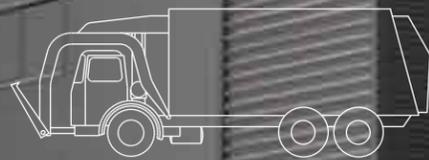




ON-BOARD WEIGHING SOLUTIONS FOR THE REFUSE INDUSTRY





# FRONT LOADER SOLUTIONS

FRONT FORK SCALE

LOAD CELL BODY SCALE

DEFLECTION TRANSDUCER SCALE



# FRONT FORK SCALE



The Vulcan Front Fork Scale is designed for front loaders in refuse applications. The rugged, bolt-on weight sensing forks replace the truck's existing forks or can be purchased with a scale ready cross tube assembly. Machined from a solid bar of high strength alloy steel and plated for corrosion protection, the light weight fork scales have a negligible impact on the truck's weight.

The V600 meter displays individual bin weights and total net payload weight. It can record events including: date, time, stop number, pick-up weight and exceptions. The V600 also has a lockout feature allowing the full operation of the scales while safeguarding against the accidental changing of calibration or other preset functions. This solution is ideal for audit or fleet applications.

Two Vulcan Front Fork Scale configurations, manual or weigh-in-motion, allow you to specify the best solution for your operation.

## R-506 MANUAL FRONT FORK SCALE SYSTEM

The Vulcan R-506 scale system uses the A01 Control Button. Bin weight is obtained by the driver pressing the control button when the bin is stopped in the weighing zone. After two audible beeps confirming weight acquisition, the driver continues the lift, dumps the load, and returns the bin to the weighing zone. The driver presses the control button to acquire the empty bin weight.

## R-516 WEIGH-IN-MOTION / STATIC FRONT FORK SCALE SYSTEM

The Vulcan R-516 scale system uses the A04 Static Control Kit. The weigh zone is controlled by a proximity switch. The driver lifts the bin through the weigh zone where the weight is automatically acquired. After dumping the bin, the driver lowers the bin through the weigh zone and sets it on the ground.

**NOTE:** Vulcan On-Board Scales has complete scale ready cross tube assemblies for the Vulcan Front Fork Scale. The scale ready cross tubes eliminate welding to install the Fork Scale, saving 8-10 hours of installation time. The welding meets Stress-Tek, Inc specification and provides a predictable, standard product that meets industry expectations. Consult Vulcan On-Board Scales for cross tube options.

## FRONT FORK SCALE

### SPECIFICATIONS

CAPACITY: 10,000 lb

LOAD CELL ACCURACY:  
 a: within 1% of Individual Pickup Weight  
 b: within .5% of Net Payload Weight  
 Note: Actual operational accuracy may vary. Consult factory for details.

MATERIAL: High strength alloy steel

FINISH: Plated for corrosion protection

U.S. PATENT: 6,422,800

### CROSS TUBE MOUNTING KITS (Hxx)

3.5" Round  
 4" Round  
 4" Square  
 4.5" Round  
 Universal

Note: Consult factory for appropriate mounting kit. Scale ready cross tubes also available.



## V600 METER

The Vulcan V600 meter displays individual axle group weights (up to 6 channels) and the total weight. The meter display can be fixed on any single channel or group of channels or automatically cycled through all active channels. Cycle times are user adjustable from 1 to 9 seconds. The large, primary display can be easily read from outside the truck. The secondary dot-matrix readout displays an extensive set of help instructions, assisting the user to quickly and easily identify and correct a problem.

The Vulcan V600 meter uses the Vulcan Single Line (VSL) technology to minimize truck and trailer wiring for the best reliability. A V600 meter can immediately identify and read the weight from any other VSL equipped truck or trailer without recalibration. The V600 meter includes a serial interface which allows communication of data to on-board computers, GPS systems, printers, and other devices. In addition, setpoint module options provide the ability to trigger events when programmed weigh points are reached.

### SPECIFICATIONS

DISPLAY: LED, variable brightness  
 Primary: (6) .7" high characters  
 Secondary: (16) .2" high characters

CYCLE SPEED: Variable, 1-9 seconds

SIZE: 8.0" W x 2.6" D x 3.6" H (including mounting bracket)

RESOLUTION: 10, 20, 50, 100, or 200 lb or kg increments

VOLTAGE REQUIRED: 10.5 to 29.0 Vdc

CURRENT DRAW: .7 to 2 amps

PROTECTION: Inline, 2 amp fast acting fuses and reverse voltage protection

WEIGHT: 27.8 oz (including mounting bracket)

# LOAD CELL BODY SCALE



The Vulcan Body Scale system uses 15" End Connector Super-Beam load cells for both tipping (bodies that tip to dump and tip for service) and fixed body (bodies that are fix mounted and do not tip to dump or service) refuse applications. Typically six load cells are used depending on your specific application. The V600 meter displays gross vehicle, net payload and individual commercial pick-up weights. Optional V320 or V320 S meter depending on your specific requirements.

## R-106 TIPPING REFUSE BODY SCALE SYSTEM without MOUNTING BRACKETS

The R-106 uses 6 load cells. It does NOT include body brackets, truck frame brackets and fasteners required for installation.

## R-106B TIPPING REFUSE BODY SCALE SYSTEM with MOUNTING BRACKETS

The R-106B uses 6 load cells and includes body brackets, truck frame brackets, and fasteners.

## R-206 FIXED REFUSE BODY SCALE SYSTEM without MOUNTING BRACKETS

The R-206 uses 6 load cells. It does NOT include body brackets, truck frame brackets and fasteners required for installation.

## R-206B FIXED REFUSE BODY SCALE SYSTEM with MOUNTING BRACKETS

The R-206B uses 6 load cells and includes body brackets, truck frame brackets, and fasteners.

## R-206L FIXED REFUSE BODY SCALE SYSTEM with MOUNTING BRACKETS

The R-206L uses 6 load cells and includes body brackets, truck frame brackets, and fasteners. Leach style body requires additional structural support.

## 15" END CONNECTOR SUPER-BEAM LOAD CELL

### SPECIFICATIONS

STATIC CAPACITY: 30,000 lbs vertical load

DYNAMIC CAPACITY: 15,000 lbs vertical load

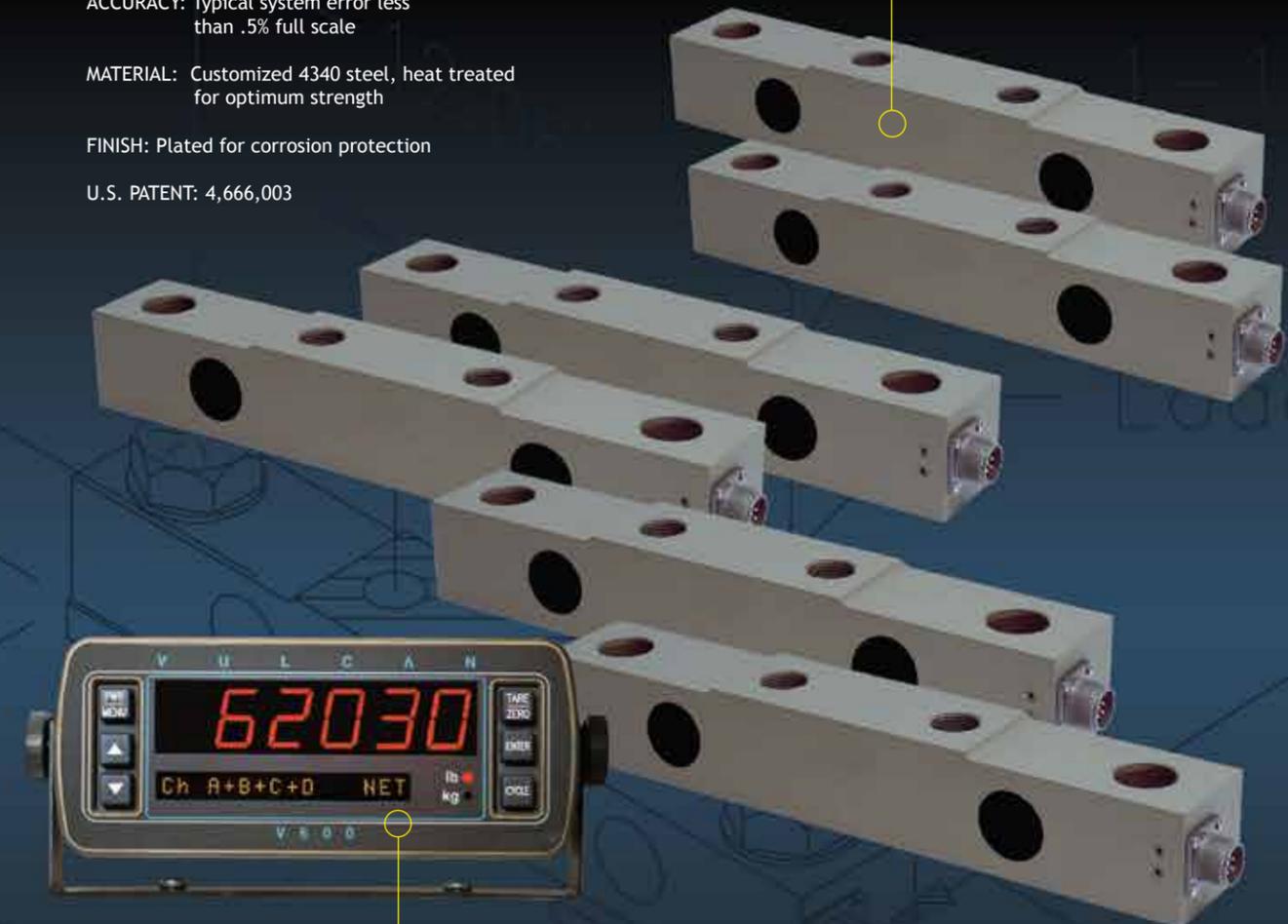
SAFE OVERLOAD: 300% dynamic capacity

ACCURACY: Typical system error less than .5% full scale

MATERIAL: Customized 4340 steel, heat treated for optimum strength

FINISH: Plated for corrosion protection

U.S. PATENT: 4,666,003



## V600 METER

The Vulcan V600 meter displays individual axle group weights (up to 6 channels) and the total weight. The meter display can be fixed on any single channel or group of channels or automatically cycled through all active channels. Cycle times are user adjustable from 1 to 9 seconds. The large, primary display can be easily read from outside the truck. The secondary dot-matrix readout displays an extensive set of help instructions, assisting the user to quickly and easily identify and correct a problem.

The Vulcan V600 meter uses the Vulcan Single Line (VSL) technology to minimize truck and trailer wiring for the best reliability. A V600 meter can immediately identify and read the weight from any other VSL equipped truck or trailer without recalibration. The V600 meter includes a serial interface which allows communication of data to on-board computers, GPS systems, printers, and other devices. In addition, setpoint module options provide the ability to trigger events when programmed weigh points are reached.

### SPECIFICATIONS

DISPLAY: LED, variable brightness  
Primary: (6) .7" high characters  
Secondary: (16) .2" high characters

CYCLE SPEED: Variable, 1-9 seconds

SIZE: 8.0" W x 2.6" D x 3.6" H (including mounting bracket)

RESOLUTION: 10, 20, 50, 100, or 200 lb or kg increments

VOLTAGE REQUIRED: 10.5 to 29.0 Vdc

CURRENT DRAW: .7 to 2 amps

PROTECTION: In-line, 2 amp fast acting fuses and reverse voltage protection

WEIGHT: 27.8 oz (including mounting bracket)

# DEFLECTION TRANSDUCER SCALE



The Vulcan Deflection Transducer Scale system uses either the standard deflection transducer, the neutral axis deflection transducer, or both for tipping (bodies that tip to dump and tip for service) and fixed body (bodies that are fix mounted and do not tip to dump or service) refuse applications. The deflection transducer combination is based on the suspension used in the specific vehicle being scaled. The V300 meter displays gross vehicle weights. The deflection transducer scale system is a lower cost alternative for those applications needing to maximize the load to avoid the cost penalties of underloading. It also avoids the costs and liability issues due to overloading, without the need for the higher accuracy of load cells. A variety of kits are available for different configurations, suspensions, or axle group weights.

## DEFLECTION TRANSDUCER APPLICATIONS BY SUSPENSION TYPE

### SINGLE AXLE SPRING SUSPENSION

- (1) Neutral axis deflection transducer on the rear end housing

### HENDRICKSON HAULMAAX SUSPENSION

- (2) Standard deflection transducers on the rear suspension

### MACK CAMEL BACK SUSPENSION

- (1) Standard deflection transducer on the rear suspension

### HENDRICKSON HN, RT/RTE, R/RS SUSPENSIONS and CHALMERS

- (2) Standard deflection transducers on the rear suspension

### HENDRICKSON HN, RT/RTE, R/RS SUSPENSIONS (FABRICATED STEEL BEAM)

- (2) Standard deflection transducer on the rear suspension

### VOLVO T-RIDE, FREIGHTLINER / STERLING TUFTRAC SUSPENSIONS

- (1) Neutral axis deflection transducer on the rear suspension

## DEFLECTION TRANSDUCER - NEUTRAL AXIS

### SPECIFICATIONS

CAPACITY: Meets all truck full weight capacities

ACCURACY: Since these are secondary sensors, system accuracy is determined by existing truck structure and environmental conditions.

MATERIAL: Hardened stainless steel

U.S. PATENT: 7,506,538

## DEFLECTION TRANSDUCER - STANDARD

### SPECIFICATIONS

CAPACITY: Meets all truck full weight capacities

ACCURACY: Since these are secondary sensors, system accuracy is determined by existing truck structure and environmental conditions.

MATERIAL: High strength alloy steel. Plated for corrosion protection.



## V300 SERIES METERS

The Vulcan V320 (2 channel) and V340 (4 channel) display individual axle group weights and the total weight. The meter display can be fixed on any single channel, group of channels or automatically cycled through all active channels. Cycle times are user adjustable from 1 to 9 seconds. Diagnostic menu selections and extensive set of help codes assists the user to quickly and easily identify and correct a problem if it occurs such as a problem with an individual load cell.

The V300 Series meters use the Vulcan Single Line (VSL) technology to minimize truck and trailer wiring for the best reliability. The meters can immediately identify and read the weight from any other VSL equipped truck or trailer without recalibration. The V320 S and V340 S have a serial interface option which allows communication of data to on-board computers, GPS systems, and other devices. In addition, 2 and 4 point setpoint modules provide the ability to trigger events when programmed weigh points are reached.

### SPECIFICATIONS

DISPLAY: LED, variable brightness  
Primary: (6) .6" high characters

CYCLE SPEED: Variable, 1-9 seconds

SIZE: 8.0" W x 1.25" D x 3.5" H (including mounting bracket)

RESOLUTION: 10, 20, 50, 100, or 200 lb or kg increments

VOLTAGE REQUIRED: 12 Vdc (10.5 to 15 Vdc)

CURRENT DRAW: Less than 1 amp

PROTECTION: Inline, 1 amp fast acting fuses and reverse voltage protection

WEIGHT: Less than 12 oz (including mounting bracket)

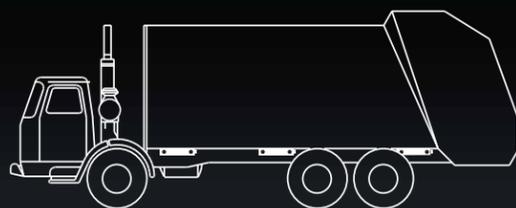


## REAR / SIDE LOADER SOLUTIONS

LOAD CELL BODY SCALE

DEFLECTION TRANSDUCER SCALE

## LOAD CELL BODY SCALE



The Vulcan Body Scale system uses 15" End Connector Super-Beam load cells for both tipping (bodies that tip to dump and tip for service) and fixed body (bodies that are fix mounted and do not tip to dump or service) refuse applications. Typically six load cells are used depending on your specific application. The V600 meter displays gross vehicle, net payload and individual commercial pick-up weights. Optional V320 or V320 S meter depending on your specific requirements.

### R-106 TIPPING REFUSE BODY SCALE SYSTEM without MOUNTING BRACKETS

The R-106 uses 6 load cells. It does NOT include body brackets, truck frame brackets and fasteners required for installation.

### R-106B TIPPING REFUSE BODY SCALE SYSTEM with MOUNTING BRACKETS

The R-106B uses 6 load cells and includes body brackets, truck frame brackets, and fasteners.

### R-206 FIXED REFUSE BODY SCALE SYSTEM without MOUNTING BRACKETS

The R-206 uses 6 load cells. It does NOT include body brackets, truck frame brackets and fasteners required for installation.

### R-206B & R-206L FIXED REFUSE BODY SCALE SYSTEM with MOUNTING BRACKETS

The R-206B uses 6 load cells and includes body brackets, truck frame brackets, and fasteners. THE R-206L Leach style body requires additional structural support.

### R-216 FIXED REFUSE BODY SCALE SYSTEM without MOUNTING BRACKETS

The R-216 uses 4 load cells. It does NOT include body brackets, truck frame brackets and fasteners required for installation.

### R-216B FIXED REFUSE BODY SCALE SYSTEM with MOUNTING BRACKETS

The R-216B uses 4 load cells and includes body brackets, truck frame brackets, and fasteners.

### R-226 TIPPING REFUSE BODY SCALE SYSTEM without MOUNTING BRACKETS

The R-226 uses 4 load cells. It does NOT include body brackets, truck frame brackets and fasteners required for installation.

### R-226B TIPPING REFUSE BODY SCALE SYSTEM with MOUNTING BRACKETS

The R-226B uses 4 load cells and includes body brackets, truck frame brackets, and fasteners.

## 15" END CONNECTOR SUPER-BEAM LOAD CELL

### SPECIFICATIONS

STATIC CAPACITY: 30,000 lbs vertical load

DYNAMIC CAPACITY: 15,000 lbs vertical load

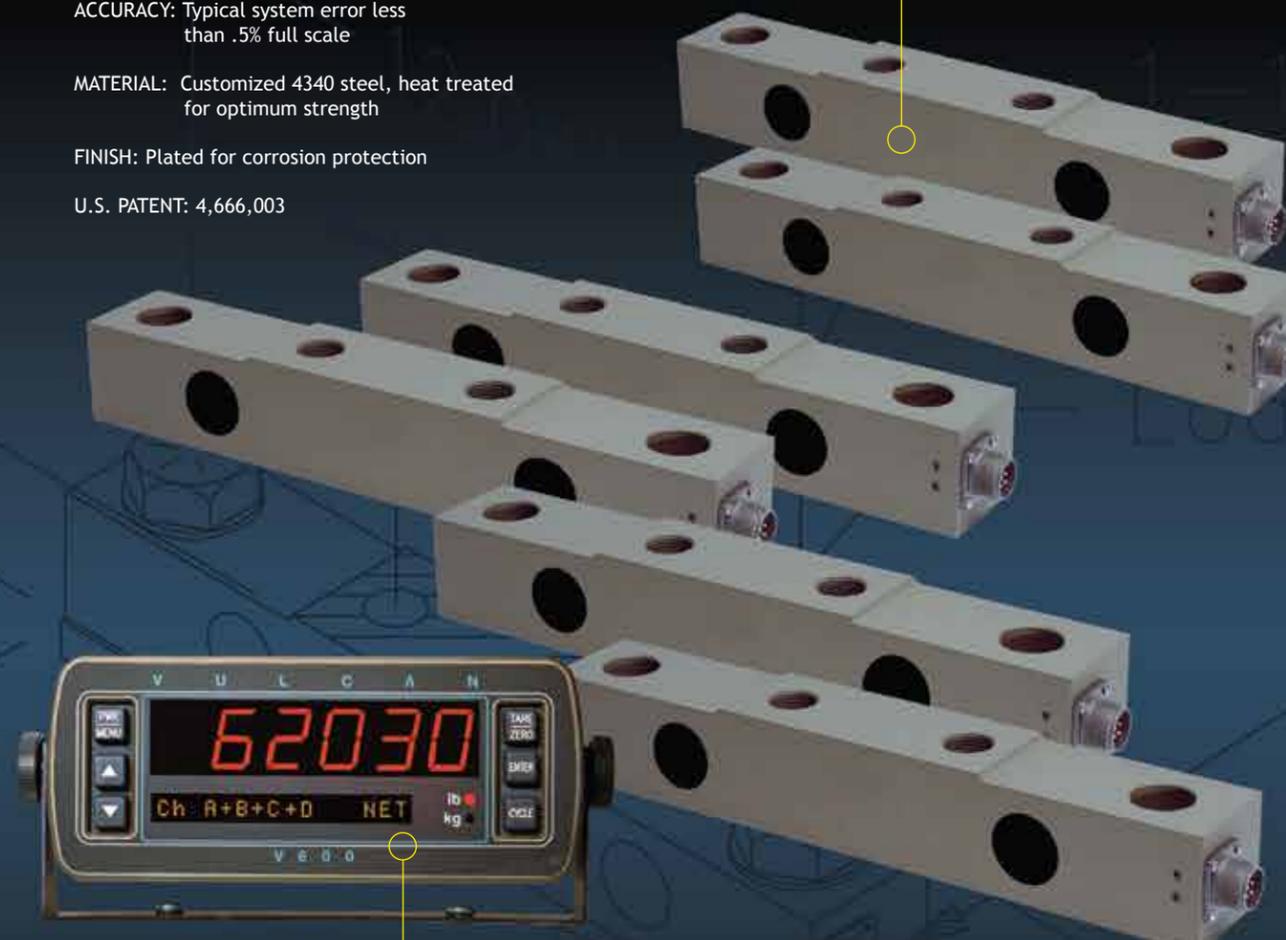
SAFE OVERLOAD: 300% dynamic capacity

ACCURACY: Typical system error less than .5% full scale

MATERIAL: Customized 4340 steel, heat treated for optimum strength

FINISH: Plated for corrosion protection

U.S. PATENT: 4,666,003



### V600 METER

The Vulcan V600 meter displays individual axle group weights (up to 6 channels) and the total weight. The meter display can be fixed on any single channel or group of channels or automatically cycled through all active channels. Cycle times are user adjustable from 1 to 9 seconds. The large, primary display can be easily read from outside the truck. The secondary dot-matrix readout displays an extensive set of help instructions, assisting the user to quickly and easily identify and correct a problem.

The Vulcan V600 meter uses the Vulcan Single Line (VSL) technology to minimize truck and trailer wiring for the best reliability. A V600 meter can immediately identify and read the weight from any other VSL equipped truck or trailer without recalibration. The V600 meter includes a serial interface which allows communication of data to on-board computers, GPS systems, printers, and other devices. In addition, setpoint module options provide the ability to trigger events when programmed weigh points are reached.

### SPECIFICATIONS

DISPLAY: LED, variable brightness  
Primary: (6) .7" high characters  
Secondary: (16) .2" high characters

CYCLE SPEED: Variable, 1-9 seconds

SIZE: 8.0" W x 2.6" D x 3.6" H (including mounting bracket)

RESOLUTION: 10, 20, 50, 100, or 200 lb or kg increments

VOLTAGE REQUIRED: 10.5 to 29.0 Vdc

CURRENT DRAW: .7 to 2 amps

PROTECTION: Inline, 2 amp fast acting fuses and reverse voltage protection

WEIGHT: 27.8 oz (including mounting bracket)

# DEFLECTION TRANSDUCER SCALE



The Vulcan Deflection Transducer Scale system uses either the standard deflection transducer, the neutral axis deflection transducer, or both for tipping (bodies that tip to dump and tip for service) and fixed body (bodies that are fix mounted and do not tip to dump or service) refuse applications. The deflection transducer combination is based on the suspension used in the specific vehicle being scaled. The V300 meter displays gross vehicle weights. The deflection transducer scale system is a lower cost alternative for those applications needing to maximize the load to avoid the cost penalties of underloading. It also avoids the costs and liability issues due to overloading, without the need for the higher accuracy of load cells. A variety of kits are available for different configurations, suspensions, or axle group weights.

## DEFLECTION TRANSDUCER APPLICATIONS BY SUSPENSION TYPE

### SINGLE AXLE SPRING SUSPENSION

(1) Neutral axis deflection transducer on the rear end housing

### HENDRICKSON HAULMAAX SUSPENSION

(2) Standard deflection transducers on the rear suspension

### MACK CAMEL BACK SUSPENSION

(1) Standard deflection transducer on the rear suspension

### HENDRICKSON HN, RT/RTE, R/RS SUSPENSIONS and CHALMERS

(2) Standard deflection transducers on the rear suspension

### HENDRICKSON HN, RT/RTE, R/RS SUSPENSIONS (FABRICATED STEEL BEAM)

(2) Standard deflection transducer on the rear suspension

### VOLVO T-RIDE, FREIGHTLINER / STERLING TUFTRAC SUSPENSIONS

(1) Neutral axis deflection transducer on the rear suspension

## DEFLECTION TRANSDUCER - NEUTRAL AXIS

### SPECIFICATIONS

CAPACITY: Meets all truck full weight capacities

ACCURACY: Since these are secondary sensors, system accuracy is determined by existing truck structure and environmental conditions.

MATERIAL: Hardened stainless steel

U.S. PATENT: 7,506,538

## DEFLECTION TRANSDUCER - STANDARD

### SPECIFICATIONS

CAPACITY: Meets all truck full weight capacities

ACCURACY: Since these are secondary sensors, system accuracy is determined by existing truck structure and environmental conditions.

MATERIAL: High strength alloy steel. Plated for corrosion protection.



## V300 SERIES METERS

The Vulcan V320 (2 channel) and V340 (4 channel) display individual axle group weights and the total weight. The meter display can be fixed on any single channel, group of channels or automatically cycled through all active channels. Cycle times are user adjustable from 1 to 9 seconds. Diagnostic menu selections and extensive set of help codes assists the user to quickly and easily identify and correct a problem if it occurs such as a problem with an individual load cell.

The V300 Series meters use the Vulcan Single Line (VSL) technology to minimize truck and trailer wiring for the best reliability. The meters can immediately identify and read the weight from any other VSL equipped truck or trailer without recalibration. The V320 S and V340 S have a serial interface option which allows communication of data to on-board computers, GPS systems, and other devices. In addition, 2 and 4 point setpoint modules provide the ability to trigger events when programmed weigh points are reached.

### SPECIFICATIONS

DISPLAY: LED, variable brightness  
Primary: (6) .6" high characters

CYCLE SPEED: Variable, 1-9 seconds

SIZE: 8.0" W x 1.25" D x 3.5" H (including mounting bracket)

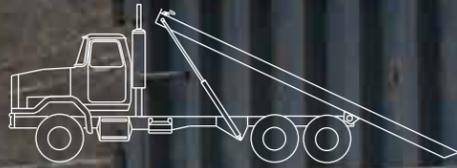
RESOLUTION: 10, 20, 50, 100, or 200 lb or kg increments

VOLTAGE REQUIRED: 12 Vdc (10.5 to 15 Vdc)

CURRENT DRAW: Less than 1 amp

PROTECTION: Inline, 1 amp fast acting fuses and reverse voltage protection

WEIGHT: Less than 12 oz (including mounting bracket)

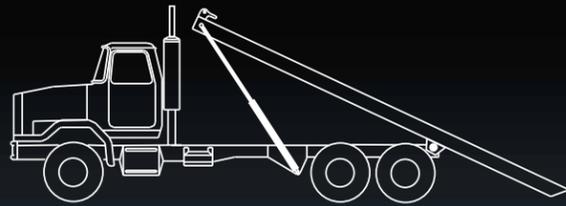


# ROLL-OFF SOLUTION

ROLL-OFF SCALE



# ROLL-OFF SCALE



The Vulcan Roll-Off Scale for the 2 1/2" and 3" rear hinge pin designs use proven technology to give you the reliability and accuracy you expect. The VSL hydraulic sensor combines our Vulcorder and sensor into a single stainless steel housing and obtains weight by measuring hoist cylinder pressure. The shear pin load cells replace the existing shear pins and measure weight at the rear hinge assembly. For low hinge configurations a 26" Super-Beam load cell is used. Optional retaining collars allow adapting to different roll-off configurations. Easy to operate electronics provide total weight of the container or axle weights to the driver in the cab. **NOTE:** Consult factory for alternate pin size and diameter options. Optional hinge assemblies are also available.

## R-313

2 1/2 " DIAMETER REAR HINGE PINS without REAR HINGE MOUNTING KIT

### SYSTEM INCLUDES:

- (1) M32 V320 METER
- (1) V23 VSL VULCODER - 2 LEAD
- (1) C01 40' ORANGE CABLE
- (2) L43 2 1/2" Dia., 11" SHEAR PINS
- (1) L41 VSL HYDRAULIC SENSOR
- (2) Hxx RETAINING COLLARS / FASTENERS
- (1) 59-30036-001 WEIGH POINT INDICATOR KIT

MAXIMUM BOX WEIGHT: 62,000 LBS.

## R-323

2 1/2 " DIAMETER REAR HINGE PINS with REAR HINGE MOUNTING KIT

### SYSTEM INCLUDES:

- (1) M32 V320 METER
- (1) V23 VSL VULCODER - 2 LEAD
- (1) C01 40' ORANGE CABLE
- (2) L43 2 1/2" Dia., 11" SHEAR PINS
- (1) L41 VSL HYDRAULIC SENSOR
- (1) H47 2 1/2" Dia., MOD. REAR HINGE MOUNTING KIT
- (1) 59-30036-001 WEIGH POINT INDICATOR KIT

MAXIMUM BOX WEIGHT: 62,000 LBS.

## R-343

3 " DIAMETER REAR HINGE PINS without REAR HINGE MOUNTING KIT

### SYSTEM INCLUDES:

- (1) M32 V320 METER
- (1) V23 VSL VULCODER - 2 LEAD
- (1) C01 40' ORANGE CABLE
- (2) L53 3" Dia., SHEAR PINS
- (1) L41 VSL HYDRAULIC SENSOR
- (1) 59-30036-001 WEIGH POINT INDICATOR KIT

MAXIMUM BOX WEIGHT: 90,000 LBS.

## R-353

LOW HINGE

### SYSTEM INCLUDES:

- (1) M32 V320 METER
- (1) V23 VSL VULCODER - 2 LEAD
- (1) C01 40' ORANGE CABLE
- (1) L41 VSL HYDRAULIC SENSOR
- (2) L19 26" SUPER-BEAM END CONNECTOR LOAD CELL
- (2) H13 26" SUPER-BEAM MOUNTING KIT
- (1) 59-30036-001 WEIGH POINT INDICATOR KIT

MAXIMUM BOX WEIGHT: 62,000 LBS.

## V300 SERIES METERS

The Vulcan V320 (2 channel) and V340 (4 channel) display individual axle group weights and the total weight. The meter display can be fixed on any single channel, group of channels or automatically cycled through all active channels. Cycle times are user adjustable from 1 to 9 seconds. Diagnostic menu selections and extensive set of help codes assists the user to quickly and easily identify and correct a problem if it occurs such as a problem with an individual load cell.

The V300 Series meters use the Vulcan Single Line (VSL) technology to minimize truck and trailer wiring for the best reliability. The meters can immediately identify and read the weight from any other VSL equipped truck or trailer without recalibration. The V320 S and V340 S have a serial interface option which allows communication of data to on-board computers, GPS systems, and other devices. In addition, 2 and 4 point setpoint modules provide the ability to trigger events when programmed weigh points are reached.

### SPECIFICATIONS

- DISPLAY: LED, variable brightness  
Primary: (6) .6" high characters
- CYCLE SPEED: Variable, 1-9 seconds
- SIZE: 8.0" W x 1.25" D x 3.5" H (including mounting bracket)
- RESOLUTION: 10, 20, 50, 100, or 200 lb or kg increments
- VOLTAGE REQUIRED: 12 Vdc (10.5 to 15 Vdc)
- CURRENT DRAW: Less than 1 amp
- PROTECTION: Inline, 1 amp fast acting fuses and reverse voltage protection
- WEIGHT: Less than 12 oz (including mounting bracket)



## VSL DIGITAL HYDRAULIC PRESSURE SENSOR

### SPECIFICATIONS

- DIMENSIONS: 2" Dia. x 6.56" L
- PORT SIZE: 9/16-18 SAE straight thread o-ring fitting (SAE:-6)
- CAPACITY: Normal working pressure: 3000 psi
- SAFE OVERLOAD: 5800 psi
- ACCURACY: System accuracy typically within 1% GVW depending on application and environment
- MATERIAL: Heat treated stainless steel sensor enclosed in a rugged, corrosion resistant stainless steel housing

## SHEAR PIN LOAD CELL

### SPECIFICATIONS

- DIMENSIONS: Application dependent. Consult factory
- CAPACITY: Application dependent. Consult factory
- ACCURACY: System accuracy typically within 1% GVW
- MATERIAL: High strength alloy steel. Stainless steel optional for custom applications
- CONNECTORS: Military grade with dual environmental seals



# TRANSFER VEHICLE SOLUTIONS

5TH WHEEL TRACTOR / SPRING SUSPENSION TRAILER

5TH WHEEL TRACTOR / CHALMERS SUSPENSION TRAILER

5TH WHEEL TRACTOR / SINGLE POINT SUSPENSION TRAILER

AIR SUSPENSION TRACTOR / AIR SUSPENSION TRAILER

## 5TH WHEEL TRACTOR / SPRING SUSPENSION TRAILER



The Vulcan fifth wheel tractor / center hanger trailer scale system provides the most accurate and reliable option available for transfer vehicles with Hutch and Reyco 21B center hanger suspensions. The tractor utilizes Vulcan's time tested fifth wheel load cells. The trailer uses our patented center hanger mounting kits and 15" Super-Beam Side Connector load cells. Vulcan VSL electronics allow for unlimited mixing of trucks and trailers without any adjustment. Holland fifth wheel slider options are available.

FIFTH WHEEL LOAD CELLS: Holland, Fontaine and other fifth wheel configurations

### G-213

#### TRACTOR ONLY SCALE SYSTEM

SYSTEM INCLUDES:

- (1) M32 V320 METER
- (1) V23 VSL VULCODER -2 LEAD
- (1) Cxx ORANGE CABLES
- (2) Lxx FIFTH WHEEL LOAD CELLS
- (2) H11 19" FIFTH WHEEL MOUNTING KITS

#### CENTER HANGER SUSPENSION SOLUTION

### G-310

#### TRAILER ONLY SCALE SYSTEM

SYSTEM INCLUDES:

- (1) V23 VSL VULCODER -2 LEAD
- (1) Cxx ORANGE CABLES
- (2) L02 15" SUPER-BEAM LOAD CELLS
- (2) Hxx CENTER HANGER MOUNTING KITS

**NOTE:** Options are available to provide weight information to loaders including the wireless V700 Hand Held Remote Display, or scoreboards using the V600 Meter with direct plug-in or wireless capability. Consult factory to learn what is the best solution for your specific operation.



## FIFTH WHEEL LOAD CELLS

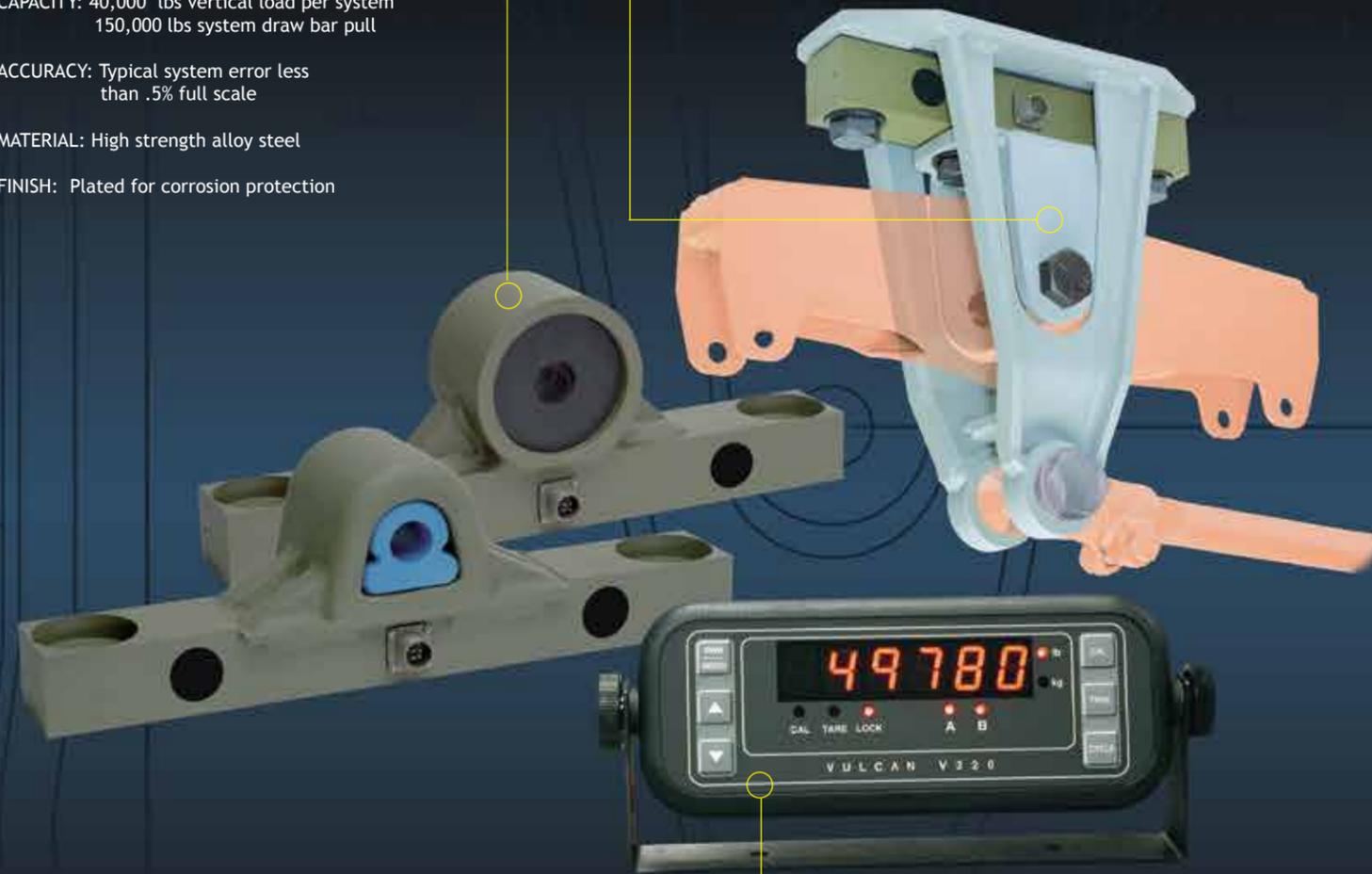
### SPECIFICATIONS

CAPACITY: 40,000 lbs vertical load per system  
150,000 lbs system draw bar pull

ACCURACY: Typical system error less than .5% full scale

MATERIAL: High strength alloy steel

FINISH: Plated for corrosion protection



## V300 SERIES METERS

The Vulcan V320 (2 channel) and V340 (4 channel) display individual axle group weights and the total weight. The meter display can be fixed on any single channel, group of channels or automatically cycled through all active channels. Cycle times are user adjustable from 1 to 9 seconds. Diagnostic menu selections and extensive set of help codes assists the user to quickly and easily identify and correct a problem if it occurs such as a problem with an individual load cell.

The V300 Series meters use the Vulcan Single Line (VSL) technology to minimize truck and trailer wiring for the best reliability. The meters can immediately identify and read the weight from any other VSL equipped truck or trailer without recalibration. The V320 S and V340 S have a serial interface option which allows communication of data to on-board computers, GPS systems, and other devices. In addition, 2 and 4 point setpoint modules provide the ability to trigger events when programmed weigh points are reached.

## CENTER HANGER SUSPENSION SOLUTIONS

### SPECIFICATIONS

CAPACITY: Maintains the original system capacity

ACCURACY: Typical system error less than 1% full scale

MATERIAL: High strength alloy steel

FINISH: Vulcan center hangers are painted with a weld through primer

INCLUDES: Load cell mounting hardware

U.S. PATENT: 5,861,581

### SPECIFICATIONS

DISPLAY: LED, variable brightness  
Primary: (6) .6" high characters

CYCLE SPEED: Variable, 1-9 seconds

SIZE: 8.0" W x 1.25" D x 3.5" H (including mounting bracket)

RESOLUTION: 10, 20, 50, 100, or 200 lb or kg increments

VOLTAGE REQUIRED: 12 Vdc (10.5 to 15 Vdc)

CURRENT DRAW: Less than 1 amp

PROTECTION: Inline, 1 amp fast acting fuses and reverse voltage protection

WEIGHT: Less than 12 oz (including mounting bracket)

## 5TH WHEEL TRACTOR / CHALMERS SUSPENSION TRAILER



The Vulcan fifth wheel tractor / chalmers trailer scale system provides the most accurate method for obtaining axle and/or payload weights on trailers with chalmers suspensions. The tractor utilizes Vulcan's time tested fifth wheel load cells. The trailer uses our 15" Super-Beam Side Connector load cells and our chalmers suspension mounting kits. Vulcan VSL electronics allow for unlimited mixing of trucks and trailers without any adjustment.

FIFTH WHEEL LOAD CELLS: Holland, Fontaine and other fifth wheel configurations

### G-213

#### TRACTOR ONLY SCALE SYSTEM

SYSTEM INCLUDES:

- (1) M32 V320 METER
- (1) V23 VSL VULCODER -2 LEAD
- (1) Cxx ORANGE CABLES
- (2) Lxx FIFTH WHEEL LOAD CELLS
- (2) H11 19" FIFTH WHEEL MOUNTING KITS

#### CHALMERS SUSPENSION SOLUTION

#### TRAILER ONLY SCALE SYSTEM

SYSTEM INCLUDES:

- (1) V23 VSL VULCODER -2 LEAD
  - (1) Cxx ORANGE CABLES
  - (2) L02 15" SUPER-BEAM LOAD CELLS
  - (2) H27 17" CHALMERS SUSPENSION MOUNTING KITS
- OPTIONAL FRAME BRACKETS AVAILABLE

**NOTE:** Options are available to provide weight information to loaders including the wireless V700 Hand Held Remote Display, or scoreboards using the V600 Meter with direct plug-in or wireless capability. Consult factory to learn what is the best solution for your specific operation.



### FIFTH WHEEL LOAD CELLS

#### SPECIFICATIONS

CAPACITY: 40,000 lbs vertical load per system  
150,000 lbs system draw bar pull

ACCURACY: Typical system error less than .5% full scale

MATERIAL: High strength alloy steel

FINISH: Plated for corrosion protection

### CHALMERS SUSPENSION SOLUTION

#### SPECIFICATIONS

CAPACITY: Maintains the original system capacity

ACCURACY: Typical system error less than 1% full scale

MATERIAL: High strength alloy steel

FINISH: Machined steel

INCLUDES: Load cell mounting hardware

NOTE: Optional frame brackets are painted with a weld through primer



### V300 SERIES METERS

The Vulcan V320 (2 channel) and V340 (4 channel) display individual axle group weights and the total weight. The meter display can be fixed on any single channel, group of channels or automatically cycled through all active channels. Cycle times are user adjustable from 1 to 9 seconds. Diagnostic menu selections and extensive set of help codes assists the user to quickly and easily identify and correct a problem if it occurs such as a problem with an individual load cell.

The V300 Series meters use the Vulcan Single Line (VSL) technology to minimize truck and trailer wiring for the best reliability. The meters can immediately identify and read the weight from any other VSL equipped truck or trailer without recalibration. The V320 S and V340 S have a serial interface option which allows communication of data to on-board computers, GPS systems, and other devices. In addition, 2 and 4 point setpoint modules provide the ability to trigger events when programmed weigh points are reached.

#### SPECIFICATIONS

DISPLAY: LED, variable brightness  
Primary: (6) .6" high characters

CYCLE SPEED: Variable, 1-9 seconds

SIZE: 8.0" W x 1.25" D x 3.5" H (including mounting bracket)

RESOLUTION: 10, 20, 50, 100, or 200 lb or kg increments

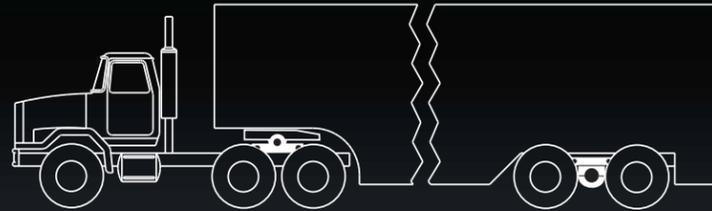
VOLTAGE REQUIRED: 12 Vdc (10.5 to 15 Vdc)

CURRENT DRAW: Less than 1 amp

PROTECTION: Inline, 1 amp fast acting fuses and reverse voltage protection

WEIGHT: Less than 12 oz (including mounting bracket)

## 5TH WHEEL TRACTOR / SINGLE POINT SUSPENSION TRAILER



The Vulcan fifth wheel tractor / single point trailer scale system provides the most accurate method for obtaining axle and/or payload weights on trailers with single point suspensions. The tractor utilizes Vulcan's time tested fifth wheel load cells. The trailer uses our 17" Single Point load cell, the industry standard for scaling single point suspension trailers. Vulcan VSL electronics allow for unlimited mixing of trucks and trailers without any adjustment.

FIFTH WHEEL LOAD CELLS: Holland, Fontaine and other fifth wheel configurations

### G-213

#### TRACTOR ONLY SCALE SYSTEM

SYSTEM INCLUDES:

- (1) M32 V320 METER
- (1) V23 VSL VULCODER -2 LEAD
- (1) Cxx ORANGE CABLES
- (2) Lxx FIFTH WHEEL LOAD CELLS
- (2) H11 19" FIFTH WHEEL MOUNTING KITS

#### SINGLE POINT SUSPENSION

### G-320

#### TRAILER ONLY SCALE SYSTEM

SYSTEM INCLUDES:

- (1) V23 VSL VULCODER -2 LEAD
- (1) Cxx ORANGE CABLES
- (2) L63 17" SINGLE POINT LOAD CELLS
- (2) H10 17" SHEAR BEAM MOUNTING KITS

**NOTE:** Options are available to provide weight information to loaders including the wireless V700 Hand Held Remote Display, or scoreboards using the V600 Meter with direct plug-in or wireless capability. Consult factory to learn what is the best solution for your specific operation.



## FIFTH WHEEL LOAD CELLS

### SPECIFICATIONS

CAPACITY: 40,000 lbs vertical load per system  
150,000 lbs system draw bar pull

ACCURACY: Typical system error less than .5% full scale

MATERIAL: High strength alloy steel

FINISH: Plated for corrosion protection

## SINGLE POINT LOAD CELL

### SPECIFICATIONS

CAPACITY: 60,000 lbs vertical load per system

ACCURACY: Typical system error less than .5% full scale

MATERIAL: High strength alloy steel

FINISH: Plated for corrosion protection

NOTE: Required for each trunnion clamp are six 5/8"-18 UNF x 2" long Grade 8 hex cap screws, six 5/8"-18 UNF Grade 8 equivalent steel lock nuts, and six 5/8" hardened steel washers.



## V300 SERIES METERS

The Vulcan V320 (2 channel) and V340 (4 channel) display individual axle group weights and the total weight. The meter display can be fixed on any single channel, group of channels or automatically cycled through all active channels. Cycle times are user adjustable from 1 to 9 seconds. Diagnostic menu selections and extensive set of help codes assists the user to quickly and easily identify and correct a problem if it occurs such as a problem with an individual load cell.

The V300 Series meters use the Vulcan Single Line (VSL) technology to minimize truck and trailer wiring for the best reliability. The meters can immediately identify and read the weight from any other VSL equipped truck or trailer without recalibration. The V320 S and V340 S have a serial interface option which allows communication of data to on-board computers, GPS systems, and other devices. In addition, 2 and 4 point setpoint modules provide the ability to trigger events when programmed weigh points are reached.

### SPECIFICATIONS

DISPLAY: LED, variable brightness  
Primary: (6) .6" high characters

CYCLE SPEED: Variable, 1-9 seconds

SIZE: 8.0" W x 1.25" D x 3.5" H (including mounting bracket)

RESOLUTION: 10, 20, 50, 100, or 200 lb or kg increments

VOLTAGE REQUIRED: 12 Vdc (10.5 to 15 Vdc)

CURRENT DRAW: Less than 1 amp

PROTECTION: Inline, 1 amp fast acting fuses and reverse voltage protection

WEIGHT: Less than 12 oz (including mounting bracket)

## AIR SUSPENSION TRACTOR / AIR SUSPENSION TRAILER



The Vulcan all-digital Air Scale system for tractor / trailer combinations provides an accurate way to obtain axle and/or payload weights. Our corrosion resistant, stainless steel air sensors provide a rugged and reliable solution well suited for a variety of on-board trucking applications. The unique air sensors incorporate internal electronics for altitude and temperature compensation providing the highest accuracy and stability in harsh environments. The air sensor can also be paired with a spring suspension load cell such as a fifth wheel tractor / air sensor trailer combination, or an air sensor tractor with center hanger or single point load cell trailer. When used with our VSL electronics, this ability to mix and match air and spring suspensions gives you the option to mix multiple tractor and trailer configurations without any recalibration.

### G-103 TRACTOR / TRAILER SEMI SCALE SYSTEM

SYSTEM INCLUDES:

- (1) M32 V320 METER
- (2) Cxx ORANGE CABLES
- (2) L40 VSL AIR SENSOR - SINGLE PORT
- (2) 49-10116-001 RIDE HEIGHT CONTROL VALVES (OPTIONAL)

### G-203 TRACTOR ONLY SCALE SYSTEM

SYSTEM INCLUDES:

- (1) M32 V320 METER
- (1) Cxx ORANGE CABLES
- (1) L40 VSL AIR SENSOR - SINGLE PORT
- (1) 49-10116-001 RIDE HEIGHT CONTROL VALVES (OPTIONAL)

### G-300 TRAILER ONLY SCALE SYSTEM

SYSTEM INCLUDES:

- (1) Cxx ORANGE CABLES
- (1) L40 VSL AIR SENSOR - SINGLE PORT
- (1) 49-10116-001 RIDE HEIGHT CONTROL VALVES (OPTIONAL)

### SPRING SUSPENSION OPTIONS:

#### G-213 TRACTOR ONLY SCALE SYSTEM

FIFTH WHEEL LOAD CELLS (SLIDER OPTIONS AVAILABLE)

#### G-310 TRAILER ONLY SCALE SYSTEM

CENTER HANGER MOUNTING KIT w/ SUPER-BEAM LOAD CELL

#### G-320 TRAILER ONLY SCALE SYSTEM

SINGLE POINT LOAD CELL

**NOTE:** For the scale to function optimally, a height control valve with a quick response time and narrow deadband is required (Vulcan part number 49-10116-001 or equivalent).

## V300 SERIES METERS

The Vulcan V320 (2 channel) and V340 (4 channel) display individual axle group weights and the total weight. The meter display can be fixed on any single channel, group of channels or automatically cycled through all active channels. Cycle times are user adjustable from 1 to 9 seconds. Diagnostic menu selections and extensive set of help codes assists the user to quickly and easily identify and correct a problem if it occurs such as a problem with an individual load cell.

The V300 Series meters use the Vulcan Single Line (VSL) technology to minimize truck and trailer wiring for the best reliability. The meters can immediately identify and read the weight from any other VSL equipped truck or trailer without recalibration. The V320 S and V340 S have a serial interface option which allows communication of data to on-board computers, GPS systems, and other devices. In addition, 2 and 4 point setpoint modules provide the ability to trigger events when programmed weigh points are reached.

### SPECIFICATIONS

DISPLAY: LED, variable brightness  
Primary: (6) .6" high characters

CYCLE SPEED: Variable, 1-9 seconds

SIZE: 8.0" W x 1.25" D x 3.5" H (including mounting bracket)

RESOLUTION: 10, 20, 50, 100, or 200 lb or kg increments

VOLTAGE REQUIRED: 12 Vdc (10.5 to 15 Vdc)

CURRENT DRAW: Less than 1 amp

PROTECTION: Inline, 1 amp fast acting fuses  
and reverse voltage protection

WEIGHT: Less than 12 oz (including mounting bracket)



### VSL DIGITAL AIR PRESSURE SENSOR

#### SPECIFICATIONS

DIMENSIONS: 2" Dia. x 6.56" L

PORT SIZE: 3/8" internal pipe thread (3/8-18 NPT)

CAPACITY: Normal working pressure: 120 psi

SAFE OVERLOAD: 360 psi

ACCURACY: System accuracy typically within 1% GWV  
depending on leveling valve type, suspension  
and environmental factors

MATERIAL: Heat treated stainless steel sensor enclosed in a  
rugged, corrosion resistant stainless steel housing



Vulcan On-Board Scales are manufactured by Stress-Tek, Inc, which was founded in 1978 in Kent, Washington, near Seattle. Stress-Tek, Inc. originally provided professional consulting services in the fields of transducer design and experimental stress analysis. Our operations have since expanded to the design and manufacturing of state-of-the-art force measurement devices for the Vulcan On-Board Scales business. Today we provide a large range of products to multiple trucking markets including solutions for timber, refuse, aggregate, over the road, mining, and other industries.

Our design team has access to the latest engineering tools and techniques allowing us to understand and address customer requirements. We have hundreds of load cell designs and more than fifteen patents, with additional patents pending.

All of our products are manufactured and assembled in the USA. Our modern facility provides more than 45,000 square feet for our operations, including a 9,000 square foot machine shop. Our in-house machine shop has a full compliment of computer numerical control (CNC) machine tools. This capability allows us to control the high standards we have set for Vulcan On-Board Scales.

Our quality control program incorporates standards to satisfy rigid customer requirements such as those of the aerospace and medical industries. Each load cell is tested and calibrated individually using certified test equipment, allowing load cells to be interchanged without requiring recalibration.

Vulcan On-Board Scales are supported by the best sales and service team in the industry. Our goal is 100% customer satisfaction. Our products are sold by knowledgeable dealers throughout the United States, Canada, and worldwide.

At Vulcan On-Board Scales we believe knowing your loaded truck weight and axle group weights is critical to the efficiency of your operation. On-board weighing allows you to maximize your load without incurring the costs of overloading such as fines and excess equipment wear and tear, while also reducing financial liabilities of under loading such as inefficient fuel usage and wasted time making extra trips.

Call **1 800 237-0022** to discuss your specific application, or go to [www.vulcanscales.com](http://www.vulcanscales.com) to learn more about our on-board weighing solutions.



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ON-BOARD WEIGHING SYSTEMS FOR ALL TYPES OF TRUCKS  
AND TRAILERS WITH SPRING, AIR, AND MIXED SUSPENSIONS



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