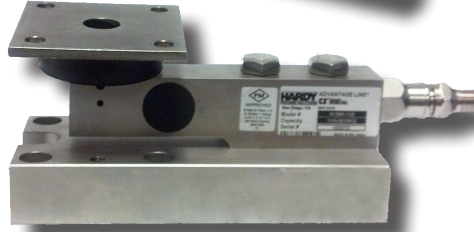


ADVANTAGE & ADVANTAGE LITE SHEAR BEAMS

HI HLPS, HI LPS05, HI HLPRE04 & HI LPRE05 Hermetic Shear Beam Load Point Assemblies



Hardy Process Solutions is committed to providing customer value through the configurability of its sensor line. For compression applications between 1125 lb and 22,500 lb (.5 mt and 10 mt), Hardy offers four different configurations of shear beam load points. Customers can choose between two different levels of moisture ingress protection on load sensors, and between two mounting hardware options. These mounting options offer different levels of liftoff and side force protection, thermal expansion, and vibration accommodation, depending on the application requirements.

Sensor Options	Mount Options	
	Bumper, Slider, Fixed	HIMSBRE
HI SBH04 Hermetically sealed	HI HLPS	HI HLPRE04
HI SB05 Environmentally sealed	HI LPS05	HI LPRE05

For demanding mounting situations with side forces (~50% Emax) and anti-uplift requirements

HI HLPS: The Hardy HI HLPS ADVANTAGE® Series sliding load point system consists of a stainless steel, mV/V and mV/V/ohm matched HI SBH04 load sensor with true hermetic sealing and C2® electronic calibration capabilities. The IP68/IP69k load sensor combined with the bumper, slider, fixed mounting configuration offers the best in moisture and corrosion protection, along with best-in-class protection from liftoff (6.6 -15.2Klbs) and side forces, and best-in-class accuracy in high thermal expansion and vibration installations. The bumper slider fixed mount is perfect for agitated vessels, vibratory feeders, and wind-loaded tanks.

HI LPS05: The Hardy Process Solutions Advantage® Lite HI LPS05 mid-range shear beam load point offers the same bumper, slider, fixed mounting configuration as the HI HLPS load point with an IP67 HI SB05 load sensor. The HI SB05 is a stainless steel, mV/V and mV/V/ohm matched load sensor with C2® Electronic Calibration capabilities, and has the ability to deliver customer savings for applications that do not require hermetic sealing.

For mounting applications with low side forces (<10%Emax) and no anti-uplift requirements

HI HLPRE04: The HI HLPRE04 pairs the ADVANTAGE® Series HI SBH04 hermetically sealed IP68/IP69k load sensor with the cost-effective HIMSBRE mount. Perfect for mezzanine level tank, hopper, or platform installations with wash-down requirements, the HI MSBRE mount offers consistent load introduction in a lower profile installation. The blind hole load pin with rubber element design provides stray voltage isolation, minor misalignment correction, and absorbs minor thermal expansion and shock.

HI LPRE05: The HI LPRE05 pairs the ADVANTAGE® Lite Series HI SB05 environmentally sealed load sensor with the HIMSBRE mount, offering the lowest cost shear beam installation. The IP67 HI SB05 load cell delivers exactly what is required for minimally-wet mezzanine level tank, hopper, or platform applications.

C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE

EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2+	GRAY
C2 -	VIOLET
SHIELD	YELLOW

WARNING: NEVER cut load sensor cable
CABLE LENGTH 20 FEET

All information and drawings on these pages are subject to change without notice. Consult website for latest specifications.

HI HLPS OR HILPS05 ORDERING INFORMATION

Load Point with Stainless Hardware (-43) or zinc plated Hardware (-45), Shipping Weight approx. 10-35 lbs. for Load Point, 4-17 lbs. for Sensor. A vessel with 3 legs will require 1 each fixed (F), bumper (B) & slider (S) assy. A vessel with 4 legs will require 1 each fixed (F), bumper (B) & 2 each slider (S) assy.

Capacity		Assy #			Hermetically Sealed Model#		Environmentally Sealed Model#	
lbs	mt	FIXED	BUMPER	SLIDER	HI SBH04	SPARE Load Sensor	HISB05	SPARE Load Sensor
1,125	0.5	F	B	S	HIHLPS1125-4__	HISBH04-1125	HILPS05-1125-4__	HISB05-1125
2.25K	1	F	B	S	HIHLPS2.25K-4__	HISBH04-2.25K	HILPS05-2.25K-4__	HISB05-2250
4.5K	2	F	B	S	HIHLPS4.5K-4__	HISBH04-4.5K	HILPS05-4.5K-4__	HISB05-4500
11.25K	5	F	B	S	HIHLPS11.25K-4__	HISBH04-11.25K	HILPS05-11.25K-4__	HISB05-11.25K
22.5K	10	F	B	S	HIHLPS22.5K-4__	HISBH04-22.5K	HILPS05-22.5K-4__	HISB05-22.5K

Load points can be ordered as a system rather than ordering individual components.

3 POINT SYSTEMS			
CAPACITY		MODEL#	
lbs	mt	HI SBH04	HI SBH5
3,375	1.5	HI 3S3375-4__	HI3S05-3375-4
6.75K	3.1	HI 3S6.75K-4__	HI3S05-6.75K-4__
13.5K	6.1	HI 3S13.5K-4__	HI3S05-13.5K-4__
33.75K	15.3	HI 3S33.75K-4__	HI3S05-33.75K-4__
67.5K	30.6	HI 3S67.5K-4__	HI3S05-67.5K-4__

4 POINT SYSTEMS			
CAPACITY		MODEL#	
lbs	mt	HI SBH04	HI SB05
4.5K	2.0	HI 4S4.5K-4__	HI4S05-4.5K-4__
9K	4.1	HI 4S9K-4__	HI4S05-9K-4__
18K	8.2	HI 4S18K-4__	HI4S05-18K-4__
45K	20.4	HI 4S45K-4__	HI4S05-45K-4__
90K	40.8	HI 4S90K-4__	HI4S05-90K-4__

SPECIFICATIONS	HISBH04	HI SB05*
Rated Output (ES)	2±0.002mV/V	2±0.002mV/V
Non-Linearity	<±0.0166 % R.O.	<±0.0166 % R.O.*
Hysteresis	<±0.0166 % R.O.	<±0.0166 % R.O.*
Zero Balance	<±5.0 % R.O.	<±5.0 % R.O.*
Combined Error	<±0.02 % R.O.	<±0.02 % R.O.*
Creep @ 30 Min.	<±0.0166 % R.O.	<±0.0166 % R.O.*
Temp Effect Output	±0.0127 % R.O./C*	±0.0127 % R.O./C*
Temp Effect Sensitivity	±0.010 % R.O./C*	±0.010 % R.O./C*
Input Resistance	1100±50 ohm	1100±50 ohm
Output Resistance	1000 ± 2 ohm	1000 ± 2 ohm
Insulation Resistance	≥5000 Mohm	≥5000 Mohm
Excitation	5 - 15 vdc	5 - 15 vdc
Safe Load Limit	200 % Emax	200 % Emax
Ultimate Load	300 % Emax	300 % Emax
Safe Side Load	50 % Emax	50% Emax
Approvals & Hazardous	CE, IP68/IP69K NTEP Class III FM IS Class I, Div I	CE, IP67 FM IS Class 1, Div 1
Warranty	Two years	Two years

* HI SBH05 in 22.5Lb capacity ONLY • Non-Linearity ±0.0400% R.O.

• Hysteresis ±0.0400% R.O. • Combined Error ±0.0500% R.O.

• Creep error @30 Min. ±0.0600% R.O. • Temp Effect Output ±0.0400% R.O./10°C • Temp Effect Sensitivity +0.0200% R.O./10°C

HI HLPRE04 and HI LPRE05 ORDERING INFORMATION

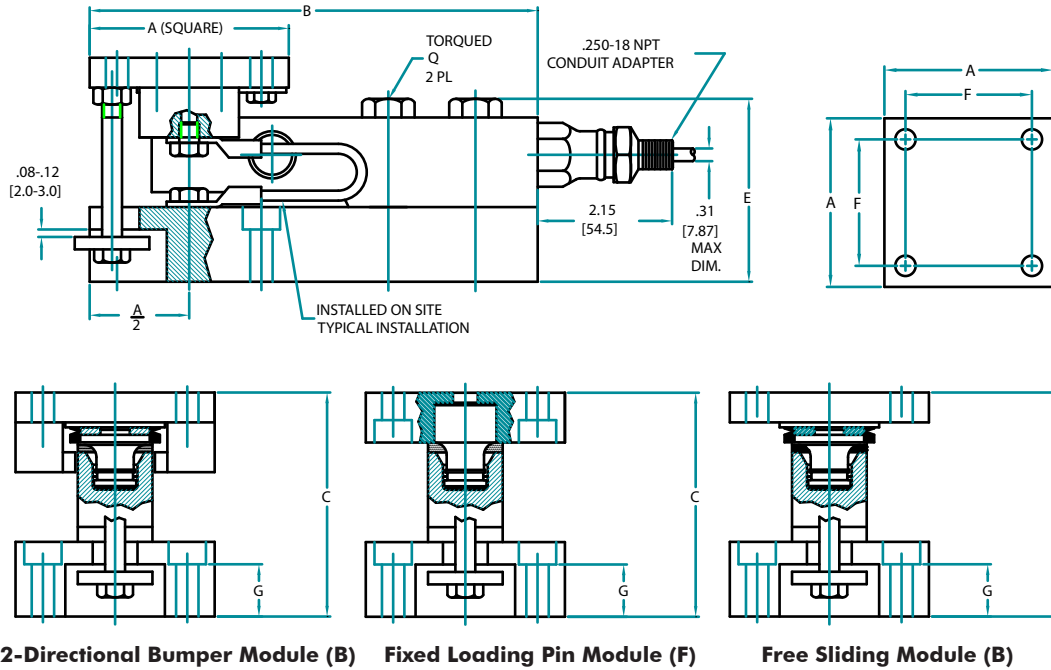
Shipping Weight 4-17 lbs. for Sensors; 8.4 to 35 lbs for mounts. Order 45 for Galvanized Steel, 43 for Stainless Steel or WP for Without Bottom Plate

Hermetically Sealed Load Sensor			
Sensor Capacity		Model#	
Klbs	kg*	Load Sensor	Load Point
1.125	510	HISBH04-1125	HIHLPRE04-1125-4__
2.25	1020	HISBH04-2.25K	HIHLPRE04-2.25K-4__
4.5	2039	HISBH04-4.5K	HIHLPRE04-4.5K-4__
11.25	5098	HISBH04-11.25K	HIHLPRE04-11.25K-4__
22.5	10197	HISBH04-22.5K	HIHLPRE04-22.5K-4__

Environmentally Sealed Load Sensor			
Sensor Capacity		Model#	
Klbs	kg*	Load Sensor	Load Point
1.125	510	HISB05-1125	HILPRE05-1125-4__
2.25	1020	HISB05-2250	HILPRE05-2.25K-4__
4.5	2039	HISB05-4500	HILPRE05-4.5K-4__
11.25	5098	HISB05-11.25K	HILPRE05-11.25K-4__
22.5	10197	HISB05-22.5K	HILPRE05-22.5K-4__

*Kg estimated from lbs conversion

HI HLPS Series ADVANTAGE Load Point

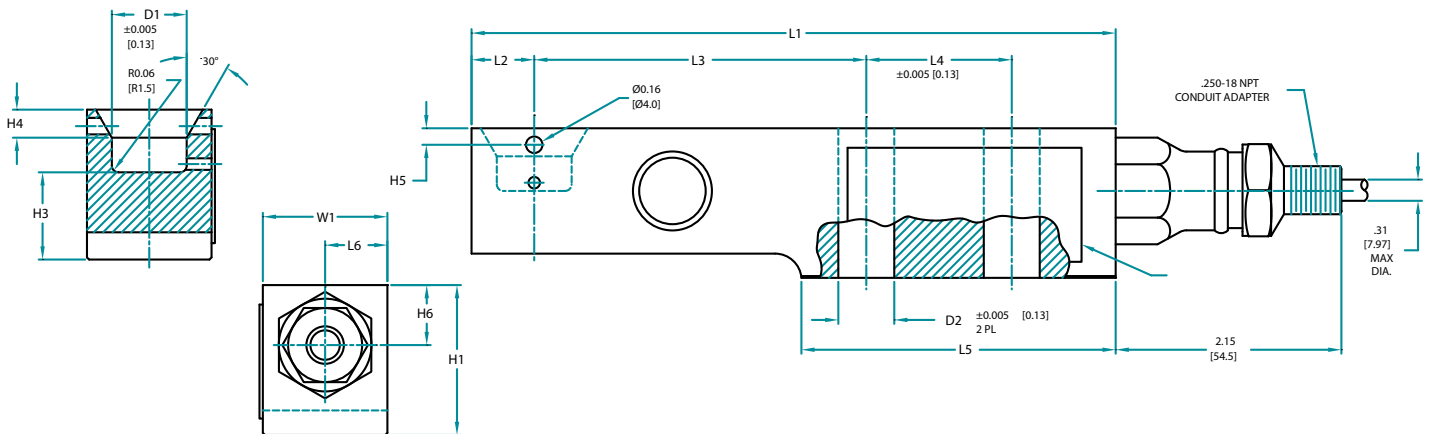


Drawing shown includes HI SBH04 sensor. Substitute Sensor ONLY for HI LPS05 drawing. Other drawings available on Hardy Website

DIMENSIONS- INCHES & [mm]

CAPACITY LBS [kN]	A	B	C	ØD	E	F	G	H	J	K	L	ØM	Q FT LBS	MOUNT SCREW	WEIGHT LBS
1.125K [5]	3.15 [80.0]	7.09 [180.0]	3.54 [90.0]	0.354 [9.00]	2.91 [74.0]	2.28 [58.0]	0.83 [21.0]	0.47 [12.0]	0.43 [11.0]	0.79 [20.0]	1.18 [30.0]	0.591 [15.00]	65 [70Nm]	.312	12
2.25K [10]	3.94 [100.0]	8.66 [220.0]	4.72 [120.0]	0.433 [11.00]	4.02 [102.0]	2.99 [76.0]	1.14 [29.0]	0.59 [15.0]	0.55 [14.0]	0.98 [25.0]	1.57 [40.0]	0.709 [18.00]	295 [400Nm]	.375	24
4.5K [20]	4.72 [120.0]	10.83 [275.0]	6.69 [170.0]	0.571 [14.50]	5.83 [148.0]	3.54 [90.0]	1.85 [47.0]	0.79 [20.0]	0.67 [17.0]	1.18 [30.0]	2.36 [60.0]	0.866 [22.00]	515 [700Nm]	.500	56.2

HI SBH04 ADVANTAGE Load Sensor



DIMENSIONS- INCHES & [mm]

TOLERANCES: ±0.010 [0.25] UNLESS OTHERWISE STATED

CAPACITY LBS [kN]	L1	L2	L3	L4	L5	L6	H1	H2	H3	H4	H5	H6	W1	ØD1	ØD2	BOLT	TORQUE
1.125K [5]	6.10 [155.0]	0.59 [15.0]	3.15 [80.0]	1.38 [35.0]	2.98 [75.7]	0.59 [15.0]	1.42 [36.0]	0.23 [5.8]	0.83 [21.0]	0.27 [6.9]	0.16 [4.1]	0.59 [15.0]	1.181±0.003 [30.0±.08]	0.709 [18.0]	0.53 [13.5]	.500-20 UNC GRADE 5 [M12 8.8]	65 FT LBS [90Nm]
2.25K [10]	7.48 [190.0]	0.83 [21.0]	4.13 [105.0]	1.57 [39.9]	3.66 [93.0]	0.66 [16.8]	1.93 [49.0]	0.31 [7.9]	1.12 [28.5]	0.23 [5.8]	0.31 [7.9]	0.89 [22.5]	1.693±0.003 [43.0±.08]	0.984 [25.0]	0.85 [21.5]	.750-10 UNC GRADE 5 [M20 8.8]	295 FT LBS [400Nm]
4.5K [20]	9.65 [245.0]	1.19 [30.2]	5.31 [134.9]	1.97 [50.0]	4.72 [120.0]	0.73 [18.5]	2.87 [73.0]	0.50 [12.7]	1.66 [42.2]	0.39 [10.0]	N/A	1.22 [31.0]	2.362±0.005 [60.0±0.13]	1.181 [30.0]	1.06 [27.0]	1.000-8 UNC GRADE 5 [M24 8.8]	515 FT LBS [700Nm]

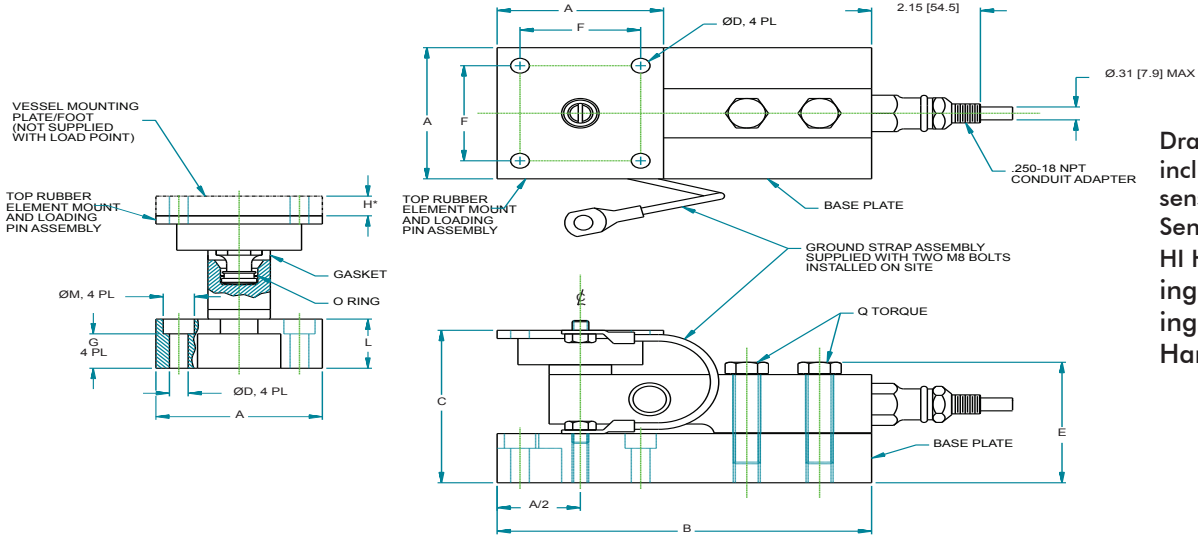
HI LPRE05 Load Point Mount

DIMENSIONS- INCHES & [mm]

TOLERANCES: ±0.015 [0.38] UNLESS OTHERWISE STATED

CAPACITY LBS [KN]	A	B	C	ØD	E	F	G	H*	L	ØM	Q TORQUE LB-FT [NM]	MOUNT SCREW	S MAX**	RF***
1125 LB [5KN]	3.15 [80.0]	7.09 [180.0]	3.66 [93.0]	0.354 [9.00]	2.91 [74.0]	2.28 [58.0]	0.83 [21.0]	0.47 [12.0]	1.18 [30.0]	0.591 [15.00]	65 LB-FT [70NM]	.312 OR M8	0.197 [5.00]	360 LB [1.6KN]
2.25 KLB [10KN]														
4.5 KLB [20KN]														
11.25 KLB [50KN]	3.94 [100.0]	8.62 [219.0]	4.65 [118.0]	0.433 [11.00]	4.02 [102.0]	2.99 [76.0]	1.14 [29.0]		1.57 [40.0]	0.709 [18.00]	295 LB-FT [400NM]	.375 OR M10		1124 LB [5KN]
22.5 KLB [100KN]	4.72 [120.0]	10.83 [275.0]	6.61 [168.0]	0.571 [14.50]	5.83 [148.0]	3.54 [90.0]	1.85 [47.0]		2.36 [60.0]	0.866 [22.00]	515 LB-FT [700NM]	.500 OR M12		

* RECOMMENDED MINIMUM THICKNESS OF VESSEL MOUNTING FOOT/PLATE ** SMAX = MAXIMUM LATERAL DISPLACEMENT OF LOAD INTRODUCTION
 *** RF = RESTORING FORCE AT SMAX ****IMPORTANT! USE BUMPER STOPS IF LATERAL FORCES EXCEED THE RF VALUE. BUMPER STOP GAP TO BE APPROXIMATELY 2-3 MM.



Drawing shown includes HI SB05 sensor. Substitute Sensor Only for HI HLPRE04 drawing. Other drawings available on Hardy Website

HI SB05 Advantage Lite Load Sensor

DIMENSIONS- INCHES & [mm]

TOLERANCES: ±0.010 [0.25] UNLESS OTHERWISE STATED

CAPACITY LBS [KN]	L1	L2	L3	L4	L5	L6	H1	H2	H3	H4	H5	H6	W1	ØD1	ØD2	BOLT Δ	TORQUE
1125 [5] 2.25K [10] 4.5K [20]	6.10 [155.0]	0.59 [15.0]	3.15 [80.0]	1.38 [35.0]	2.98 [75.7]	0.59 [15.0]	1.42 [36.0]	0.23 [5.8]	0.83 [21.0]	0.27 [6.9]	0.16 [4.1]	0.59 [15.0]	1.181±0.003 [30.0±0.08]	0.709 [18.0]	0.53 [13.5]	.500-20 UNC GRADE 5 [M12 8.8]	65 FT LBS [90Nm]
11.25K [50]	7.48 [190.0]	0.83 [21.0]	4.13 [105.0]	1.57 [40.0]	3.66 [93.0]	0.67 [17.0]	1.93 [49.0]	0.31 [8.0]	1.12 [28.5]	0.24 [6.0]	0.31 [8.0]	0.89 [22.5]	1.693±0.003 [43.0±0.08]	0.984 [25.0]	0.83 [21.0]	.750-10 UNC GRADE 5 [M20 8.8]	295 FT LBS [400Nm]
22.5K [100]	9.65 [245.0]	1.18 [30.0]	5.31 [135.0]	1.97 [50.0]	4.72 [120.0]	0.73 [18.5]	2.87 [73.0]	0.49 [12.5]	1.65 [42.0]	0.39 [10.0]	N/A	1.22 [31.0]	2.362±0.005 [60.0±0.13]	1.181 [30.0]	1.06 [27.0]	1.000-8 UNC GRADE 5 [M24 8.8]	515 FT LBS [700Nm]

