ideal for harsh outdoor environments.

Learn more about the MSI-9600HT crane scale and how it is built to perform reliably.

Rice Lake Weighing Systems is family-owned and has been manufacturing and distributing weight-related products since 1946. Today, Rice Lake Weighing Systems

is a global leader in the weighing industry, providing innovative weighing, measuring and process control systems.

### RICE LAKE

### Rice Lake's New Industrial Crane Scale

Rice Lake, Wis.—Rice Lake Weighing Systems' newest addition to the robust MSI industrial crane scale line is the MSI-6360 Trans-Weigh. Designed to withstand high-temperature applications, this industrial crane scale captures weight with ±0.1% accuracy.

Equipped with ScaleCore Webserver technology, the MSI-6360 can be remotely controlled and monitored safely from virtually anywhere. Two integrated anten-

nas allow you to connect up to two remote devices via Wi-Fi or RF modules.

The MSI-6360 is ideal for use in demanding industrial applications and offers Legal for Trade configurations in capacities up to 70,000 pounds.

Learn more about how Rice Lake's MSI-6360 Trans-Weigh crane scale can be used in demanding, high-temperature applications.

Rice Lake Weighing Systems is familyowned and has been manufacturing and distributing weight-related products since 1946. Today, Rice Lake Weighing Systems is a global leader in the weighing industry, providing innovative weighing, measuring and process control systems.

### RICE LAKE WEIGHING SYSTEMS

### New Freight Dimensioning Solution from Rice Lake Weighing Systems

Rice Lake, Wis.—The new iDimension® Flex Series is Rice Lake Weighing Systems' latest solution for freight dimensioning. This easy-to-install system gives outbound shipping departments an economical solution for integrating dimensioning systems into their processes.

The iDimension Flex provides Legal for Trade dimensions on freight up to 72

by 72 by 96 inches to help shippers ensure they select the correct freight class and receive an accurate quote from their car-



riers. It can be suspended from a ceiling or installed with a free-standing frame enabling a wide variety of shipping environments to benefit from dimensioning. The flexible install options allow it to be installed above a conveyor, scale or stretch wrapper.

A built-in color camera on the iDimension Flex provides high-resolution images of each shipment before it's picked up by carriers, simplifying any damage claims processing. The iDimension Flex also offers a comprehensive network interface for straightforward integration with existing shipping software and Transportation Management Systems (TMS).

Learn more about the iDimension Flex and how it can be integrated into existing freight shipping processes or talk with one of our dimensioning experts to find the right solution for your operations.

Rice Lake Weighing Systems is familyowned and has been manufacturing and distributing weight-related products since 1946. Today, Rice Lake Weighing Systems is a global leader in the weighing industry, providing innovative weighing, measuring and process control systems.

Industry icon, recently retired, Rob Woodward announces a new venture, DSL: Direct Source Link to address supply chain and sourcing pain in the weighing industry.



Leveraging his almost 50 years' experience and many industry contacts, DSL is a rep business that specializes in matching producers-- both on-shore and offshore-- with OEM

manufacturers with a simple value proposition. "My goal is matching people who I know, trust, and respect that PRODUCE things to people that I know, trust, and respect that USE these things", he said, "with a goal to find creative and efficient

ways to reduce cost and supply chain pain."

A huge amount of the stress and dysfunction can be eliminated, both up and down the process and very attractive and reliable channels of supply can be established. The role of DSL is to make introductions, assist as needed with prototyping, design, drawings, and delivery for both low-volume, short term projects (typically using USA producers) and long-term high volume parts (that suit the cost and schedule needs of production using offshore sources), and when the direct vendor relationship has been established, to stay out of the way.

Capabilities include laser table/water jet fab, sheet (MS, SS, and aluminum), aluminum castings, cable assemblies, enclosures, housings, platform covers, electronics, summing/junction boards, load cells (multiple direct channels with NTEP approved cells, direct from the manufacturer), custom fabrication (MS and SS) instrumentation—all the way to private label production of complete scales, weighbridges, mounts, and more. Cost savings, perfect quality, and timely deliveries of critical parts are the priority.

One goal of DSL: Direct Source Link is to help introduce quality offshore producers to the North American market to establish enough momentum to justify adding facility and staff when sales volume justifies it. "I am offering an inexpensive, low-risk way for producers to get started and build sales momentum without adding serious overhead until it's justified by volume. As most of us have found out there is a wide disparity between the quality providers that do good work - so my goal is to reduce the risk and pain of picking the wrong partner both up- and down the supply chain. A big value add is that in all cases, the 'offshore' producers have staff right here in the USA to eliminate the frustration of communication, culture, time zone differences, prototyping, and especially handling shipments to the OEM vendor's door. All of these would be 'pain points' that are intimidating and potentially devastating to the supply process.

A good example would be a low-volume manufacturer looking for cost sav-

ings producing a cable assembly. Until now the cables are hand-made and no manufacturing drawings exist. By sending a sample cable to DSL, a reverse-engineered drawing can be made, the part quoted, prototypes produced, and a short run of 100 pieces can be made in a matter of weeks using a trusted partner on-shore. Another example would be a platform cover using stock material and a laser table/welding process by local craftsmen for fast turnaround.

For a high-volume part—example a sheet metal enclosure—the item can be designed and produced offshore using the same process at significant cost savings with initial supply by air freight and ongoing production included with already-scheduled ocean freight containers. It behooves both producer and user to stuff containers to capacity for efficiency and predictable, reliable scheduling-at very impressive quality and cost-savings. In one case, a high pressure aluminum die was created by reverse design of the part that is delivered machined and finished, ready for assembly, with a large cushion of parts stocked on-shore.

Gravity Measurement/CZ Newton is an important vendor partner that exhibited at the ISWM Conference and Expo on Las Vegas. Woodward has a long trusted relationship with Rick Pang to form the basis for seeking new business, both custom parts and OEM supply of complete scales and indicators. "These are fine people that do excellent work and deserve more opportunities in North America" Woodward notes.

"The plan is to keep things simple with low overhead, so as not to add cost or inefficiency to the process", Woodward states, "rather making sure that good performance and sincere quality manufacturers are rewarded with reliable, trustworthy OEM customers."

For more information or a quotation/ assistance, contact:

DSL: Direct Source Link Rswoody1256@gmail.com 412 Republic Drive Lititz, PA 17543 - USA Phone: 717-989-0037

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# Taking Weighing Precision and Protection to New Heights: Introducing the Apollo IP65 rated Laboratory Balance by A&D

### Introduction

In the world of precision measurement equipment, A&D Weighing has established itself as a trusted manufacturer known for building durable and highquality balances. Now, they are proud to announce a groundbreaking innovation that sets them apart from the competition. A&D Weighing is the first and only manufacturer to offer IP65 ingress protection on high precision laboratory balances, taking weighing precision and protection to new heights. With the introduction of the Apollo IP65 balance line, researchers and scientists can perform their laboratory weighing tasks with peace of mind, knowing that accidental spills or exposure to moisture and dust will not damage the equipment.

### **Unmatched Protection:**

The Apollo IP65 models from A&D Weighing have been specifically designed to deliver the same level of preci-

sion and performance as their standard balances, while also addressing the common causes of failure in laboratory environments. Unlike other manufacturers who do not provide any significant level of ingress protection for lab balances, A&D Weighing recognizes the importance of safeguarding the internal components of laboratory balances. The IP65 rating ensures protection against moisture, dust, and other potentially damaging elements, making the Apollo IP65 balances perfect for use in high-humidity environments, dusty laboratories, and situations where spills may occur.

### Supreme Reliability:

One of the standout features of the Apollo IP65 balance line is its ability to prevent corrosion of internal boards and short circuits, offering unparalleled reliability compared to other balances in the market. By incorporating indus-

trial-style washdown protection into a laboratory balance, A&D Weighing has revolutionized the weighing experience for researchers and scientists. Accidental spills, high humidity, and rigorous cleaning procedures will no longer be a cause for concern, as the Apollo IP65 balances are built to withstand these challenges without compromising accuracy or functionality.

### Peace of Mind Warranty:

To further assure customers of the durability and reliability of the Apollo IP65 balances, A&D Weighing provides a 5-year warranty on all models. While other manufacturers may offer extended warranties on their lab balances, none match the comprehensive coverage provided by A&D Weighing and their US based depot repair facility. The IP65 rating ensures that any damage resulting from water or dust ingress will be covered under warranty, giving cus-

tomers peace of mind and confidence in their investment.

### Advanced Features for Enhanced Performance:

In addition to its outstanding protection and reliability, the Apollo IP65 balance line is equipped with advanced features that enhance performance and convenience. Some of these features include internal calibration, automatic self-calibration based on temperature or time interval, universal flexi coms for serial data output and label printing, password protection for up to 10 users and 1 administrator, and GLP/GMP/GCP compliance for comprehensive calibration reports. These features further elevate the usability and versatility

of the Apollo IP65 balances, making them an indispensable tool for laboratory professionals.

### About A&D Weighing:

A&D Weighing, a business unit of A&D Engineering and part of the A&D Americas family of businesses, is an ISO 9001 certified company headquartered in Ann Arbor, MI. With over 40 years of experience in technology innovation, A&D Weighing has established itself as a leading provider of precision measurement and control products. Their comprehensive product line includes electronic balances, scales, weighing indicators, viscometers, controllers, and advanced electronic blood pressure monitoring equipment. Operating

globally with operations in Asia, Australia, Europe, Mexico, and the United States, A&D Weighing is committed to delivering reliable and accurate solutions for a wide range of industries and applications.

### **Conclusion:**

The introduction of the Apollo IP65 laboratory balance by A&D Weighing represents a significant breakthrough in precision measurement equipment. With its IP65 ingress protection, researchers and scientists can finally perform laboratory weighing tasks with peace of mind. Call A&D for your demonstration today!





**External Calibration** 



Class II Legal for Trade



**VFD** Display



Counting function



GLP/GMP/GCP/ISO Compliant



RS-232C

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### ISWM Logo Usage and our Code of Ethics

Member Benefits from the ISWM include using the ISWM logo and also our Code of Ethics. We have posted both of these items on our website for your review and usage.

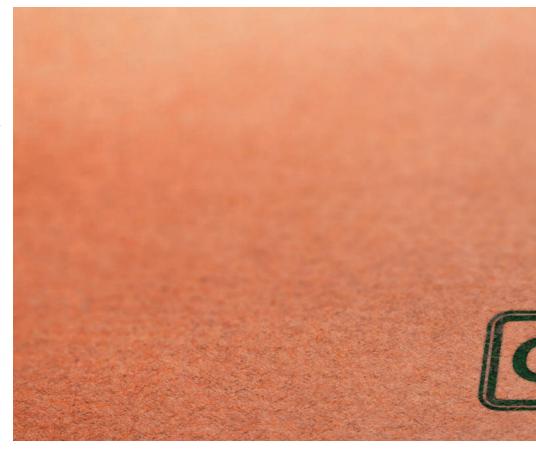
### ISWM Logo Usage

nterestingly enough, the logo is a entry level conversation piece! When placed on your hats, vehicles or even documents this brings up the question—"What is this for?" Explaining that you belong to an Industry related non-profit that has been around since 1916 makes for a good conversation. Adding the Code of Ethics to this shows the customer what value you bring to him as part of your company ethics.

### The ISWM Code of Ethics

Revised to address the full scope of our societies title, Weighing and Measurement. Approved for use on 12-4-2020.

s a member of the International Society of Weighing & Measurement I will, to the best of my ability, abide by the Society Code of Ethics as it is here set forth.



- I. Keep utmost in mind the fundamental importance of the weighing and measurement equipment to our way of life.
- 2. Endeavor to impress upon all the vitally significant parts to which measurements play in providing the most important aspect of most of the world's mediums of exchange including real goods and moneys.
- 3. Diligently promote the use of weighing and measurement devices as the most precise means of measurement information.
- 4. Conduct myself according to the highest standard of professional ethics in regard to representation of and charges for goods or services rendered, and to thereby reflect credit

- on my society and our weighing and measurement industry
- 5. Strive diligently at all times to render service in keeping with the best policies of proper weights and measures interpretations.
- **6.** Take an active interest in existing laws and regulations, in proposed legislation pertaining thereto and to aid in procuring such laws and regulations as are in the best interest of the general public.
- 7. Keep abreast of new developments in weighing and measurement equipment and methods, to encourage the procurement of and to recommend the proper usage for equipment, which will affect greater

- precision and efficiency in weight measurements.
- **8.** Support the ISWM, its policies and programs, and to participate in local Division activities for the mutual benefit of all its members and clients which it serves.
- **9.** Endeavor to earn, and to carefully guard, a reputation of good moral character, good citizenship, common honesty, and to support and promote all the uplifting influences of the community.

Strive to raise the standards of efficiency of my associates and myself and to elevate the standing of the weighing and measurement professionals to a position in keeping with the responsibilities of our industry.



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- Standard IP65 Ingress protection against water and powder ingress
- Automatic Self Internal Calibration based on temperature or time intervals
- Universal Flexi Coms (UFC): Edit serial data for label printing
- Password-protection up to 11 users and 1 administrator
- GLP/GMP/GCP Compliance outputs model, serial number, ID, date, time, signature for full calibration report

### Why is IP65 Important?

Corrosion of the internal boards is a common cause of equipment failure. Most balances are not rated to prevent moisture from getting inside the unit. With an IP65 balance you don't have to worry about accidental spills, high humidity environments or cleaning procedures causing damage to boards or critical electronics. Additionally, 100% dust ingress protection means that they are perfect for use in laboratory environments!



andweighing.com

## WOW! Specific online training for the Handbook 44 focused on the W&M Industry!



### Each Student will learn:

- The structure which HB44 operates under including the National Conference of W&M plus NIST
- How to evaluate weighing products for specific applications including lighter capacity scales like retail or general bench scales, mid-range scales like floor scales and heavy capacity scales including vehicle and livestock scales.
- Learn how to identify the exact class of scale and what certified test weights and loads are required to put them into commercial service.
- What performance tolerances are needed for new and previously installed equipment.
- To address the full customer requirements ensuring that they have the "right or correct" product for their application.
- Be tested throughout the course and take a final exam to validate the student's comprehension.
- Records will be kept by Life and Safety for your reference if needed. The ISWM will also keep records on those who successfully pass the HB44 Course.

Coupon

At this site you will be able to register yourself or your employees with a specific username and password for each. If you wish to sign up multiple employees there will be instructions for that on this site. Enter the discount code: ISWM25 for a 25% discount if you are a member of the ISWM. Course cost is \$259 for non-members.

Also included with the Handbook 44 Course are 7 L&S courses: Back Safety, Fire Extinguisher Use, Portable Power Tool Safety, Personal Protective Equipment (PPE), Basic First Aid, Basic Electrical Safety and Confined Space Awareness.



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