MATERIAL HANDLING

BULK WEIGHERS

InterSystems®

PROVEN & DEPENDABLE™

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MATERIAL HANDLING SOLUTIONS

PROVEN & DEPENDABLE

From receiving to load-out, each day your facility moves, weighs, loads, and samples millions of tons of material. The success of your operation relies not only on the quality of the commodity but the dependability of the equipment used to keep it moving. InterSystems' bulk material handling systems offer the speed and reliability you need to satisfy customers and grow profits.

From a modest beginning in 1959 as a maker of cardboard doors for rail boxcars, InterSystems has evolved into a worldwide manufacturer of a full line of bulk material handling equipment. Placing a customer-centric focus on the engineering and manufacturing process, InterSystems' product solutions include bucket elevators, bulk weighers, enclosed belt conveyors, en-masse and self-cleaning en-masse conveyors, gravity screeners, truck probes, automatic samplers, micro ingredient systems, bolted bin systems and distributors. Purchased by GSI in 2014, InterSystems' material handling equipment can be found around the world at grain elevators, in processing plants and at port facilities handling a wide variety of commodities including grains, powders, rock and wood pellets.

InterSystems believes that "custom" is standard, displaying a willingness to change in order to meet the needs of your specific applications with a solution. Behind each product line is an engineer leading a team dedicated to design improvements which promote efficiency and keep current with changes in industry regulations. Our in-house customer service team is on-call to assist with replacement parts or installation questions and can deploy a field technician to analyze problems and recommend solutions. InterSystems does it all while maintaining industry-leading delivery times.

BULK WEIGHERS

InterSystems provides accurate weighing of free-flowing bulk materials through our line of Bulk Weighers, first introduced in 1978. Over 500 systems currently in service were designed and manufactured to have the dependability and durability for an extended life. For each unique application, we consider capacity requirements, location specifications, materials to be handled, environmental needs, service requirements, and clean out solutions. Each InterSystems bulk weighing system design undergoes a detailed application analysis to ensure that the system will perform at the highest level for both inbound and outbound weighing. Our continuous flow-through weighing system can be used to weigh most any free-flowing materials with an accuracy of .1% or better. Units are available in standard sizes from 20 TPH to 2,000 TPH or can be custom designed to suit the application or space requirements. They can be assembled at the factory or in the field. To monitor and control the weighing operation, our technically-advanced computer controls (MasterWeigh Infinity and MasterWeigh Infinity +) offer flexibility as standalone units or with PC interface.

System features include: 3-load cell design, ladder-style gates, and access platforms and doors at key locations. Operations are available as hydraulic, pneumatic, or electric. Optional equipment includes service platforms, test weights, auto life systems, control gates, power units, and inline voltage regulators.

All systems are NTEP certified having been tested and evaluated to ensure they meet all government standards and requirements as set by the NIST.

BASIC BULK WEIGHER OPERATION

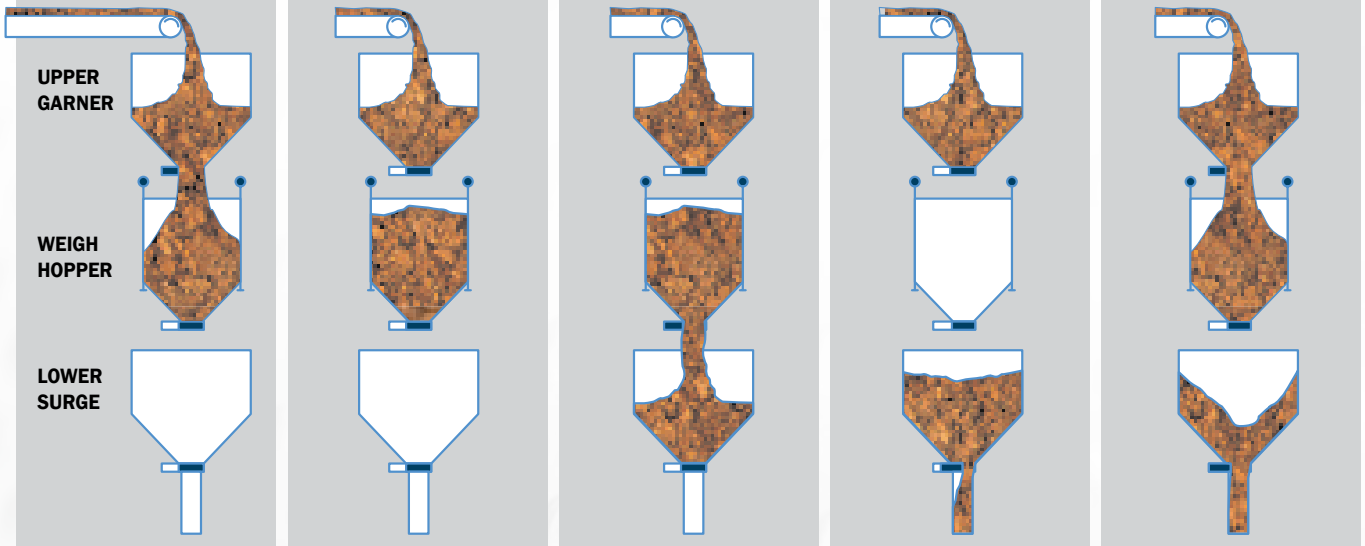
FILLING
Feed gate opens and fills weigh hopper to preset draft size.

GROSS WEIGHING
Feed gate closes and a gross draft weight is recorded as a plus (+) weight.

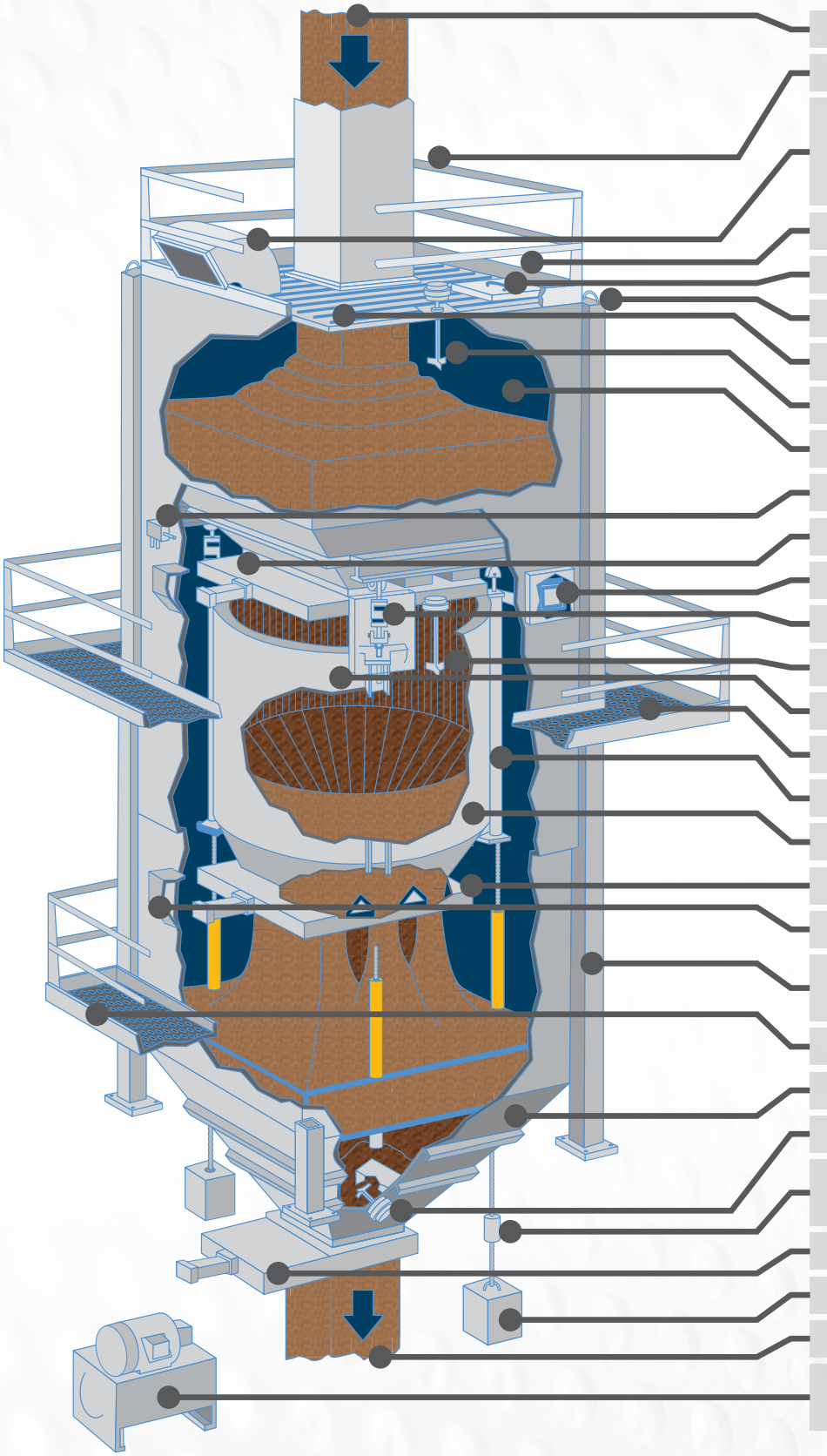
DISCHARGING
Discharge gate opens and product is discharged into lower surge.

TARE WEIGHTING & RECORDING
Discharge gate is closed and a tare weight is recorded as a minus (-) weight. A net subtotal is then recorded.

FILLING CYCLE REPEATS
Cycle is repeated until the target weight is obtained. At that point, the operator will decide to go to the “next” car or “finish.”



FEATURES



- Material “in”
- Top Railing (optional)
- External Venting - either customer supplied hood venting or connected to dust collection*
  ** Please contact InterSystems’ sales department for more information, special applications and requirements.*
- High Toe Boards
- Top Access Door
- Lifting Eyes
- Non-Skid Strips
- Material Level Indicator
- Upper Garner
- Externally Mounted Control Valves
- Air or Hydraulic Feed Gate
- Electrical Access
- Tension Load Cells
- Material Level Indicator
- Load Cell Access Doors
- Four-Sided Catwalk (optional)
- Channel Supports
- Weigh Hopper
- Air or Hydraulic Discharge Gate
- Gate Access Doors
- Heavy Tubular Structural Columns (ASTM 500)
- One-Sided Catwalk (optional)
- Lower Surge
- Protected Material Level Indicator
- Automatic Test Weight Lift System (optional, manual standard)
- Control Feed Gate (optional)
- Certified Test Weights
- Weighed Material “out”
- Hydraulic Power Unit with Heater & Pressure Compensating Pump

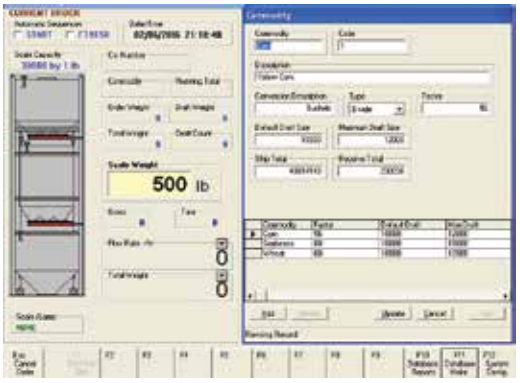
MASTERWEIGH INFINITY

The MasterWeigh Infinity bulk weigh controller operates using a Mettler IND 780 weight indicator. Weight is recorded in the form of "gross weight," "tare weight" and "net weight." Indicator lights identify gate positions as well as bin level indicator status. The controller is capable of operating as a stand-alone unit as shown or with the PC interface that enables certificate printing, Smart Pass tag reader system, or printout of shipping and receiving reports.

MASTERWEIGH INFINITY CONTROLLER

MASTERWEIGH INFINITY +

The MasterWeigh Infinity + is the PC interface which includes a complete desktop computer, 40 column strip printer that records weight from the controller and an 80 column printer for certificates and reports.



TYPICAL MASTERWEIGH INFINITY + SCREEN

MASTERWEIGH INFINITY CONTROLLER FUNCTIONS:

Jog Table Setup
Controller learns the speed of the feed gate on the weigh hopper and makes automatic adjustments for precise and accurate loading of vessels.

Commodity Information
Specific density of materials to be weighed are entered which allows controller to calculate the amount of material through the scale per hour.

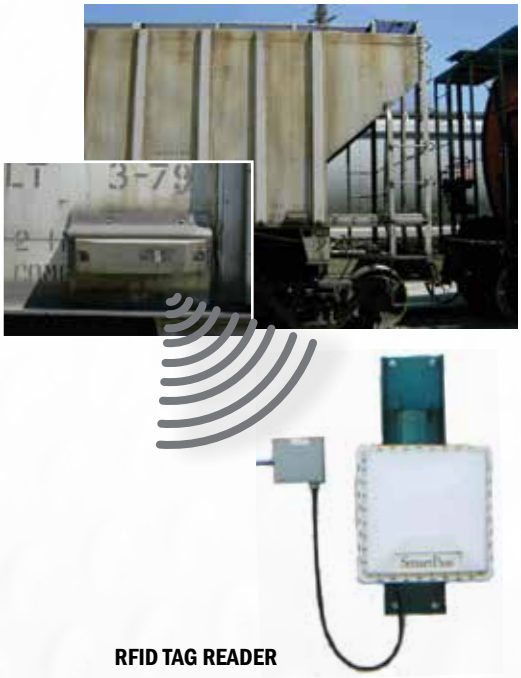
Identification Headers
Operator can enter desired identifications for weighing process. Weighing data for each vessel can be entered during the weighing process or anytime.

Weight Certificate
Weight certificate template can be modified to add site information to coincide with local or state requirements.

Weighing Summary
Once the train is loaded, a summary sheet can be printed out showing "start time," "end time," "order weight," "net weight," "difference" and "total of whole train."

Loadout Download
List of loaded rail cars can be downloaded to facility's main computer system.

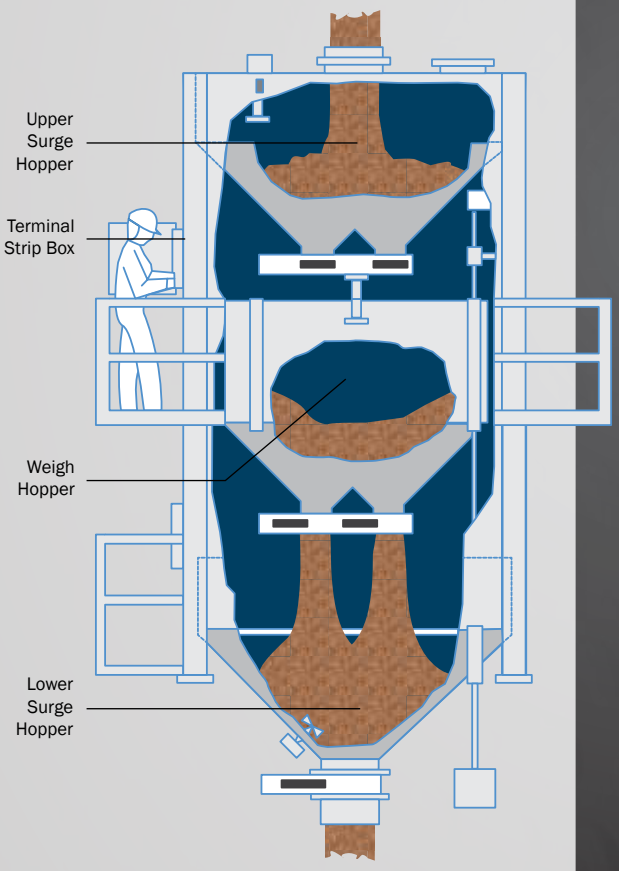
Smart Pass
Radio Frequency Identification (RFID) tag reader obtains car information from rail car which eliminates manual entry of car information.

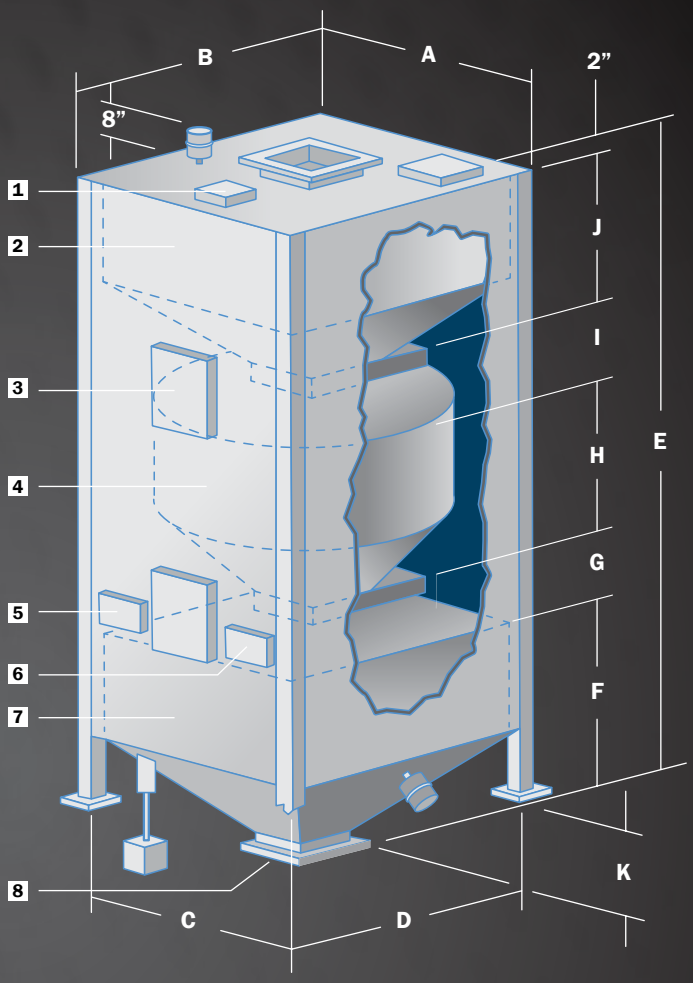


RFID TAG READER

FACTORY ASSEMBLED UNITS

The InterSystems factory assembled bulk weigher can be shipped directly on a conventional truck trailer. It is completely ready for erection on a support frame/tower. Electrical wiring from bin level indicators, limit switches and gate valves are prewired at the factory. Once the load cells are installed, the individual cables are terminated in a terminal strip box. A single load cell cable is then pulled to the bulk weigher controller. Hoppers, support structure around the scale and gates are factory assembled and mounted. Gates are preplumbed to valves on the side of the scale system. The scale is enclosed to provide protection.





1 Vent
2 Upper Garner
3 Access Hatches
4 Weigh Hopper
5 Electrical Access
6 Valve Access
7 Lower Surge
8 Discharge

GATE REQUIREMENTS (ALL UNITS):

Electrical*:
115V, 50/60 Hz, 200 watt, single phase A.C.
380V, 50 Hz, 220 watt available

Air Pressure*:
Hydraulic operation standard, air optional

Environment*:
Limit switches, solenoids, level sensors, Class II, Group G

*Specifications as required by application

SPECIFICATIONS

BULK WEIGHER: FACTORY ASSEMBLED UNITS

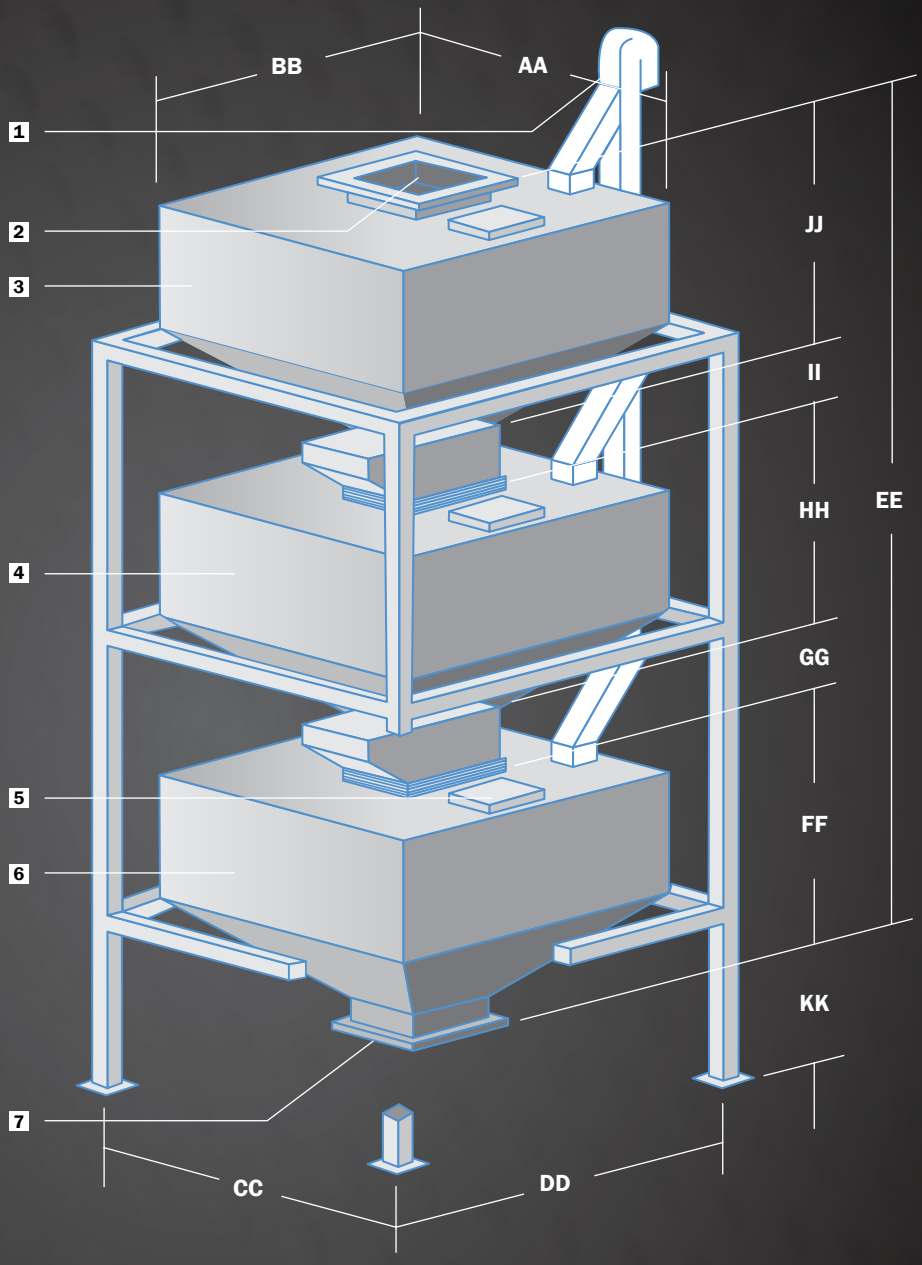
MODEL		BMW-005 P45	BMW-13 P45	BMW-25 P45	BMW-40 P45	BMW-75 P45	BMW-105 P45	BMW-167 P45	BMW-336 P45	BMW-420 P45	BMW-550 P45	BMW-625 P45	BMW-780 P45	BMW-890 P45
HOPPER CU FT	WH	5	13	25	40	75	105	167	336	420	550	625	780	890
	UG	7	16	30	45	83	115	189	370	460	610	690	860	990
	LG	7	16	30	45	83	115	189	370	460	610	690	860	990
CYCLES/HR		180	180	180	180	180	180	150	120	120	120	120	112	112
*CAPACITY	CU FT/HR	900	2340	4500	7200	13500	18900	25050	40320	50400	66000	75000	87360	99680
	BPH	723	1880	3616	5785	10848	15187	20129	32399	40498	53033	60000	70000	80000
*MAXIMUM DRAFT SIZE		240	624	1200	1920	3600	5040	8016	16128	20160	25000	30000	37440	42720
LOAD CELL (LB)		3-200	3-500	3-1000	3-1500	3-3000	3-5000	3-10000	3-10000	3-15000	3-15000	3-20000	3-20000	4-20000
A		33	40	48	76	76	91	96	108	108	119	124	137	137
B		36	44	56	80	80	96	115	115	115	128	142	161	161
C		33	36	44	72	72	85	90	102	102	113	112	127	127
D		33	40	52	76	76	90	109	109	109	122	128	151	151
E		97	143	161	164	200	206.1	258	328.5	365.5	381	381	415	463
LG F		28	38	42	48	56	63	80	107	111	114.5	119	127	151
G		9	9	12	12	12	9.5	12	15	15	12	14	22.25	22.25
WH H		23	47	51	46	64	65.5	83	107	128	129.4	117	124.25	143
I		9	9	12	12	12	9	9	10	10	11.8	14	10	10
UG J		26	38	42	44	54	57.12	72	87.5	99.5	113.3	115	131.50	136.50
K		0	0	0	0	0	0	32	21	20	20	0	30	30
INLET/ DISCHARGE		10 x 10	10 x 10	12 x 12	12 x 12	14 x 14	16 x 16	18 x 18	24 x 24	26 x 26	30 x 30	30 x 30	34 x 34	34 x 34
VENT SIZE		4” dia.	6” dia.	8” dia.	8” dia.	8 x 14	10 x 18	12 x 18	14 x 24	14 x 24	12 x 32	12 x 36	14 x 36	14 x 36
DEAD LOAD WEIGHT (LB)		1600	2400	4200	5000	5400	10750	15000	18000	22225	29625	32000	44000**	48000**
*LIVE LOAD WEIGHT		912	2160	4080	6240	11568	16080	26160	51648	64320	84960	96240	120000	137760

All dimensions are in inches. Approval drawings will reflect final dimensions. All specifications subject to change without notice.

* Draft size and live load weights based on 48 pounds per cubic foot.

** Estimated.

FIELD ASSEMBLED UNITS



1. Vent to Atmosphere (by others)
2. Inlet
3. Upper Garner
4. Weigh Hopper - round or square based upon application
5. Access Hatches
6. Lower Surge
7. Discharge

GATE REQUIREMENTS (ALL UNITS):

Electrical*:
115V, 50/60 Hz, 200 watt, single phase A.C.
380V, 50 Hz, 220 watt available

Air Pressure*:
Hydraulic operation standard, air optional

Environment*:
Limit switches, solenoids, level sensors, Class II, Group G

*Specifications as required by application

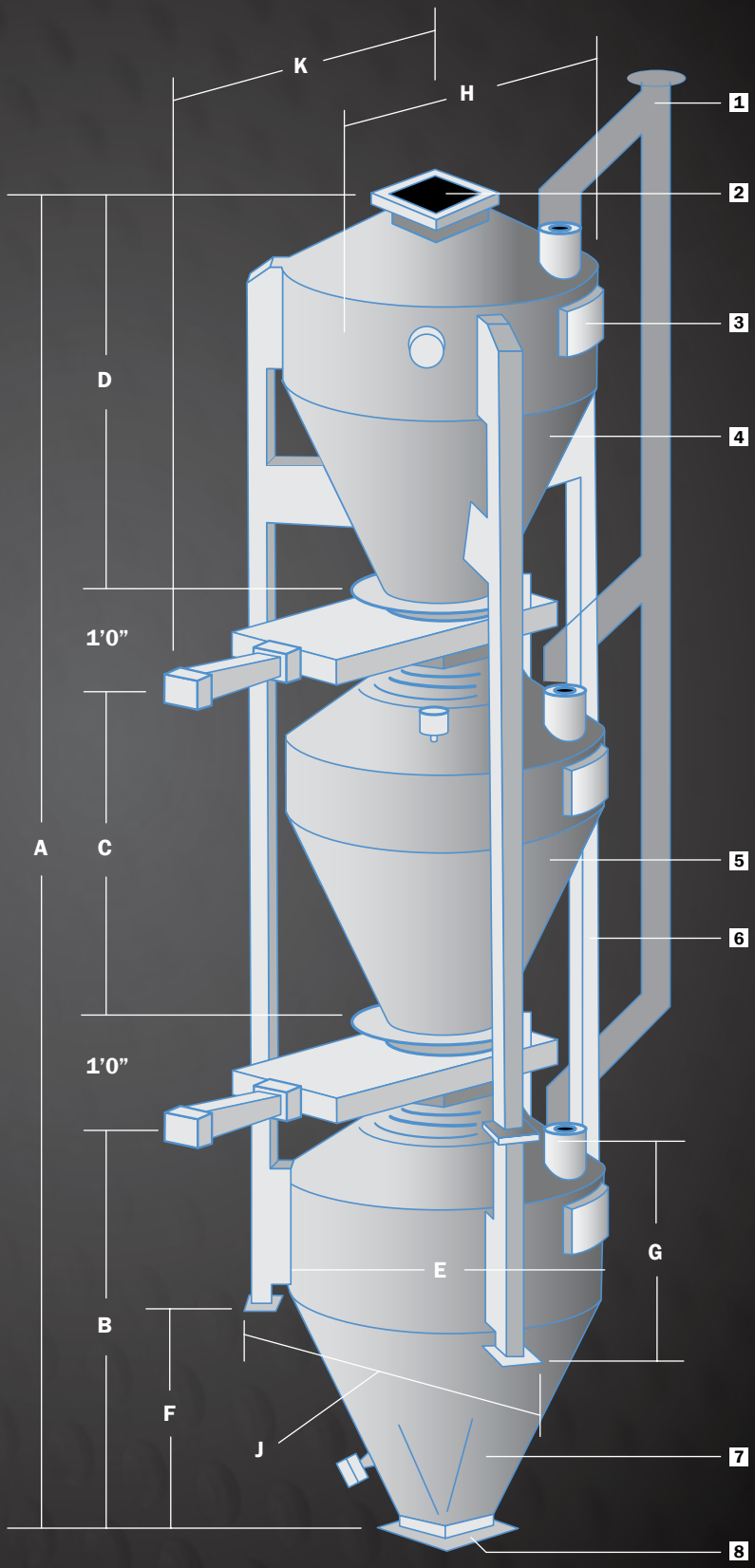
BULK WEIGHER: FIELD ASSEMBLED UNITS

MODEL		BMW-005 C45	BMW-013 C45	BMW-025 C45	BMW-40 C45	BMW-75 C45	BMW-105 C45	BMW-167 C45	BMW-336 C45	BMW-420 C45	BMW-625 C45	BMW-780 C45
HOPPER CU FT	WH	5	13	25	40	75	105	167	336	420	625	780
	UG	7	16	30	45	83	115	189	370	460	690	860
	LG	7	16	30	45	83	115	189	370	460	690	860
CYCLES/HR		180	180	180	180	180	180	150	120	120	100	112
*CAPACITY	CU FT/HR	900	2340	4500	7200	13500	18900	25050	40320	50400	62500	87360
	BPH	723	1880	3616	5785	10848	15187	20129	32399	40498	50221	70000
*MAXIMUM DRAFT SIZE		240	624	1200	1920	3600	5040	8016	16128	20160	30000	37440
LOAD CELL (LB)		3-200	3-500	3-1000	3-1500	Mar-00	Mar-00	3-10000	3-10000	3-15000	3-20000	3-20000
AA		30	36	48	60	60	72	120	120	120	124	124
BB		30	36	48	60	60	72	96	96	108	142	142
CC		37	42	56	71	70	82	132	132	132	112	112
DD		37	42	56	82	81	95	132	132	144	128	128
EE		97	143	161	164	207	223	265	331.5	368.5	381	447
LG FF		28	38	42	48	60	69	80	107	111	119	141
GG		9	9	12	12	12	12	14	14	14	14	14
WH HH		23	47	51	46	61	65	83	107	128	117	140
II		9	9	12	12	12	12	14	14	14	14	14
UG JJ		26	38	42	44	60	63	72	87.5	99.5	115	136
KK		0	0	0	0	0	0	0	0	0	0	0
INLET/ DISCHARGE		10 x 10	10 x 10	12 x 12	12 x 12	16 x 16	16 x 16	18 x 18	26 x 26	30 x 30	30 x 30	34 x 34
VENT SIZE		4” dia.	6” dia.	8” dia.	8” dia.	8 x 14	10 x 18	12 x 18	14 x 24	14 x 24	12 x 36	12 x 36
DEAD LOAD WEIGHT (LB)		1600	2400	4200	5000	5400	10750	15000	18000	22225	32000	36000
*LIVE LOAD WEIGHT		912	2160	4080	6240	11568	16080	26160	51648	64320	96240	120000

All dimensions are in inches. Approval drawings will reflect final dimensions. All specifications subject to change without notice.

*Draft size and live load weights based on 48 pounds per cubic foot.

PROCESS SCALE UNITS



1. Vent to Atmosphere (by others)
2. Inlet
3. Access Hatches
4. Upper Garner
5. Weigh Hopper
6. 3 Legged Frame (120 degrees apart)
7. Lower Surge
8. Discharge

GATE REQUIREMENTS (ALL UNITS):

Electrical*:
115V, 50/60 Hz, 200 watt, single phase A.C.
380V, 50 Hz, 220 watt available

Air Pressure*:
Air operation standard, hydraulic optional

Environment*:
Limit switches, solenoids, level sensors, Class II, Group G

*Specifications as required by application

BULK WEIGHER: PROCESS SCALE UNITS

MODEL		BMW-016 F65	BMW-025 F65	BMW-040 F65
HOPPER CU FT	WH	16	25	40
	UG	20	30	45
	LG	20	30	45
CYCLES/HR		125	125	125
*CAPACITY CU FT/HR		2000	3125	5000
A		14' 10"	17' 9"	20' 4"
B		4' 8"	5' 8"	6' 6"
C		3' 10"	4' 10"	5' 9"
D		4' 4"	5' 3"	6' 1"
E		3' 6" dia.	3' 6" dia.	4' 6" dia.
F		2' 5"	2' 5"	3' 10"
G		2' 4.5"	3' 4.5"	2' 9.5"
H O.A.		4' 2"	4' 2"	5' 2"
J O.A.		4' 7"	4' 7"	5' 5"
K		4' 2.25"	4' 2.25"	4' 2.25"
INLET/OUTLET		12 x 12	12 x 12	12 x 12
HOPPER CONSTRUCTION	Bottom/Sides	10 GA	10 GA	10 GA
	Top	12 GA	12 GA	12 GA
VENT SIZE		6" dia.	6" dia.	6" dia.
VENT SCFM		400	400	400

These units can be either factory or field assembled.

Approval drawings will reflect final dimensions.

All specifications subject to change without notice.

COMPLETE YOUR GSI SYSTEM

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40-SERIES™ GRAIN BIN

When determining the best system for your operation, we know that what's protected inside the bin is what counts most. Each GSI bin is efficiently designed to handle maximum loads for unmatched strength. All GSI bins are constructed using the highest-strength steel available.

TOWERS AND CATWALKS

GSI offers a full line of structures to support material handling equipment. Built to perform for the long haul, GSI's all new QuickBolt™ Towers and Catwalks are engineered to your facility's layout, taking wind, seismic and snow loading into consideration. GSI structures feature bolt-up assembly and hot-dipped galvanized finish.

ZIMMERMAN TOWER DRYERS

Not all tower dryers are created equal. What sets Zimmerman dryers apart is over 50 years of innovative design expertise and industry proven drying principles. The result is an easy-to-operate, easy-to-maintain, durable, fuel-efficient grain dryer, supported by an expert dealer network.

PREMIUM TRAINING, SERVICE & SUPPORT

InterSystems reaches a worldwide market and numerous industries with expertise in the manufacturing of material handling products and industrial sampling systems. Purchased by GSI in 2014, InterSystems is based in Omaha, Nebraska and operates out of a 200,000 square foot state-of-the-art manufacturing facility. InterSystems is ISO 9001 and 14001 certified.

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