VISHAY INTERTECHNOLOGY, INC.

VISHAY SYSTEMS
WEIGHING AND FORCE MEASUREMENT SOLUTIONS

KIS BEAM TECHNOLOGY

Vishay BLH

CONTROL SYSTEMS

MARKET SOLUTIONS

- Eliminate extraneous force factors introduced by mixer/blender torque and thermal expansion/contraction
- Achieve repeatability of 0.01% during periods of full process agitation
- 100% Stainless steel construction for harsh, corrosive washdown environments

www.vishaymg.com

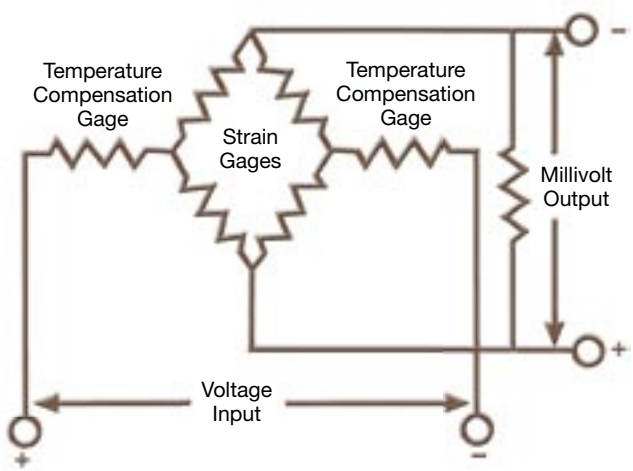
Discover the Advantage

The KIS Double Cantilever Advantage

Start with the best gages and the best gage configuration

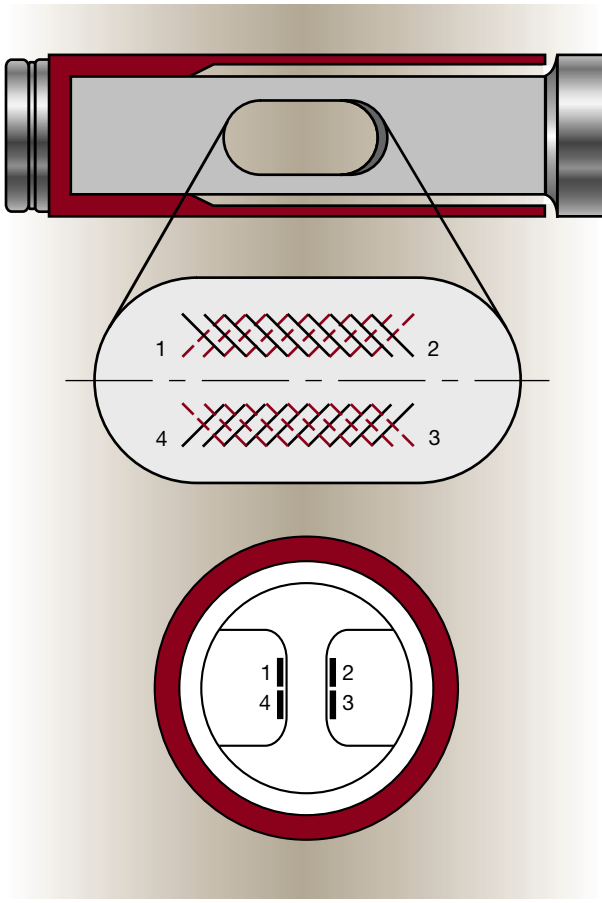
KIS Beam technology incorporates SR-4® foil strain gages connected as a full Wheatstone bridge that is temperature-compensated and calibrated to deliver accuracy and reliability. And because all KIS Beams are factory-calibrated, installation and setup are quick and easy with no need for on-site calibration (unless mechanical obstructions prevent a “freestanding” vessel).

- Full temperature compensation eliminates drift
- Matched outputs provide simple replacement
- Factory calibration for repeatability, reliability, and low installation cost
- 0.01% repeatability: 0.05% combined error



Full Wheatstone bridge electronic configuration

Then …



… bond the Wheatstone bridge configuration to a thin web cross-section of the sensing element …

- Bonding gages close together, inside of a machined cross-section pocket, eliminates (nulls) extraneous force signals caused by side loads
- Bonding gages at 45° angles on opposite sides of the web section cancels out (nulls) extraneous force signals originating from end loads

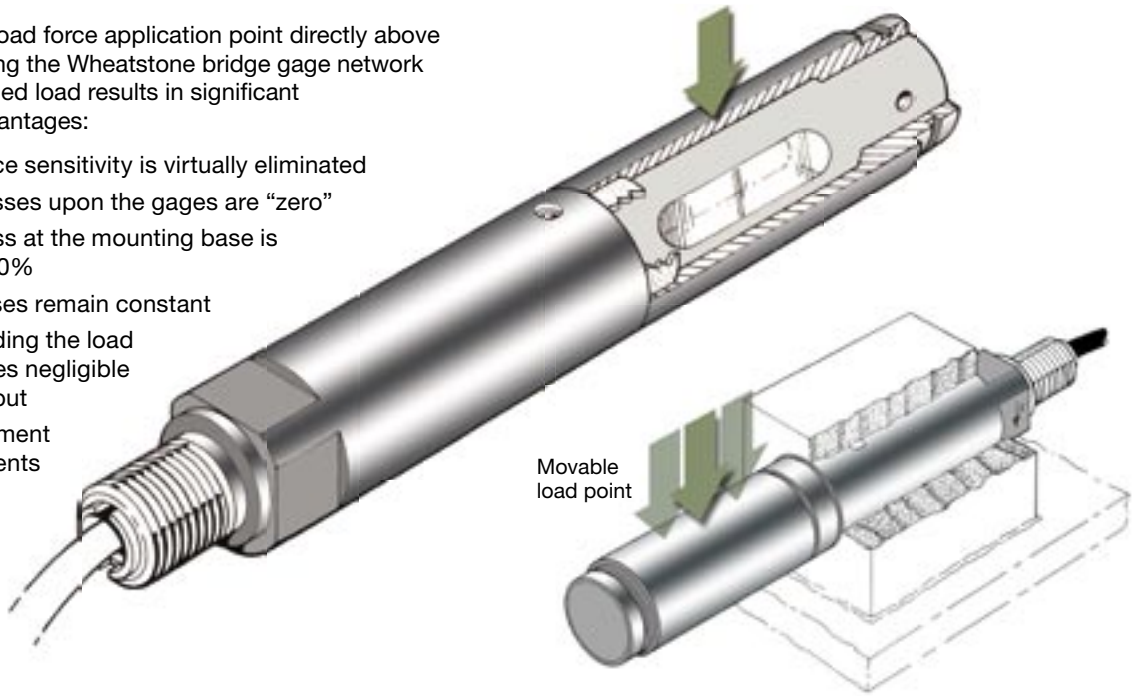
… and …

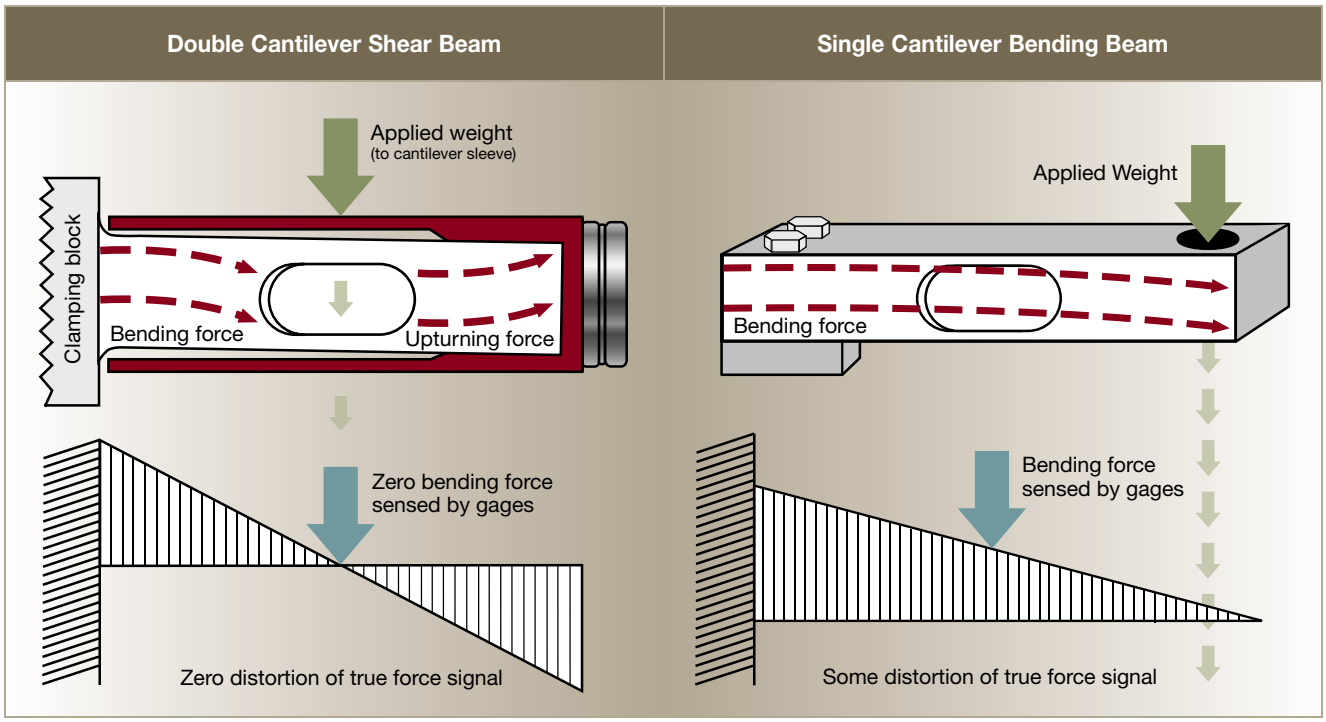
… place the load right over the gages

KIS Beam design adds a second or “Double” cantilever sleeve over the actual load beam.

This locates the load force application point directly above the gages. Placing the Wheatstone bridge gage network beneath the applied load results in significant performance advantages:

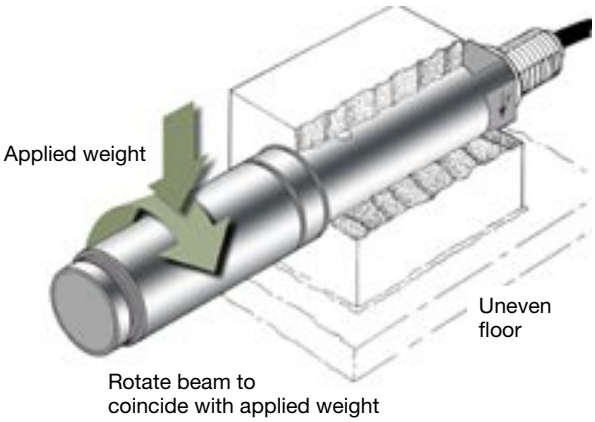
- Side load force sensitivity is virtually eliminated
- Moment stresses upon the gages are “zero”
- Bending stress at the mounting base is reduced by 50%
- Shears stresses remain constant
- Moving or sliding the load point produces negligible effect on output
- The measurement signal represents the only true applied force



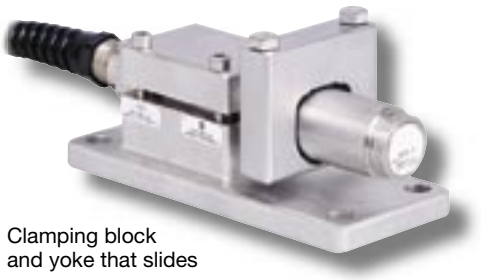


Cylindrical design provides top performance

The second secret of superior KIS performance is the cylindrical design.. KIS beams can be rotated within the module hardware to coincide with the exact direction of applied weight. Cylindrical, electro-polished stainless steel provides a nearly frictionless surface for the module yoke to slide on during periods of thermal expansion and contraction.



No mounting screws through sensor that change output



Clamping block and yoke that slides

Make it a module

Adding a stainless steel split clamping block and mounting yoke completes the KIS Beam package. Easy installation, unbeatable accuracy, and IP 67 environmental protection make KIS Weigh modules the industry standard for demanding applications. Superior KIS specifications include:

- Accuracy of 0.05%
- Repeatability of 0.01%

These specifications apply to the complete module, not just the beam.

Strong enough for the toughest environments

KIS Weigh Modules, mounted on dynamic process vessels in harsh, washdown areas, know how to “play dirty.” In fact, they excel in the roughest environments. Corrosive acids, harsh industrial detergents, caustic vapors, and granulated powders never compromise their superior performance. Here’s why:

- 15-5 PH stainless steel construction
- FM and CSA approval Class I, II, III; Div. 1,2 Groups A-G
- Design meets ANSI/UBC wind and seismic requirements
- NEMA 4- and IP 67-compliant

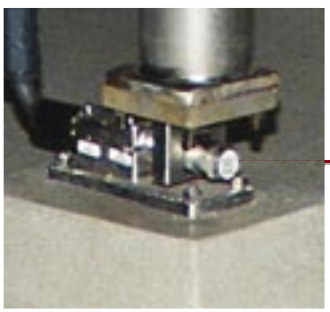
KIS Installation Gallery

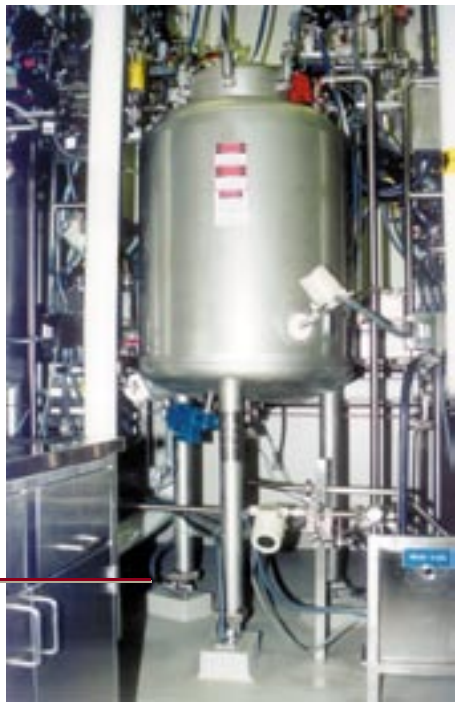
Vessel passes through floor

- Orient all modules so that they face radially inward to restrain the vessel in the lateral direction.
- Bolt modules to a uniform surface. If located on structural “I” beams, all beams must be both parallel and level.
- If thermal insulation pads are not required, bolt the module yoke directly to the vessel gusset.
- If thermal insulation pads are required to reduce heat conduction, order optional adapter plates and thermal pads.

Freestanding upright vessels

- Orient all modules so that they face radially inward to restrain the vessel in the lateral direction.
- Bolt modules to a uniform or prepared surface that is both parallel and level. Using concrete grout pads satisfies both requirements.
- Optional adapter plates usually are needed to provide support for the vessel legs.
- If the vessel is extremely tall, or located out-of-doors, additional lateral restrains might be required to prevent tipping.
- Thermal insulation pads prevent heat conduction.





VISHAY MEASUREMENTS GROUP:

Vishay Micro-Measurements
Vishay Transducers
Vishay Systems—Weighing and Force Measurements

The **World's Largest Manufacturer**
of Weighing and Force Measurement Transducers

WORLDWIDE SALES CONTACTS

THE AMERICAS

UNITED STATES
VISHAY SYSTEMS
3 EDGEWATER DRIVE
NORWOOD, MA 02062
UNITED STATES
PH: +1-781-298-2200
FAX: +1-781-762-3988
E-MAIL: VS.USA@VISHAYMG.COM

CANADA
VISHAY SYSTEMS
12 STEINWAY BOULEVARD, UNIT 1
TORONTO, ONTARIO M9W 6M5
CANADA
PH: +1-800-567-6098 (TOLL FREE)
+1-416-251-2554
FAX: +1-416-251-2690
E-MAIL: VS.CAN@VISHAYMG.COM

ASIA

TAIWAN, R.O.C.
VISHAY SYSTEMS*
15 FL, NO. 86, SEC.1 SHINTAI 5TH RD.
SHIJR CITY, TAIPEI, 221
TAIWAN, R.O.C.
PH: +886-2-2696-0168
FAX: +886-2-2696-4965
E-MAIL: VS.ROC@VISHAYMG.COM
*ASIA EXCEPT P.R.C.

P.R.C.
VISHAY SYSTEMS
NO. 5 BINGUAN NAN DAO YOUYI RD.
HEXI DISTRICT
CODE 300061, TIANJIN, P.R.C.
PH: +86-22-2835-3503
FAX: +86-22-2835-7261
E-MAIL: VS.PRC@VISHAYMG.COM

EUROPE

UNITED KINGDOM
VISHAY SYSTEMS
STROUDLEY ROAD, BASINGSTOKE
HAMPSHIRE RG24 8FW
UNITED KINGDOM
PH: +44-125-685-7490
FAX: +44-125-634-6844
E-MAIL: VS.UK@VISHAYMG.COM

SWEDEN
VISHAY SYSTEMS
P.O. BOX 423
SE-691 27 KARLSKOGA
SWEDEN
PH: +46-586-63000
FAX: +46-586-63099
E-MAIL: VS.SE@VISHAYMG.COM

GERMANY
VISHAY SYSTEMS
TATSCHENWEG 1
74078 HEILBRONN
GERMANY
PH: +49-7131-3901-260
FAX: +49-7131-3901-2666
E-MAIL: VS.DE@VISHAYMG.COM

NORWAY
VISHAY SYSTEMS
BROBEKKVEIEN 80
0582 OSLO
NORWAY
PH: +47-22-88-40-90
FAX: +47-22-88-40-99
E-MAIL: VS.SE@VISHAYMG.COM

FRANCE
VISHAY SYSTEMS
16 RUE FRANCIS VOVELLE
28000 CHARTRES
FRANCE
PH: +33-2-37-33-31-25
FAX: +33-2-37-33-31-29
E-MAIL: VS.FR@VISHAYMG.COM

ISRAEL
VISHAY SYSTEMS
8A HAZORAN STREET
P.O. BOX 8381, NEW INDUSTRIAL ZONE
NETANYA 42506
ISRAEL
PH: +972-9-863-8888
FAX: +972-9-863-8800
E-MAIL: VS.IL@VISHAYMG.COM

www.vishaymg.com

www.vishay.com

VTR-PL0028-0510