

# BenchMark<sup>®</sup> MS, SS, HE

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*Medium-to High-Capacity Bench Scales*

## Technical Manual



**RICE LAKE**<sup>®</sup>  
WEIGHING SYSTEMS

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# 1.0 Introduction

This manual provides an overview of technical information for the BenchMark MS, SS and HE medium-to high-capacity bench scales.



Manuals and additional resources are available from the Rice Lake Weighing Systems website at [www.ricelake.com](http://www.ricelake.com)

Warranty information can be found on the website at [www.ricelake.com/warranties](http://www.ricelake.com/warranties)

## 1.1 Safety

### Safety Signal Definitions:



*Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Includes hazards that are exposed when guards are removed.*



*Indicates a potentially hazardous situation that, if not avoided, could result in serious injury or death. Includes hazards that are exposed when guards are removed.*



*Indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.*



*Indicates information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.*

### General Safety



*Do not operate or work on this equipment unless this manual has been read and all instructions are understood. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing Systems dealer for replacement manuals.*



*Failure to heed could result in serious injury or death.*

*Do not allow minors (children) or inexperienced persons to operate this unit.*

*Do not operate without all shields and guards in place.*

*Do not jump on the scale.*

*Do not use for purposes other than weight taking.*

*Do not place fingers into slots or possible pinch points.*

*Do not use any load bearing component that is worn beyond 5% of the original dimension.*

*Do not use this product if any of the components are cracked.*

*Do not exceed the rated load limit of the unit.*

*Do not make alterations or modifications to the unit.*

*Do not remove or obscure warning labels.*

*Before opening the unit, ensure the power cord is disconnected from the outlet.*

*Keep hands, feet and loose clothing away from moving parts.*

## 1.2 Overview

The BenchMark MS is constructed with a mild steel frame with stainless steel top cover. The BenchMark SS and HE are constructed with a stainless steel frame and top cover. The BenchMark MS and SS contain IP66 aluminum single point load cells. The BenchMark HE contains an IP69K stainless steel single point load cell.

### Overload Protection

The medium-to high-capacity bench scales provide overload protection with positive stops located beneath each corner of the top frame. The overload stops are set at the factory for 100% of scale capacity.

Additional overload protection is provided by an overload screw beneath the load cell to help prevent shock damage.

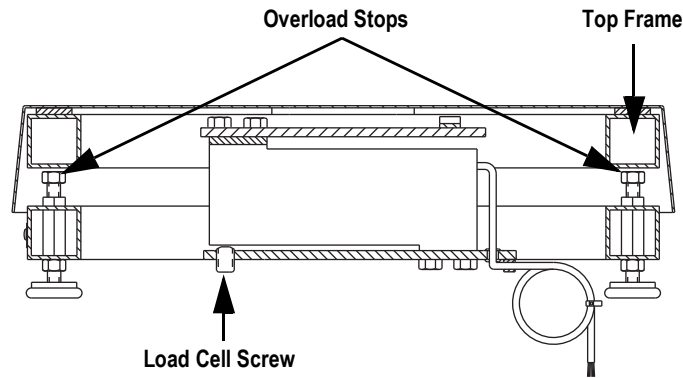


Figure 1-1. Load Cell Mount Overload Stops

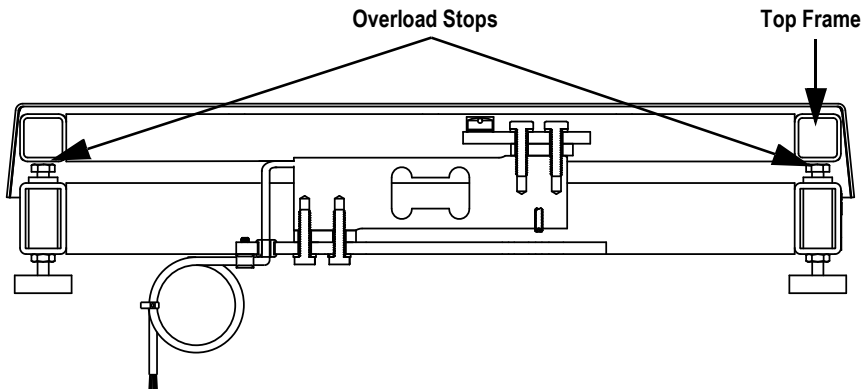


Figure 1-2. Overload Stops

## 2.0 Installation

This section provides an overview of how to install the BenchMark MS, SS and HE medium-to high-capacity bench scales.

### 2.1 Unpacking

Immediately after unpacking, visually inspect the scale to ensure that the unit is undamaged. The shipping carton should contain the bench scale and this manual. If the bench scale was damaged in shipment, notify Rice Lake Weighing Systems and the shipper immediately.

### 2.2 Leveling the Scale

1. Place the scale in the desired location that is reasonably level and free of unnecessary vibrations and air currents.
2. Lift off the scale top cover and locate the level bubble.
3. Adjust the four corner feet on the scale base until the level bubble and all feet contact the support surface so the scale does not rock.
4. Lock the jam nuts on the feet when the final level is correct.

### 2.3 Connecting the Load Cell Cable

All models come with 10' of color-coded load cell cable.

**IMPORTANT** Do not cut this cable. Cutting this cable voids the warranty.



See the indicator manual to determine the proper load cell cable input connectors. Use the following color codes to wire the load cell cable to the indicator.

#### 2.3.1 BenchMark MS

Color Code	Function
Green	+ Excitation
Black	- Excitation
Red	+ Signal
White	- Signal
Blue	+ Sense
Yellow	- Sense

Table 2-1. 30-100 lb 12" x 12" Load Cell Wiring - 6 Wire

Color Code	Function
Green	+ Excitation
Black	- Excitation
Red	+ Signal
White	- Signal
Blue	+ Sense
Yellow	Shield
Brown	- Sense

Table 2-2. 50-100 lb 12" x 18" Load Cell Wiring - 6 Wire

Color Code	Function
Green	+ Excitation
Black	- Excitation
Red	+ Signal
White	- Signal
Blue	+ Sense
Yellow	- Sense

Table 2-3. 50-100 lb 18" x 18", 18" x 24", 24" x 24" Load Cell Wiring - 6 Wire

Color Code	Function
Green	+ Excitation
Black	- Excitation
Red	+ Signal
White	- Signal
Blue	+ Sense
Brown	- Sense

Table 2-4. 1000 lb 18" x 18", 18" x 24", 24" x 24" Load Cell Wiring - 6 Wire



Connect Sense and Excitation wires together if using 4-wire system without sense leads.

### 2.3.2 BenchMark SS

Color Code	Function
Green	+ Excitation
Black	- Excitation
Red	+ Signal
White	- Signal
Blue	+ Sense
Yellow	- Sense

Table 2-5. 50 lb – 500 lb 12" x 18", 18" x 18", 18" x 24", 24" x 24"  
Load Cell Wiring - 6 Wire

Color Code	Function
Green	+ Excitation
Black	- Excitation
Red	+ Signal
White	- Signal
Blue	+ Sense
Brown	- Sense

Table 2-6. 1000 lb 18" x 18", 18" x 24", 24" x 24"  
Load Cell Wiring - 6 Wire



**Note** Connect Sense and Excitation wires together if using 4-wire system without sense leads.

### 2.3.3 BenchMark HE

Color Code	Function
Green	+ Excitation
Black	- Excitation
White	+ Signal
Red	- Signal
Yellow	Shield

Table 2-7. 50 lb – 200 lb 12" x 18", 18" x 18"  
Load Cell Wiring - 5 Wire

Color Code	Function
Green	+ Excitation
Black	- Excitation
White	+Signal
Red	- Signal
Yellow	Shield
Blue	+ Sense
Brown	- Sense

Table 2-8. 250 lb – 1000 lb 18" x 18", 18" x 24", 24" x 24"  
Load Cell Wiring - 6 Wire



**Note** Connect Sense and Excitation wires together if using 4-wire system without sense leads.

## 2.4 Grounding the Scale Base

Bench scales can build up a static electricity charge during weighing operations. If powerful enough, this charge can travel through the load cell cable to the indicator. To prevent this, all bench scales should be adequately grounded so that static charges and transient electrical surges can drain directly to ground. Recommended practice is to connect the scale base to an AC ground circuit using at least #12 wire. All BenchMark scales have either a grounding screw or a hole for such a grounding screw located on the bottom of the lower frame for this purpose.

## 2.5 Calibration

It is recommended that the scale be exercised by loading it to near capacity two or three times before calibration to ensure everything is seated. See the specific indicator manual for the proper calibration procedure.

To calibrate, see the following procedure:

1. With no load on scale, place the indicator in its calibration mode and perform a zero calibration.
2. Place certified calibration weights on platform equal to 70%–100% of scale's capacity. If several weights are used, distribute them evenly around the platform.
3. Perform a calibration.
4. Remove certified calibration weights and check the zero reading. If necessary, repeat the calibration process.



**Note** See the indicator manual for the specific indicator calibration procedure.



## 2.6 Replacement Parts

See the following information for replacement parts details:

### 2.6.1 BenchMark MS 12" x 12" Model

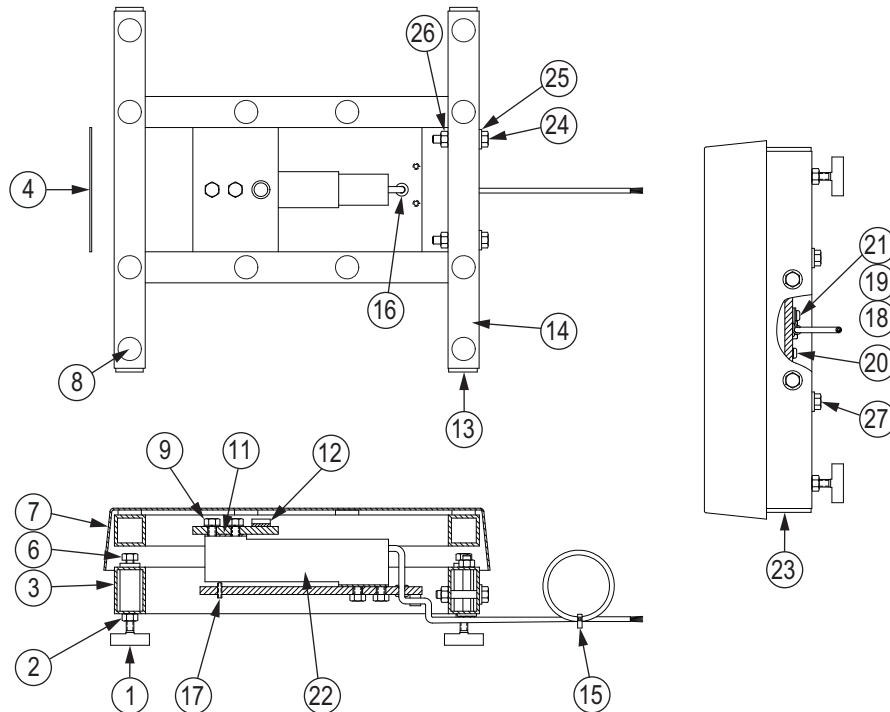


Figure 2-1. BenchMark MS, SS and HE, 12" x 12" Parts Illustration

### BenchMark MS 12" x 12"

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.
1	35128	Foot, Bench Scale 1/4-20NC x 1-3/16 SST	4	17	14918	Screw, Set 8-32NC x 1/4 Hex	2
2	14645	Nut, Jam 1/4-20NC Hex SST	4	18	15409	Clamp, Cable No. 8 Hole Nylon	1
3	32993	Frame, Bottom Bench Scale 12" x 12"	1	19	15138	Washer, Plain STD No. 8 SST	1
4	52342	Label, 4 x 1.25 8000T	1	20	15134	Washer, Lock No. 8 Type A Zinc Plated	1
6	14962	Screw, Cap 1/4-20NC x 3/4 Zinc Plated	8	21	14858	Screw, Mach 8-32NC x 5/16	2
7	19092	Cover, Top Bench Scale 12" x 12" SST	1	22	188678	Load Cell, SPT RL42018A 30 lb Scale	1
8	26408	Bumper, Self Adhesive 3/4	12		188679	Load Cell, SPT RL42018A 50 lb Scale	
9	15147	Washer, Lock 1/4 Regular Zinc Plated	4		188678	Load Cell, SPT RL42018A 100 lb Scale	
11	19089	Shim, Load Cell .060 x 1 x 1.34 SST	2	23	35327	Plug, Cap 1 x 1-1/2 ABS	4
12	15410	Level, Spirit Bubble	1	24	14733	Bolt, 1/4-20NC x 1-1/2 Hex	2
13	19139	Insert, Glide Square	4	25	15145	Washer, Plain 1/4 Type A Zinc Plated	4
14	19132	Frame, Top Bench Scale 12" x 12"	1	26	14635	Nut, Lock 1/4-20NC Hex Zinc Plated	4
15	16141	Cable Tie, 8" Nylon	1	27	35316	Screw, Cap 1/4-20NC x 2 Hex Zinc Plated	2
16	15418	Grommet, Rubber	1				

Table 2-9. BenchMark MS 12" x 12" Parts List

### 2.6.2 BenchMark MS 12" x 18" Model

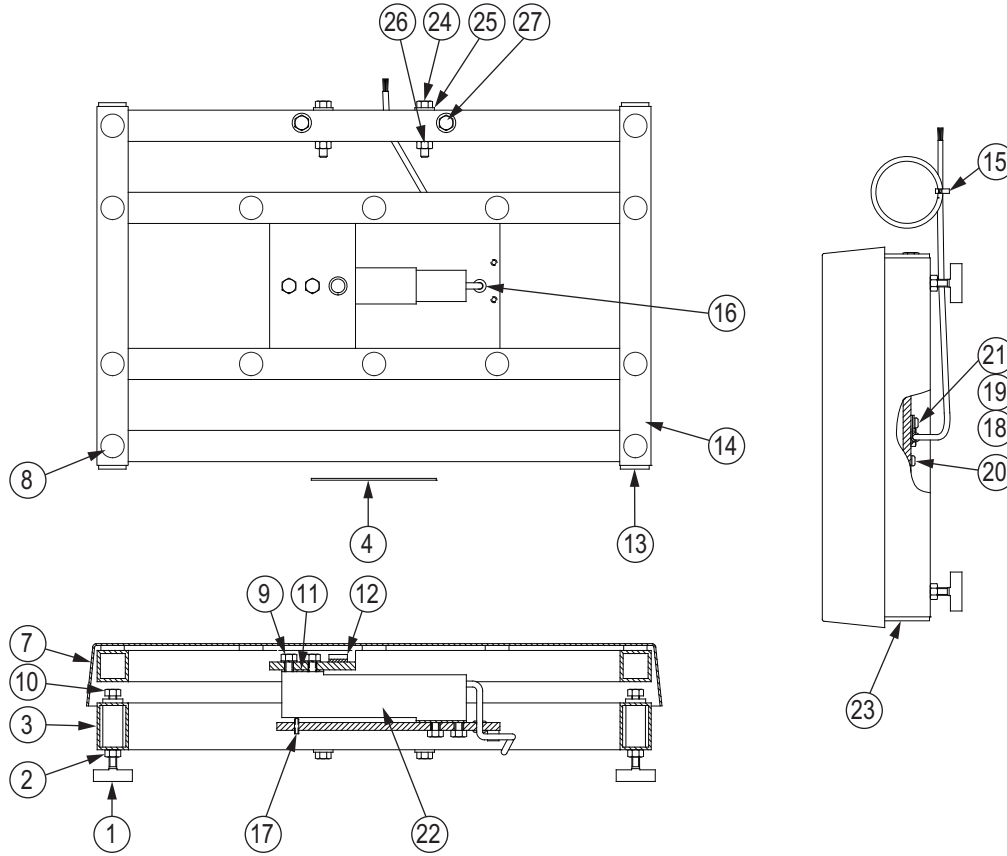


Figure 2-2. BenchMark MS 12" x 18" Parts Illustration

### BenchMark MS 12" x 18"

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.
1	35128	Foot, Bench Scale 1/4-20NC x 1-3/16 SST	4	16	15418	Grommet, Rubber	1
2	14645	Nut, Jam 1/4-20NC Hex SST	4	17	14918	Screw, Set 8-32NC x 1/4 Hex	2
3	32992	Frame, Bottom, 12" x 18"	1	18	15409	Clamp, Cable No. 8 Hole Nylon	1
4	52342	Label, 4 x 1.25 8000T	1	19	15138	Washer, Plain STD No. 8 SST	1
7	19093	Cover, Top Bench Scale 12" x 18" SST	1	20	15134	Washer, Lock No. 8 Type A Zinc Plated	1
8	26408	Bumper, Self Adhesive 3/4	14	21	14858	Screw, Mach 8-32NCx5/16	2
9	15147	Washer, Lock 1/4 Regular Zinc Plated	4	22	91730	Load Cell, RLSP4 50 lb Scale	1
10	14962	Screw, Cap 1/4-20NC x 3/4 Hex Zinc Plated	8		91732	Load Cell, RLSP4 100 lb Scale	
11	19089	Shim, Load Cell .060 x 1 x 1.34 SST	2	23	35327	Plug, Cap 1 x 1-1/2 ABS	4
12	15410	Level, Spirit Bubble	1	24	14733	Bolt, 1/4-20NC x 1-1/2 Hex	2
13	19139	Insert, Glide Square	4	25	15145	Washer, Plain 1/4 Type A Zinc Plated	4
14	19134	Frame, Top Bench Scale 12" x 18"	1	26	14635	Nut, Lock 1/4-20NC Hex Zinc Plated	4
15	16141	Cable Tie, 8" Nylon	1	27	35316	Screw, Cap 1/4-20NC x 2 Hex Zinc Plated	2

Table 2-10. BenchMark MS 12" x 18" Parts List

### 2.6.3 BenchMark SS 12" x 18" Model

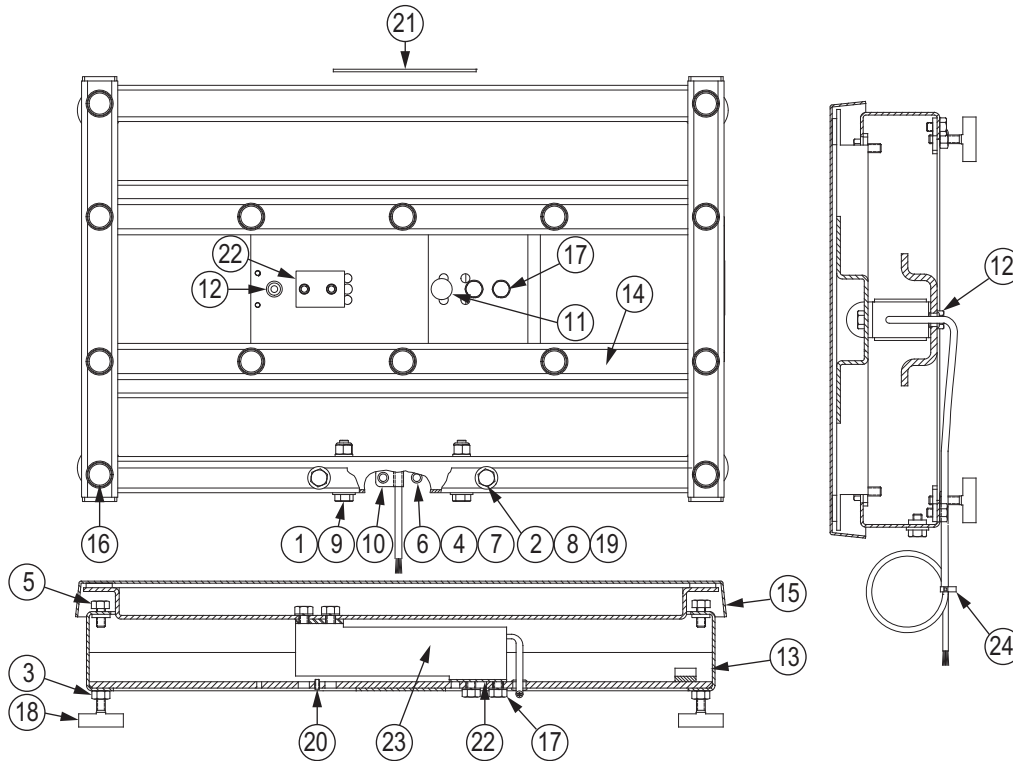


Figure 2-3. BenchMark SS 12" x 18" Parts Illustration

#### BenchMark SS 12" x 18"

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.
1	106462	Screw, Cap 1/4-20NC x 1-1/2 Hex Head SST	2	15	186936	Top Cover, SS Bench Scale	1
2	14634	Nut, Lock 1/4-20NC Hex SST	4	16	26408	Bumper, Self Adhesive 3/4	14
3	14645	Nut, Jam 1/4-20NC Hex SST	4	17	35088	Screw, Cap 1/4-20NC x 1 Hex SST	4
4	14862	Screw, Mach 8-32NC x 3/8 Phillips SST	2	18	35128	Foot, Bench Scale 1/4-20NC x 1-3/16 SST	4
5	14963	Screw, Cap 1/4-20NC x 3/4 Hex SST	4	19	35199	Screw, Cap 1/4-20NC x 2 Hex Head SST	2
6	15132	Washer, Lock No. 8 Type A SST	1	20	43203	Screw, Set 8-32NC x 1/2 SST	1
7	15138	Washer, Plain STD No. 8 SST	1	21	52342	Label, 4.00 x 1.25 8000T	1
8	15148	Washer, Lock 1/4 Regular Helical Spring SST	8	22	52383	Shim, Load Cell .25 x 1 x 1.34 SST	2
9	15149	Washer, Lock 1/4 SST	4	23	188679	Load Cell, RL42018A 50 lb Scale	1
10	15409	Clamp, Cable No. 8 Hole Nylon	1		188681	Load Cell, RL42018A 100 lb Scale	
11	15410	Level, Spirit Bubble	1		91730	Load Cell, RLPC6 50 lb Scale	
12	15418	Grommet, Rubber	1		91732	Load Cell, RLPC6 100 lb Scale	
13	186226	Frame, Bottom Bench Scale 12" x 18" SST	1	24	16141	Cable Tie, 8" Nylon	1
14	186225	Frame, Top Bench Scale 12" x 18" SST	1				

Table 2-11. BenchMark SS 12" x 18" Parts List

### 2.6.4 BenchMark HE 12" x 18" Model

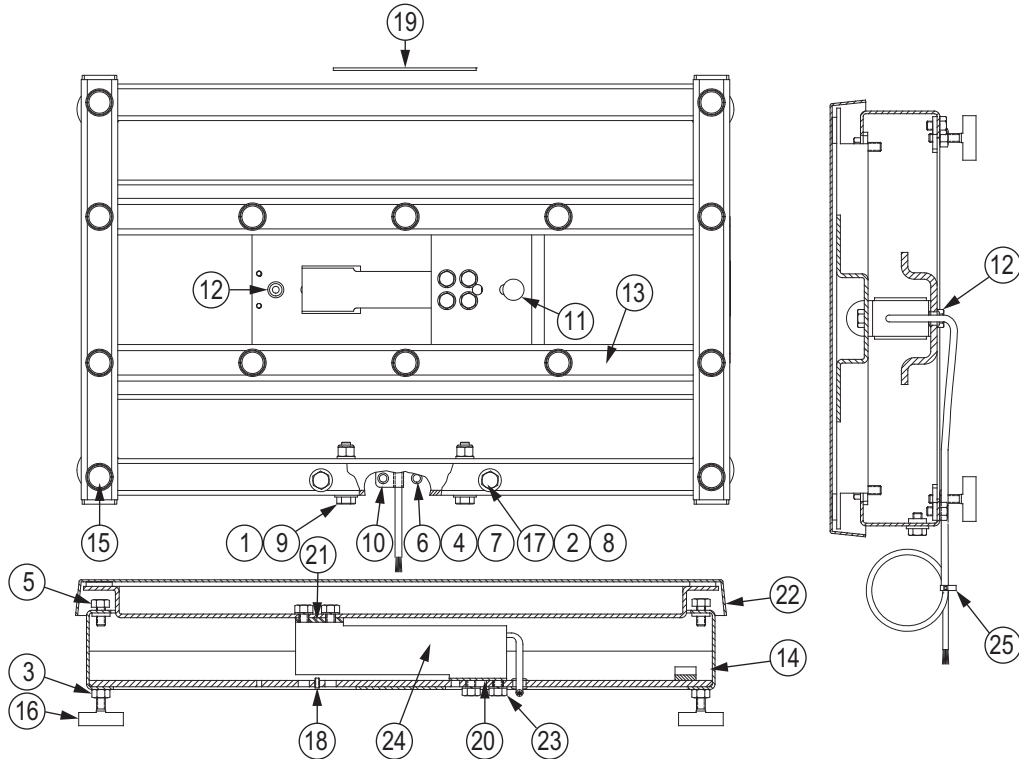


Figure 2-4. BenchMark HE 12" x 18" Parts Illustration

### BenchMark HE 12" x 18

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.
1	106462	Screw, Cap 1/4-20NC x 1-1/2 Hex Head SST	2	14	186226	Frame, Bottom Bench Scale 12" x 18" SST	1
2	14634	Nut, Lock 1/4-20NC Hex SST	4	15	26408	Bumper, Self Adhesive 3/4	14
3	14645	Nut, Jam 1/4-20NC Hex SST	4	16	35128	Foot, Bench Scale 1/4-20NC x 1-3/16 SST	4
4	14862	Screw, Mach 8-32NC x 3/8 Phillips SST	2	17	35199	Screw, Cap 1/4-20NC x 2 Hex Head SST	2
5	14963	Screw, Cap 1/4-20NC x 3/4 Hex SST	4	18	43203	Screw, Set 8-32NC x 1/2 SST	1
6	15132	Washer, Lock No. 8 Type A SST	1	19	52342	Label, 4.00 x 1.25 8000T	1
7	15138	Washer, Plain STD No. 8 SST	1	20	85622	Screw, Set 8-32NC x 1/2 SST	1
8	15148	Washer, Lock 1/4 Regular Helical Spring SST	12	21	85623	Shim, Load Cell .25 x 1 x 1.34 SST	1
9	15149	Washer, Lock 1/4 SST	4	22	186936	Top Cover, SS Bench Scale	1
10	15409	Clamp, Cable No. 8 Hole Nylon	1	23	85624	Screw, Cap M6 x 1 x 20 Hex SST	8
11	15410	Level, Spirit Bubble	1	24	87029	Load Cell, RLPC6 50 lb Scale	1
12	15418	Grommet, Rubber	1		87030	Load Cell, RLPC6 100 lb Scale	
13	186225	Frame, Top Bench Scale 12" x 18" SST	1	25	16141	Cable Tie, 8" Nylon	1

Table 2-12. BenchMark HE 12" x 18" Stainless Steel Parts List

### 2.6.5 BenchMark MS, SS and HE, 18" x 18" Models

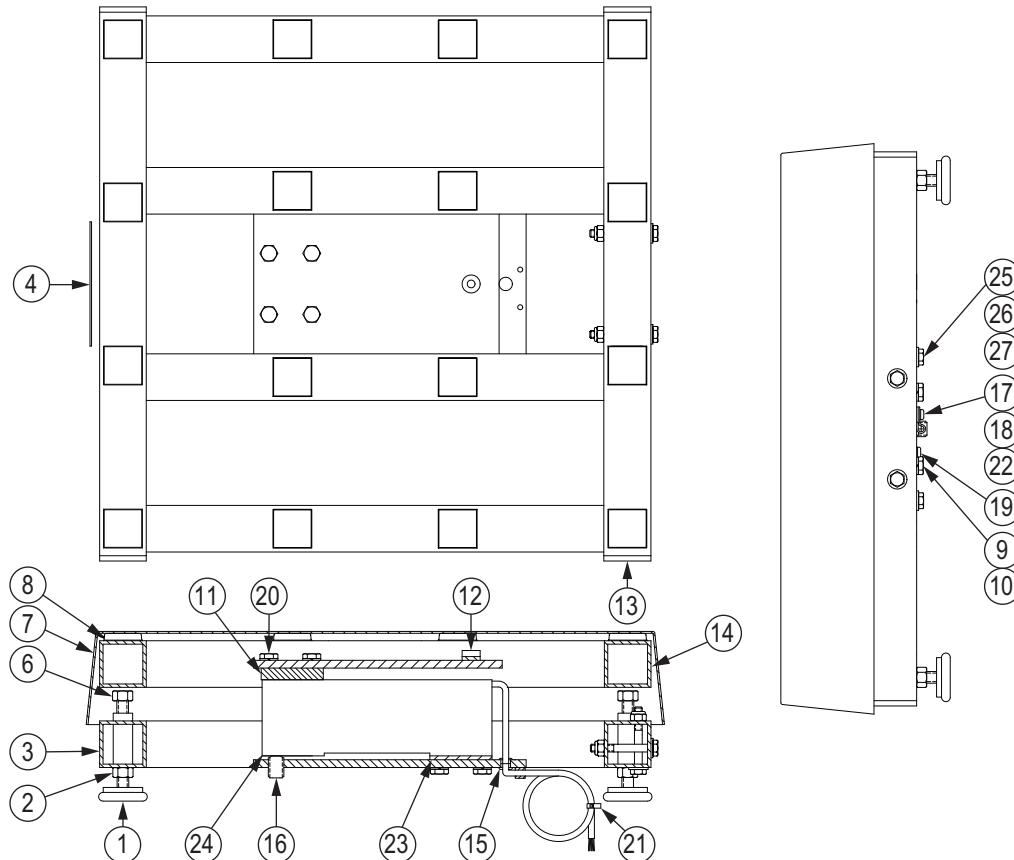


Figure 2-5. BenchMark MS, SS and HE, 18" x 18" Model Parts Illustration

### BenchMark MS 18" x 18"

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.
1	19141	Foot, 1-1/2 Wide SST Pad	4	16	15045	Screw, Set 1/2-20NF x 1/2 Hex	1
2	14649	Nut, Jam 3/8-16NC Hex Zinc Plated	4	17	15409	Clamp, Cable No. 8 Hole Nylon	1
3	49766	Frame Bottom, 18" x 18", MS Painted for 50 lb – 500 lb Scales	1	18	15138	Washer, Plain STD No. 8 SST	1
	19108	Frame Bottom, 18" x 18", MS Painted for 1000 lb Scale		19	15134	Washer, Lock No. 8 Type A Zinc Plated	1
4	52342	Label, 4.00 x 1.25 8000T	1	20	49788	Screw, Cap 5/16-18NC x 1-1/4 Hex Zinc Plated	4
6	14742	Bolt, 3/8-16NC x 1 Hex Head Zinc Plated		21	16141	Cable Tie, 8" Nylon	1
7	19094	Cover, Top Bench Scale 18" x 18" SST	1	22	14858	Screw, Mach 8-32NC x 5/16 Phillips Zinc Plated	2
8	26407	Bumper, Self Adhesive	16	23	49787	Shim Plate SST for 50 lb - 500 lb Scales	1
9	15153	Washer, Lock 5/16 Regular Zinc Plated	9		22264	Shim Plate SST for 1000 lb Scale	
10	26667	Screw, Cap 5/16-18NC x 1 Hex	4	24	188682	Load Cell, RL26018A 50 lb Scale	1
	26668	Screw, Cap, 5/16-18 NC x 3/4, Hex Zinc Plated, MS for 1000 lb Scale	4		188684	Load Cell, RL26018A 100 lb Scale	
11	49785	Washer, Plate Bench Scale Zinc Plated	11		188685	Load Cell, RL26018A 150 lb Scale	
12	15410	Level, Spirit Bubble	1		188686	Load Cell, RL26018A 200 lb Scale	
13	19140	Square Plug Black	8		188687	Load Cell, RL26018A 250 lb Scale	
					188688	Load Cell, RL26018A 300 lb Scale	
14	49765	Frame, Top, 18" x 18" for 50 lb – 500 lb Scales	1		188689	Load Cell, RL26018A 500 lb Scale	
	19116	Frame, Top, 18" x 18" for 1000 lb Scale			91683	Load Cell, RLPWM12 1000 lb Scale	
15	15418	Grommet, Rubber	1		25	35316	
				26	15145	Washer, Plain 1/4 Type A Zinc Plated	4
				27	14635	Nut, Lock 1/4-20NC Hex Zinc Plated	4

Table 2-13. BenchMark MS 18" x 18" Parts List

**BenchMark SS 18" x 18"**

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.
1	19141	Foot, 3/8-16 x 78	4	18	15138	Washer, Plain STD #8 SST	1
2	14653	Nut, Jam 3/8-16NC Hex SST	4	19	15132	Washer, Lock No. 8 Type A, SST	1
3	49768	Frame, Bottom 18" x 18", SST for 50 lb – 500 lb Scales	1	20	49789	Screw, Cap 5/16-18NC x 1-1/4 Hex, SST for 50 lb – 500 lb Scales	4
	19109	Frame, Bottom 18" x 18", SST for 1000 lb Scale			26670	Screw, Cap, 5/16-18NC x 1, Hex, SST for 1000 lb Scale	
4	52342	Label, 4.00 x 1.25 8000T	1	21	16141	Cable Tie, 8" Nylon	1
6	15020	Screw, Cap, 3/8-16NC x 1	4	22	14862	Screw, Mach, 8-32NC x 3/8, SST	2
7	19094	Cover, Top, 18" x 18" SST	1	23	49787	Shim Plate SST for 50 lb – 500 lb Scales	1
8	26407	Bumper, Self Adhesive	16		22264	Shim Plate SST for 1000 lb Scale	
10	26670	Screw, Cap, 5/16-18NC x 1, Hex, SST for 50 lb – 500 lb Scales	4	24	188682	Load Cell, RL26018A 50 lb Scale	1
	26669	Screw, Cap, 5/16-18NC x 1, Hex, SST for 1000 lb Scale			188684	Load Cell, RL26018A 100 lb Scale	
11	49786	Plate, Washer, SST for 50 lb – 500 lb Scale	1		188685	Load Cell, RL26018A 150 lb Scale	
	19103	Plate, Washer, SST for 1000 lb Scale			188686	Load Cell, RL26018A 200 lb Scale	
12	15410	Level, Spirit Bubble	1		188687	Load Cell, RL26018A 250 lb Scale	
13	19140	Square Plug Black	8		188688	Load Cell, RL26018A 300 lb Scale	
14	49767	Frame, Top, 18" x 18", SST for 50 lb – 500 lb Scales	1		188689	Load Cell, RL26018A 500 lb Scale	
	19117	Frame, Top, 18" x 18", SST for 1000 lb Scale			91683	Load Cell, RLPWM12 1000 lb Scale	
15	15418	Grommet, Rubber	1		25	35199	
16	15047	Screw, Set, 1/2-20NF x 1/2, Hex, SST	1	26	15149	Washer, Plain, 1/4 Type A, SST	4
17	15409	Clamp, Cable, No. 8 Hole	1	27	14634	Nut, Lock 1/4-20NC Hex SST	4

Table 2-14. BenchMark SS 18" x 18" Parts List

**BenchMark HE 18" x 18"**

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.
1	19141	Foot, 3/8-16 x 78	4	17	15409	Clamp, Cable, No. 8 Hole	1
2	14653	Nut, Jam 3/8-16NC Hex SST	4	18	15138	Washer, Plain STD #8 SST	1
3	49768	Frame, Bottom 18" x 18", SST	1	19	15132	Washer, Lock No. 8 Type A, SST	1
4	52342	Label, 4.00 x 1.25 8000T	1	20	87092	Screw, Cap, M6 x 1 x 35 Hex for 50 lb – 200 lb Scales	8
6	15020	Screw, Cap, 3/8-16NC x 1 for 50 lb – 200 lb Scales	4		49789	Screw, Cap, 5/16-18NC x 1 1/4, Hex, SST for 250 lb – 1000 lb Scales	4
	101502	Screw, Cap, 3/8-16NC x 1-1/4 for 250 lb – 1000 lb Scales	4	21	16141	Cable Tie, 8" Nylon	1
7	19094	Cover, Top, 18" x 18" SST	1	22	14862	Screw, Mach, 8-32NC x 3/8, SST	2
8	26407	Bumper, Self Adhesive	16	23	87091	Shim Plate SST for 50 lb – 200 lb Scales	1
	15148	Washer, Lock 1/4 SST for 50 lb – 200 lb Scales			49787	Shim Plate SST for 250 lb – 1000 lb Scales	
9	15154	Washer, Lock 5/16 SST for 250 lb – 1000 lb Scales	8	24	87029	Load Cell, RLPC6 50 lb Scale	1
	26670	Screw, Cap, 5/16-18NC x 1, Hex, SST for 1000 lb Scale			87030	Load Cell, RLPC6 100 lb, 150 lb Scales	
11	87090	Shim Plate SST for 50 lb – 200 lb Scales	1		87031	Load Cell, RLPC6 200 lb Scale	
	87129	Shim Plate SST for 250 lb – 1000 lb Scales			87024	Load Cell, RLPCBC-60 250 lb, 300 lb Scales	
12	15410	Level, Spirit Bubble	1		87025	Load Cell, RLPCBC-60 500 lb Scale	
13	19140	Square Plug Black	8		87026	Load Cell, RLPCBC-60 1000 lb Scale	
14	49767	Frame, Top, 18" x 18", SST	1		87022	Load Cell, RLPCBC-60 50 lb Scale	
15	15418	Grommet, Rubber	1		87023	Load Cell, RLPCBC-60 100 lb, 150 lb Scale	
16	87136	Screw, Set, 1/2-20NF x 1, Hex, SST for 50 lb – 200 lb Scales	1		25	35199	
	15047	Screw, Set, 1/2-20NF x 1/2, Hex, SST for 250 lb – 1000 lb Scales		26	15149	Washer, Plain, 1/4 Type A, SST	4
				27	14634	Nut, Lock, 1/4-20NC, Hex, SST	4

Table 2-15. BenchMark HE 18" x 18" Parts List

### 2.6.6 BenchMark MS, SS and HE, 18" x 24" Models

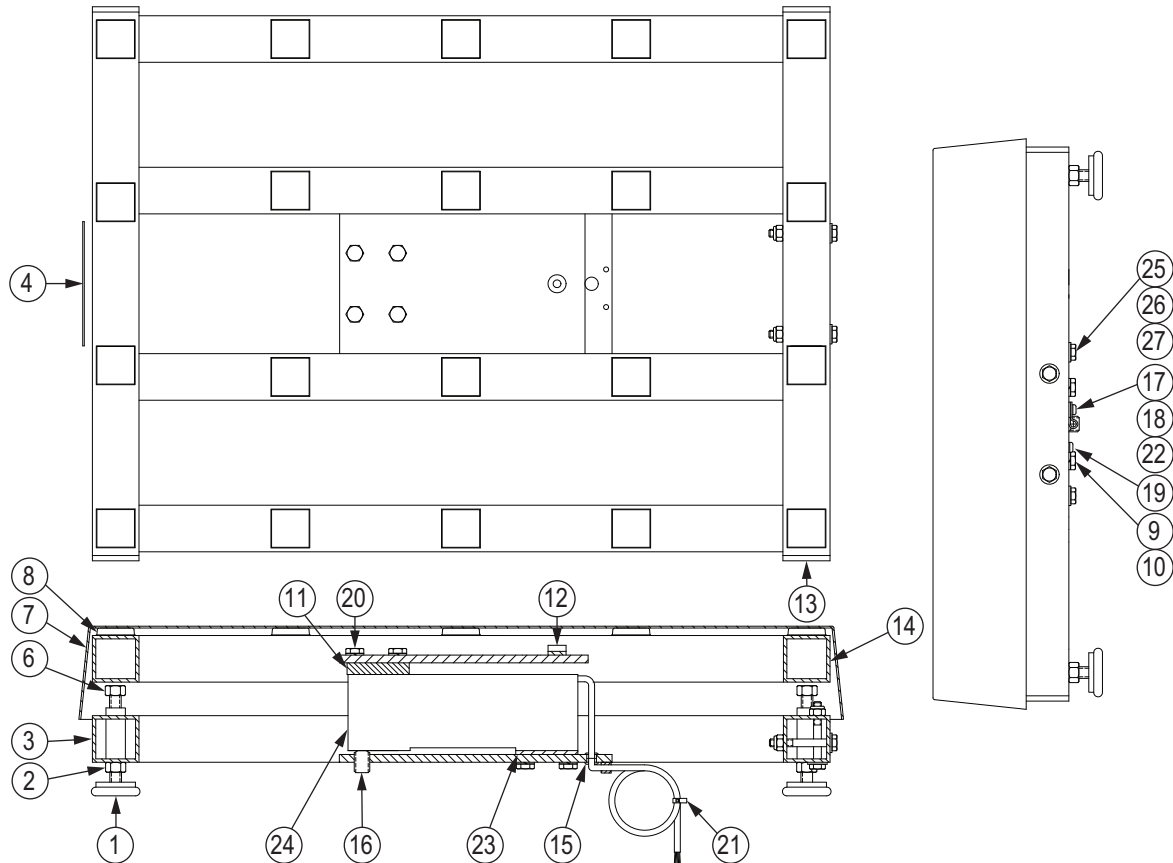


Figure 2-6. BenchMark MS, SS and HE, 18" x 24" Model Parts Illustration

#### BenchMark MS 18" x 24"

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.
1	19141	Foot, 1-1/2 Wide SST Pad	4	17	15409	Clamp, Cable No. 8 Hole Nylon	1
2	14649	Nut, Jam 3/8-16NC Hex Zinc Plated	4	18	15138	Washer, Plain STD No. 8 SST	1
3	49770	Frame Bottom, 18" x 24", MS Painted for 50 lb – 500 lb Scales	1	19	15134	Washer, Lock No. 8 Type A Zinc Plated	1
	19110	Frame Bottom, 18" x 24", MS for 1000 lb Scale		20	49788	Screw, Cap 5/16-18NC x 1-1/4 Hex Zinc Plated	4
4	52342	Label, 4.00 x 1.25 8000T	1	21	16141	Cable Tie, 8" Nylon	1
6	14742	Bolt, 3/8-16NC x 1 Hex Head Zinc Plated	4	22	14858	Screw, Mach 8-32NC x 5/16 Phillips Zinc Plated	2
7	19095	Cover, Top Bench Scale 18" x 24" SST	1	23	49787	Shim Plate SST for 50 lb - 500 lb Scales	1
8	26407	Bumper, Self Adhesive	20		22264	Shim Plate SST for 1000 lb Scale	
9	15153	Washer, Lock 5/16 Regular Zinc Plated	8	24	188682	Load Cell, RL26018A 50 lb Scale	1
10	26667	Screw, Cap 5/16-18NC x 1 Hex, Hex Zinc Plated, MS for 1000 lb Scale	4		188684	Load Cell, RL26018A 100 lb Scale	
	26668	Screw, Cap, 5/16-18NC x 3/4, Hex Zinc Plated, MS for 1000 lb Scale			188685	Load Cell, RL26018A 150 lb Scale	
11	49785	Washer, Plate Bench Scale Zinc Plated	1		188686	Load Cell, RL26018A 200 lb Scale	
12	15410	Level, Spirit Bubble	1		188687	Load Cell, RL26018A 250 lb Scale	
13	19140	Square Plug Black	8		188688	Load Cell, RL26018A 300 lb Scale	
					188689	Load Cell, RL26018A 500 lb Scale	
14	49769	Frame, Top, 18" x 24" for 50 lb – 500 lb Scales	1		91683	Load Cell, RLPWM12 1000 lb Scale	
	19118	Frame, Top, 18" x 24" for 1000 lb Scale					
15	15418	Grommet, Rubber	1	25	35316	Screw, Cap 1/4-20NC x 2 Hex Zinc Plated	4
16	15045	Screw, Set 1/2-20NF x 1/2 Hex	1	26	15145	Washer, Plain 1/4 Type A Zinc Plated	4
				27	14635	Nut, Lock 1/4-20NC Hex Zinc Plated	4

Table 2-16. BenchMark MS 18" x 24" Parts List

**BenchMark SS 18" x 24"**

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.
1	19141	Foot, 3/8-16 x 78	4	18	15138	Washer, Plain STD #8 SST	1
2	14653	Nut, Jam 3/8-16NC Hex SST	4	19	15132	Washer, Lock No. 8 Type A	1
3	49772	Frame Bottom, 18" x 24", SST for 50 lb – 500 lb Scales	1	20	49789	Screw, Cap, 5/16-18NC x 1 1/4, Hex, SST for 50 lb – 500 lb Scales	4
	19111	Frame Bottom, 18" x 24", SST 1000 lb Scale			26669	Screw, Cap, 5/16-18NC x 3/4, Hex, SST for 1000 lb Scale	
4	52342	Label, 4.00 x 1.25 8000T	1	21	16141	Cable Tie, 8" Nylon	1
6	15020	Screw, Cap, 3/8-16NC x 1	4	22	14862	Screw, Mach, 8-32NC x 3/8, SST	2
7	19095	Cover, Top, 18" x 24" SST	1	23	49787	Shim Plate SST for 50 lb – 500 lb Scales	1
8	26407	Bumper, Self Adhesive	20		22264	Shim Plate SST for 1000 lb Scale	
9	15154	Washer, Lock 5/16 SST	8	24	188682	Load Cell, RL26018A 50 lb Scale	1
10	26670	Screw, Cap, 5/16-18NC x 1, Hex, SST for 50 lb – 500 lb Scales	4		188684	Load Cell, RL26018A 100 lb Scale	
	49786	Plate, Washer, SST for 50 lb – 500 lb Scale			188685	Load Cell, RL26018A 150 lb Scale	
11	19103	Plate, Washer, SST for 1000 lb Scale	1		188686	Load Cell, RL26018A 200 lb Scale	
	15410	Level, Spirit Bubble			188687	Load Cell, RL26018A 250 lb Scale	
12	15410	Level, Spirit Bubble	1		188688	Load Cell, RL26018A 300 lb Scale	
13	19140	Square Plug Black	8		188689	Load Cell, RL26018A 500 lb Scale	
14	49769	Frame, Top, 18" x 24", SST for 50 lb – 500 lb Scales	1		91683	Load Cell, RLPWM12 1000 lb Scale	
	19118	Frame, Top, 18" x 24", SST for 1000 lb Scale		25	35199	Screw, Cap, 1/4-20NC x 2, Hex, SST	4
15	15418	Grommet, Rubber	1	26	15149	Washer, Plain, 1/4 Type A, SST	4
16	15047	Screw, Set, 1/2-20NF x 1/2, Hex, SST	1	27	14634	Nut, Lock 1/4-20NC Hex SST	4
17	15409	Clamp, Cable, No. 8 Hole	1				

Table 2-17. BenchMark SS 18" x 24" Parts List

**BenchMark HE 18" x 24"**

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.	
1	19141	Foot, 3/8-16 x 78	4	17	15409	Clamp, Cable, No. 8 Hole	1	
2	14653	Nut, Jam 3/8-16NC Hex SST	4	18	15138	Washer, Plain STD #8 SST	1	
3	49772	Frame Bottom, 18" x 24"	1	19	15132	Washer, Lock No. 8 Type A, SST	1	
4	52342	Label, 4.00 x 1.25 8000T	1	20	26670	Screw, Cap, 5/16-18NC x 1, Hex, SST	4	
6	101502	Screw, Cap, 3/8-16NC x 1-1/4	4	21	16141	Cable Tie, 8" Nylon	1	
7	19095	Cover, Top, 18" x 24" SST	1	22	14862	Screw, Mach, 8-32NC x 3/8, SST	2	
8	26407	Bumper, Self Adhesive	20	23	49787	Shim Plate SST	1	
9	15154	Washer, Lock 5/16 SST	8		24	87022		Load Cell, RLPCBC-60 50 lb Scale
10	49789	Screw, Cap, 5/16-18NC x 1 1/4, Hex, SST	4			87023		Load Cell, RLPCBC-60 100 lb and 150 lb Scales
11	87129	Shim Plate SST	1			87024		Load Cell, RLPCBC-60 for 200 lb – 300 lb Scales
12	15410	Level, Spirit Bubble	1			87025		Load Cell, RLPCBC-60 500 lb Scale
13	19140	Square Plug Black	8			87026		Load Cell, RLPCBC-60 1000 lb Scale
14	49771	Frame, Top, 18" x 24"	1	25	35199	Screw, Cap, 1/4-20NC x 2, Hex, SST	4	
15	15418	Grommet, Rubber	1	26	15149	Washer, Plain, 1/4 Type A, SST	4	
16	15047	Screw, Set, 1/2-20 NF x 1/2, Hex, SST	1	27	14634	Nut, Lock, 1/4-20NC, Hex, SST	4	

Table 2-18. BenchMark HE 18" x 24" Parts List



### 2.6.7 BenchMark MS, SS and HE, 24" x 24" Models

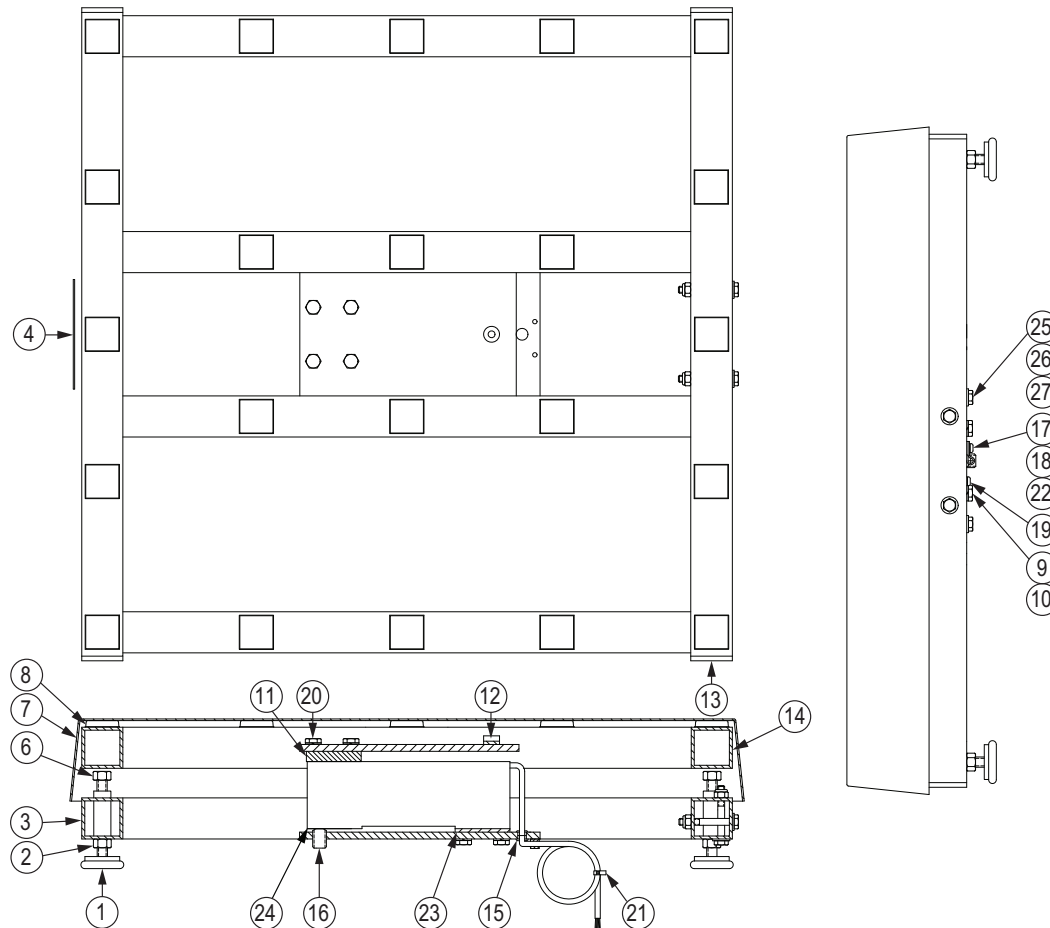


Figure 2-7. BenchMark MS, SS and HE, 24" x 24" Model Parts Illustration

#### BenchMark MS 24" x 24"

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.		
1	19141	Foot, 1-1/2 Wide SST Pad	4	17	15409	Clamp, Cable No. 8 Hole Nylon	1		
2	14649	Nut, Jam 3/8-16NC Hex Zinc Plated	4	18	15138	Washer, Plain STD No. 8 SST	1		
3	49774	Frame, Bottom Bench Scale 24" x 24" MS for 100 lb - 500 lb Scales	1	19	15134	Washer, Lock No. 8 Type A Zinc Plated	1		
	19112	Frame, Bottom Bench Scale 24" x 24" MS for 1000 lb Scale		20	49788	Screw, Cap 5/16-18NC x 1-1/4 Hex Zinc Plated	4		
4	52342	Label, 4.00 x 1.25 8000T	1	21	16141	Cable Tie, 8" Nylon	1		
6	14742	Bolt, 3/8-16NC x 1 Hex Head Zinc Plated	4	22	14858	Screw, Mach 8-32NC x 5/16 Phillips Zinc Plated	2		
7	19096	Cover, Top Bench Scale 24" x 24" SST	1	23	49787	Shim Plate SST for 50 lb - 500 lb Scales	1		
8	26407	Bumper, Self Adhesive	20	22264	Shim Plate SST for 1000 lb Scale				
9	15153	Washer, Lock 5/16 Regular Zinc Plated	8	24	188682	Load Cell, RL26018A 50 lb Scale	1		
10	26667	Screw, Cap 5/16-18NC x 1 Hex	4		188684	Load Cell, RL26018A 100 lb Scale			
	26668	Screw, Cap, 5/16-18NC x 3/4, Hex Zinc Plated, MS for 1000 lb Scale	4		188685	Load Cell, RL26018A 150 lb Scale			
11	49785	Washer, Plate Bench Scale Zinc Plated	1		188686	Load Cell, RL26018A 200 lb Scale			
12	15410	Level, Spirit Bubble	1		188687	Load Cell, RL26018A 250 lb Scale			
13	19140	Square Plug Black	8		188688	Load Cell, RL26018A 300 lb Scale			
14	19096	Cover, Top Bench Scale 24" x 24" SST	1		188689	Load Cell, RL26018A 500 lb Scale			
15	15418	Grommet, Rubber	1		91683	Load Cell, RLPWM12 1000 lb Scale			
16	15045	Screw, Set 1/2-20NF x 1/2 Hex	1		25	35316		Screw, Cap 1/4-20NC x 2 Hex Zinc Plated	4
					26	15145		Washer, Plain 1/4 Type A Zinc Plated	4
				27	14635	Nut, Lock 1/4-20NC Hex Zinc Plated	4		

Table 2-19. BenchMark MS 24" x 24" Parts List

**BenchMark SS 24" x 24"**

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.
1	19141	Foot, 3/8-16 x 78	4	18	15138	Washer, Plain STD #8 SST	1
2	14653	Nut, Jam 3/8-16NC Hex SST	4	19	15132	Washer, Lock No. 8 Type A, SST for 100 – 1000 lb Scales	1
3	49776	Frame Bottom, 24" x 24" SST for 100 lb – 500 lb Scales	1	20	49789	Screw, Cap, 5/16-18 NC x 1 1/4, Hex, SST for 100 lb – 500 lb Scales	4
	19114	Frame Bottom, 24" x 24" SST for 1000 lb Scale			26669	Screw, Cap, 5/16-18 NC x 3/4, Hex, SST for 1000 lb Scale	
4	52342	Label, 4.00 x 1.25 8000T	1	21	16141	Cable Tie, 8" Nylon	1
6	15020	Screw, Cap, 3/8-16NC x 1	4	22	14862	Screw, Mach, 8-32NC x 3/8, SST	2
7	19096	Cover, Top, 24" x 24" SST	1	23	49787	Shim Plate SST for 100 lb – 500 lb Scales	1
8	26407	Bumper, Self Adhesive	22		22264	Shim Plate SST for 1000 lb Scale	
9	15154	Washer, Lock 5/16 SST	8	24	188684	Load Cell, RL26018A 100 lb Scale	1
10	26670	Screw, Cap, 5/16-18 NC x 1, Hex, SST for 100 lb – 500 lb Scales	4		188685	Load Cell, RL26018A 150 lb Scale	
	11	49786			Plate, Washer, SST for 100 lb – 500 lb Scale	188686	
11	19103	Plate, Washer, SST for 1000 lb Scale	1		188687	Load Cell, RL26018A 250 lb Scale	
	12	15410			Level, Spirit Bubble	188688	
13	19140	Square Plug Black	8		188689	Load Cell, RL26018A 500 lb Scale	
14	49775	Frame, Top, 24" x 24" SST for 100 lb – 500 Scales	1		91683	Load Cell, RLPWM12 1000 lb Scale	
	19151	Frame, Top, 24" x 24" SST for 1000 lb Scale			25	35199	
15	15418	Grommet, Rubber	1	26	15149	Washer, Plain, 1/4 Type A, SST	4
16	15047	Screw, Set, 1/2-20NF x 1/2, Hex, SST	1	27	14634	Nut, Lock 1/4-20NC Hex SST	4
17	15409	Clamp, Cable, No. 8 Hole	1				

Table 2-20. BenchMark SS 24" x 24" Parts List

**BenchMark HE 24" x 24"**

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.
1	19141	Foot, 3/8-16 x 78	4	18	15138	Washer, Plain STD #8 SST	1
2	14653	Nut, Jam 3/8-16NC Hex SST	4	19	15132	Washer, Lock No. 8 Type A, SST	1
3	49776	Frame Bottom, 24" x 24"	1	20	49789	Screw, Cap, 5/16-18 NC x 1 1/4, Hex, SST for 100 lb – 500 lb Scales	4
4	52342	Label, 4.00 x 1.25 8000T	1	21	16141	Cable Tie, 8" Nylon	1
6	101502	Screw, Cap, 3/18NC x 1-1/4 Hex	4	22	14862	Screw, Mach, 8-32NC x 3/8, SST	2
7	19096	Cover, Top, 24" x 24"	1	23	49787	Shim Plate SST	1
8	26407	Bumper, Self Adhesive	22	24	87023	Load Cell, RLPCBC-60 100 lb and 150 lb Scales	1
9	15154	Washer, Lock 5/16 SST	8		87024	Load Cell, RLPCBC-60 200 lb, 250 lb and 300 lb Scales	
10	26670	Screw, Cap, 5/16-18 NC x 1, Hex, SST	4		87025	Load Cell, RLPCBC-60 500 lb Scale	
11	87129	Shim Plate SST	1		87026	Load Cell, RLPCBC-60 1000 lb Scale	
12	15410	Level, Spirit Bubble	1		25	35199	
13	19140	Square Plug Black	8	26	15149	Washer, Plain, 1/4 Type A, SST	4
14	49775	Frame, Top, 24" x 24"	1	27	14634	Nut, Lock, 1/4-20NC, Hex, SST	4
15	15418	Grommet, Rubber	1				
16	15047	Screw, Set, 1/2-20 NF x 1/2, Hex, SST	1				
17	15409	Clamp, Cable, No. 8 Hole	1				

Table 2-21. BenchMark HE 24" x 24" Parts List

## 3.0 Appendix

This section provides additional information about the BenchMark MS, SS and HE medium-to high-capacity bench scales.

### 3.1 Options

Optional ball transfer, roller conveyor tops and custom height columns for attaching indicators to the scale are available. Consult the factory for available options.

### 3.2 Troubleshooting

For troubleshooting details, see the following information:

Issue	Cause	Solution
No display on indicator	Power disconnected	Connect power
	Cable cut or disconnected	Repair cable
	Signal leads incorrectly wired at indicator	Connect according to the manual
Indicator display remains at zero	Incorrect load cell cable connections	
	Faulty indicator	Service indicator
Erratic weight displays on indicator	Vibration near the scale	Remove the source of the vibration or adjust digital filtering of indicator to minimize erratic display
	Scale not level	Level the scale
	Water damage to the load cell or cable	Replace the load cell
	Faulty indicator	Service the indicator
	Loose load cell screws	Tighten to correct torque
	Faulty load cell	Test and replace if necessary
Consistently low weight	Indicator not properly adjusted to zero	Zero indicator correctly
	Scale cover binding	Obtain adequate clearance
	Overload stops set too high	Reset the stops correctly
	Indicator not calibrated for scale	Calibrate the scale
	Faulty load cell	Test and replace if necessary

Table 3-1. Benchmark Troubleshooting Table

### 3.3 Dimensions

For BenchMark MS, SS and HE bench scale dimensions see the following information:

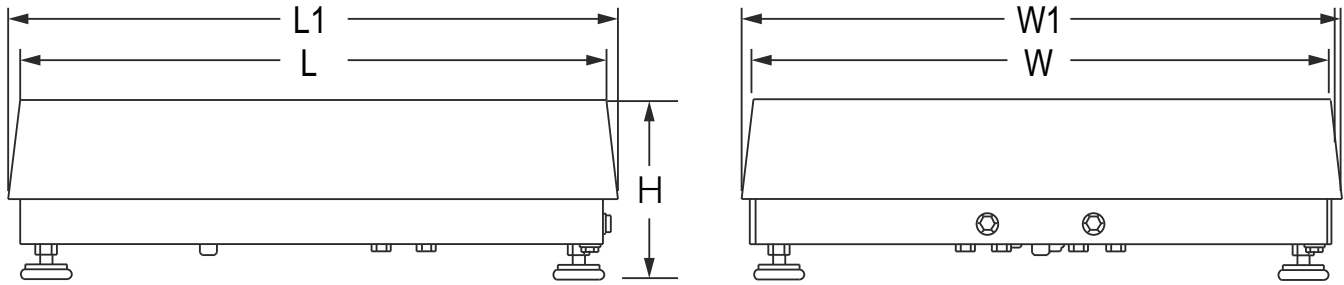


Figure 3-1. BenchMark Dimensions

#### 3.3.1 BenchMark MS, BenchMark SS and BenchMark HE

See Figure 3-1 for Table 3-2 dimension references. For load cell approvals, see Section 4.0 on page 19.

Capacity	Product Dimensions (L x W x H)	L1 x W1
30 lb (15 kg)	12" x 12" x 4.12" (305 mm x 457 mm x 105 mm)	12.50" x 12.50" (318 mm x 318 mm)
50 lb (25 kg)		
100 lb (50 kg)		
50 lb (25 kg)	12" x 18" x 3.62" (305 mm x 457 mm x 92 mm)	12.50" x 18.50" (318 mm x 470 mm)
100 lb (50 kg)		
50 lb (25 kg)	12" x 18" x 4" (305 mm x 457 mm x 102 mm)	12.50" x 18.50" (318 mm x 470 mm)
100 lb (50 kg)		
50 lb (25 kg)	12" x 18" x 4.12" (305 mm x 457 mm x 105 mm)	12.50" x 18.50" (318 mm x 470 mm)
100 lb (50 kg)		
50 lb (25 kg)	18" x 18" x 5.25" (457 mm x 457 mm x 133 mm)	18.75" x 18.75" (476 mm x 476 mm)
100 lb (50 kg)		
150 lb (75 kg)		
200 lb (100 kg)		
250 lb (125 kg)		
300 lb (150 kg)		
500 lb (250 kg)		
1000 lb (500 kg)		
50 lb (25 kg)	18" x 24" x 5.25" (457 mm x 610 mm x 133 mm)	24.75" x 18.75" (629 mm x 476 mm)
100 lb (50 kg)		
150 lb (75 kg)		
200 lb (100 kg)		
250 lb (125 kg)		
300 lb (150 kg)		
500 lb (250 kg)		
1000 lb (500 kg)		
100 lb (50 kg)	24" x 24" x 5.25" (610 mm x 610 mm x 133 mm)	24.75" x 24.75" (629 mm x 629 mm)
150 lb (75 kg)		
200 lb (100 kg)		
250 lb (125 kg)		
300 lb (150 kg)		
500 lb (250 kg)		
1000 lb (500 kg)		

Table 3-2. Dimensions and Capacities

### 3.4 Load Cell Replacement

See the following procedure to replace load cells:

1. Unplug AC power from indicator and disconnect load cell cable from indicator.
2. Lift off the top cover.
3. Remove two load cell screws.
4. Lift off top spider.
5. Remove the spacer plate.

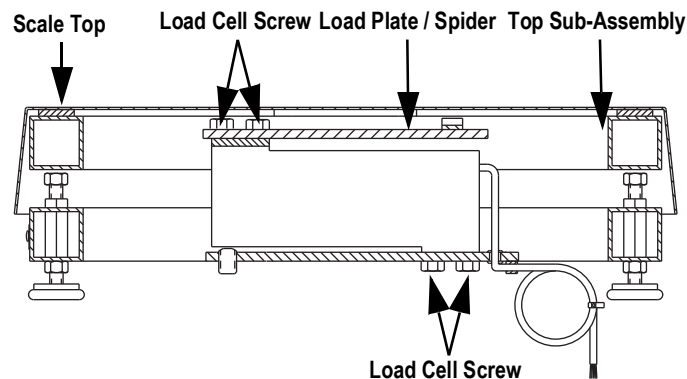


Figure 3-2. 12" x 12" Load Cell Mount

6. Loosen the four overload stop screws and turn each screw in one turn to provide ample clearance for the new load cell. Turn scale over and back off overload protection screw one complete turn to provide clearance.
7. Unscrew and remove lower load cell screws. Depending on model of scale, there will be either two or four lower load cell screws.
8. Remove bottom shim beneath load cell and set it aside.
9. Remove load cell and cable from scale.
10. Thread cable of replacement load cell through rubber grommet.
11. Position bottom shim directly beneath load cell and screw in lower load cell screws. Torque to 80 in-lbs for 12" x 12" and 12" x 18" scales, to 120 in-lb for 18" x 18", 18" x 24", and 24" x 24" scales.
12. Turn scale right side up. Position spacer plate on load cell, then place top spider into position.
13. Screw in four upper load cell screws. Torque to 80 in-lbs for 12" x 12" and 12" x 18" scales, to 120 in-lb for 18" x 18", 18" x 24", and 24" x 24" scales.
14. Connect load cell cable to indicator.
15. Recalibrate scale ([Section 2.5 on page 4](#)).
16. Adjust overload protection screw on bottom of scale by loading scale to 125% capacity. Place this weight on top cover, centered on platform. Use a hex wrench to screw in overload protection screw until it touches the load cell, then back off 1/6 turn. Recheck calibration.
17. To reset corner overload stop screws, load top spider over one corner with approximately 30% of scale capacity. Adjust screw under that corner to just touch top frame. Place a drop of a non-permanent, high-strength locking compound such as Loctite® on the thread. Back screw off slightly so it is not touching.

### 3.5 Limited Warranty

Rice Lake Weighing Systems (RLWS) warrants that all RLWS equipment and systems properly installed by a Distributor or Original Equipment Manufacturer (OEM) will operate per written specifications as confirmed by the Distributor/OEM and accepted by RLWS. All systems and components are warranted against defects in materials and workmanship for two years for the BenchMark MS and BenchMark SS and three years for the BenchMark HE.

RLWS warrants that the equipment sold hereunder will conform to the current written specifications authorized by RLWS. RLWS warrants the equipment against faulty workmanship and defective materials. If any equipment fails to conform to these warranties, RLWS will, at its option, repair or replace such goods returned within the warranty period subject to the following conditions:

- Upon discovery by Buyer of such nonconformity, RLWS will be given prompt written notice with a detailed explanation of the alleged deficiencies.
- Individual electronic components returned to RLWS for warranty purposes must be packaged to prevent electrostatic discharge (ESD) damage in shipment. Packaging requirements are listed in a publication, "Protecting Your Components From Static Damage in Shipment," available from RLWS Equipment Return Department.
- Examination of such equipment by RLWS confirms that the nonconformity actually exists, and was not caused by accident, misuse, neglect, alteration, improper installation, improper repair or improper testing; RLWS shall be the sole judge of all alleged nonconformities.
- Such equipment has not been modified, altered, or changed by any person other than RLWS or its duly authorized repair agents.
- RLWS will have a reasonable time to repair or replace the defective equipment. Buyer is responsible for shipping charges both ways.
- In no event will RLWS be responsible for travel time or on-location repairs, including assembly or disassembly of equipment, nor will RLWS be liable for the cost of any repairs made by others.

These warranties exclude all other warranties, expressed or implied, including without limitation warranties of merchantability or fitness for a particular purpose. Neither RLWS nor distributor will, in any event, be liable for incidental or consequential damages.

RLWS and buyer agree that RLWS's sole and exclusive liability hereunder is limited to repair or replacement of such goods.

In accepting this warranty, the buyer waives any and all other claims to warranty.

Should the seller be other than RLWS, the buyer agrees to look only to the seller for warranty claims.

No terms, conditions, understanding, or agreements purporting to modify the terms of this warranty shall have any legal effect unless made in writing and signed by a corporate officer of RLWS and the Buyer.

## 4.0 Specifications

### Load Cell

BenchMark MS	IP66 aluminum, environmentally sealed
BenchMark SS	IP66 aluminum, environmentally sealed
BenchMark HE	IP69K stainless steel, hermetically sealed

### Available Sizes

Benchmark MS	12" x 12", 12" x 18", 18" x 18", 18" x 24", 24" x 24"
BenchMark SS	12" x 18", 18" x 18", 18" x 24", 24" x 24"
BenchMark HE	12" x 18", 18" x 18", 18" x 24", 24" x 24"

### Rated Output

0.91 mV/V

### Maximum Overload

150–200% depending on capacity

### Overload Protection

5 point, independently adjusted

### Cable Length

10' (3 m) – 6 wire shielded

### Output Impedance

350  $\Omega$

### Compensated Temperature Range

14° F – 122° F (-10° C – 50° C)

### Safe Temperature Range

-22° F – 158° F (-30° C – 70° C)

### Certifications and Approvals



NTEP  
CoC 95-072  
Accuracy Class III; 5000 d



Measurement Canada  
AM-5082, Class III 5000 d



The following load cells are cFMus approved:

BenchMark MS  
12" x 12" 30 lb – 100 lb  
18" x 18" 50 lb – 500 lb  
18" x 24" 50 lb – 500 lb  
24" x 24" 50 lb – 500 lb

BenchMark SS  
12" x 18" 50 lb – 100 lb  
18" x 18" 50 lb – 500 lb  
18" x 24" 100 lb – 500 lb  
24" x 24" 100 lb – 500 lb



The following load cells are FM approved:

BenchMark MS  
12" x 18" 50 lb – 100 lb  
18" x 18" 1000 lb  
18" x 24" 1000 lb  
24" x 24" 1000 lb

BenchMark SS  
18" x 18" 1000 lb  
18" x 24" 1000 lb  
24" x 24" 1000 lb

BenchMark HE  
12" x 18" 50 lb – 1000 lb  
18" x 18" 50 lb – 1000 lb  
18" x 24" 50 lb – 1000 lb  
24" x 24" 50 lb – 1000 lb









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