

REV.	ECO/DDC	DESCRIPTION	DATE	DRAFT	CHECK	APV'D
A	----	RELEASED.	08-22-16	V.J.C.	E.J.	V.J.C.

### LOAD POINT MODEL NUMBERS

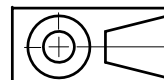
CAPACITY LBS [KN]	MODEL NUMBER PLATED ALLOY STEEL	MODEL NUMBER STAINLESS STEEL	MODEL NUMBER ELECTRO-POLISHED STAINLESS STEEL	LOAD SENSOR MODEL NUMBER	CABLE LENGTH FT [M]
1125 LB [5KN]	HI ONELP-H-1125-AS	HI ONELP-H-1125-SS	HI ONELP-H-1125-ES	HI SBH04-1125	20FT [6M]
2.25 KLB [10KN]	HI ONELP-H-2.25K-AS	HI ONELP-H-2.25K-SS	HI ONELP-H-2.25K-ES	HI SBH04-2.25K	20FT [6M]
4.5 KLB [20KN]	HI ONELP-H-4.5K-AS	HI ONELP-H-4.5K-SS	HI ONELP-H-4.5K-ES	HI SBH04-4.5K	20FT [6M]
11.25 KLB [50KN]	HI ONELP-H-11.25K-AS	HI ONELP-H-11.25K-SS	HI ONELP-H-11.25K-ES	HI SBH04-11.25K	20FT [6M]
22.5 KLB [100KN]	HI ONELP-H-22.5K-AS	HI ONELP-H-22.5K-SS	HI ONELP-H-22.5K-ES	HI SBH04-22.5K	20FT [6M]

10. SEE SHEET 4 FOR LOAD POINT ACCESSORY AND REPLACEMENT PART NUMBERS.
10. SEE SHEET 2 FOR LOAD POINT DIMENSIONS AND SHEET 3 FOR LOAD POINT INSTALLATION INSTRUCTIONS.
9. LOAD POINT OPERATING TEMPERATURE RATING IS -40°C TO +80°C. USAGE OF LOAD POINT AT TEMPERATURES BELOW -40°C REQUIRES THAT THE LOAD POINT ASSEMBLY AND CABLE BE TEMPERATURE CONTROLLED.
8. DO NOT WELD LOAD POINT TO VESSEL/FOUNDATION WITH LOAD SENSOR INSTALLED.
7. LOAD POINT IS SUPPLIED WITH THE FOLLOWING:
  - ONE HI SBH04 SERIES LOAD SENSOR
  - ONE TOP PLATE
  - ONE LOAD CUP AND ONE ROCKER PIN ASSEMBLY
  - ONE LOAD SENSOR BASE PLATE AND TWO MOUNTING BOLTS
  - ONE SHIPPING AND INSTALLATION SPACER
  - TWO LIFT-OFF PROTECTION BOLTS AND TWO WASHERS
  - ONE GROUND STRAP AND TWO M8 MOUNTING BOLTS.
6. LOAD SENSOR BODY IS STAINLESS STEEL 17-4PH (1.4548).
5. LOAD SENSOR CABLE IS SHIELDED, 6 CONDUCTOR. CABLE SHIELD IS FLOATING. SEE TABLE FOR CABLE LENGTHS.
4. C2 WIRE COLOR CODE FLAG LABEL IS LOCATED APPROXIMATELY 10 INCHES [254MM] FROM END OF LOAD SENSOR CABLE.
 

EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2 +	GRAY
C2 -	VIOLET
SHIELD	YELLOW
3. LOAD SENSOR CABLE WIRE ENDS ARE STRIPPED BACK 0.5 INCHES [12.7MM] AND TINNED. CABLE JACKET IS STRIPPED BACK APPROXIMATELY 5 INCHES [127MM].
2. THIS DRAWING IS SUBJECT TO CHANGE WITHOUT NOTICE.
1. LOAD SENSOR RATED OUTPUT: 2mV/V ±0.002.

#### NOTES: UNLESS OTHERWISE SPECIFIED

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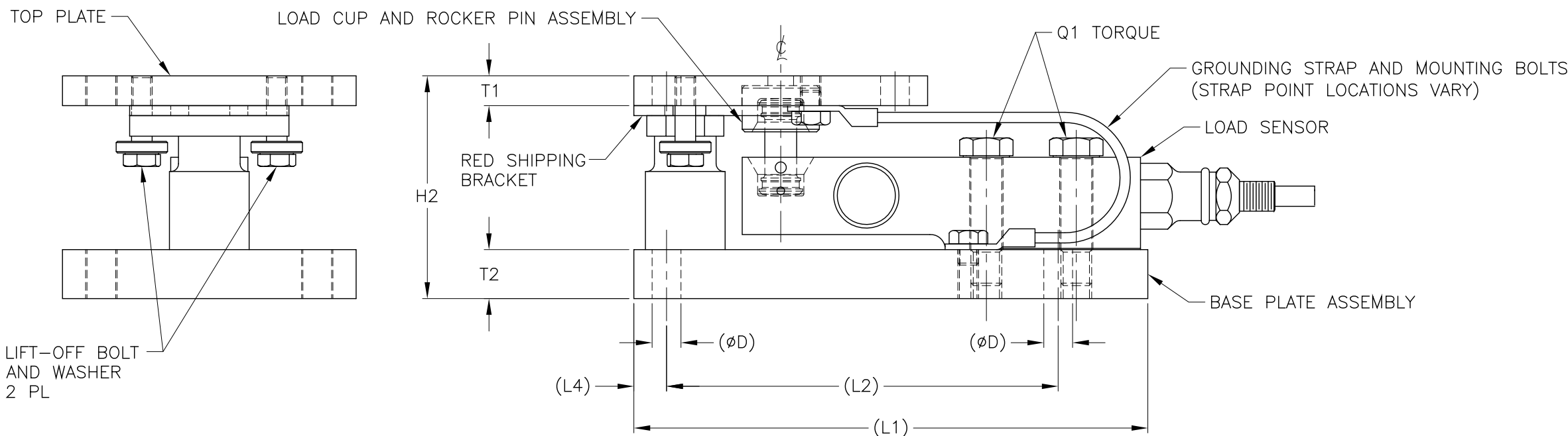
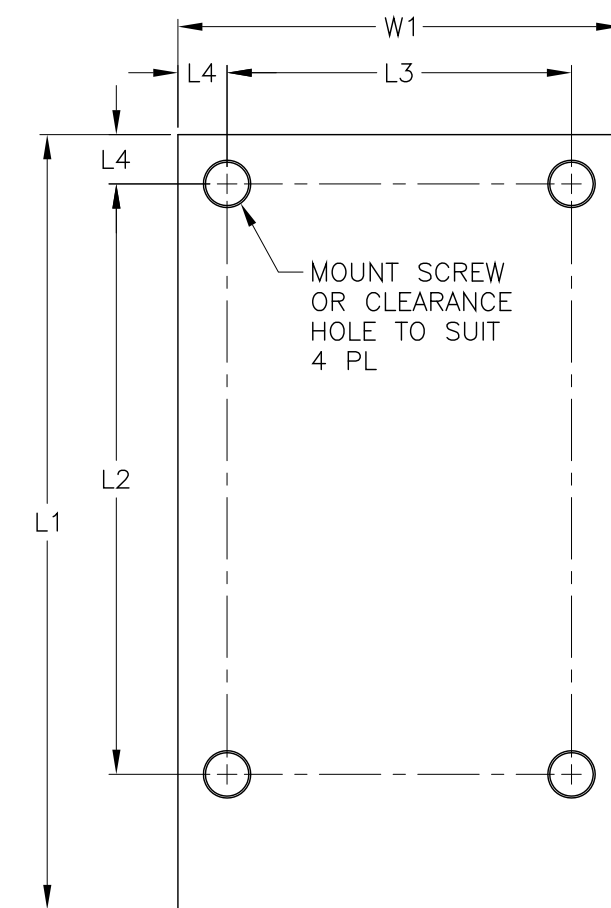
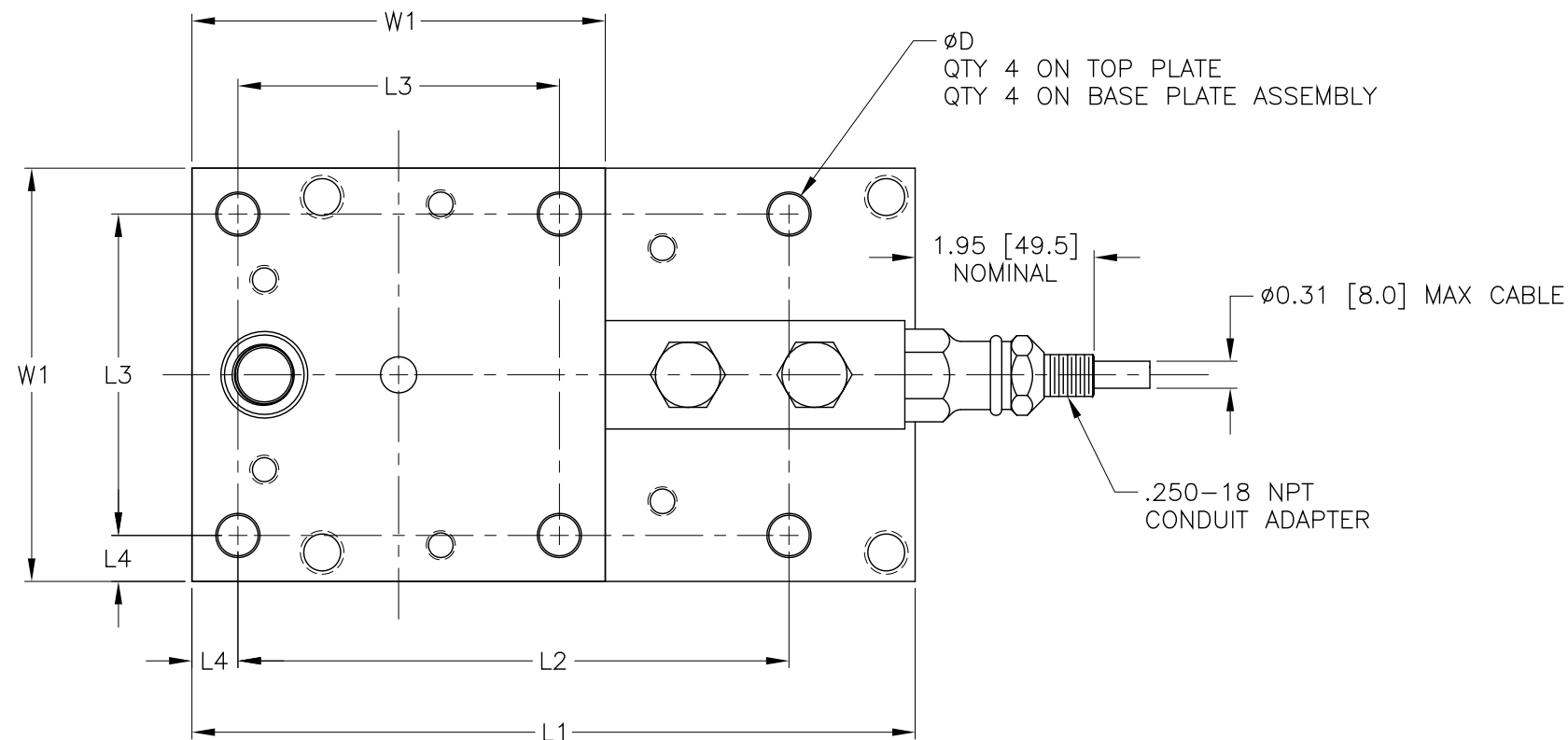
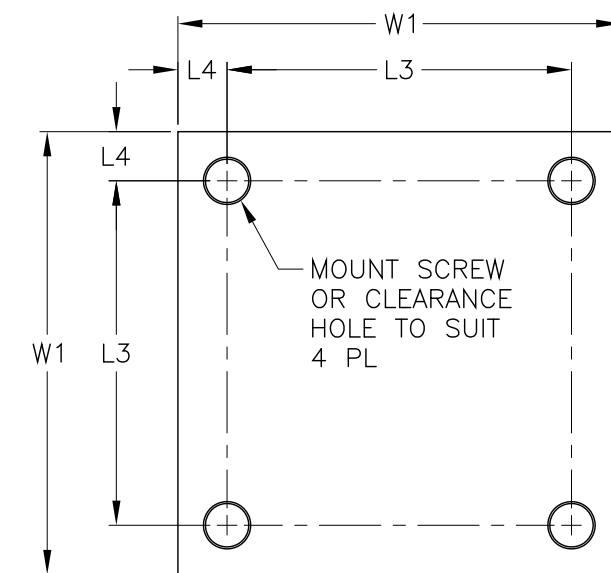


		0588-0180	OUTLINE DRAWING, HI ONELP-H SERIES, HIGH CAPACITY		SEE NOTES
ITEM	QTY	PART NUMBER	DESCRIPTION	COMMENTS	
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS: N/A DECIMALS: .XX = ±.03 .XXX = ±.010 ANGLES: ±0°, 30'		CONTRACT NO.		<b>HARDY</b> PROCESS SOLUTIONS	
		APPROVALS			
		DRAWN V. CHULA	DATE 08-19-16		
		CHECKED E. JAMES	DATE 08-22-16		
MATERIAL		APPROVED V. CHULA	DATE 08-22-16	<b>OUTLINE DRAWING, LOAD POINT, HI ONELP-H SERIES, HIGH CAPACITY</b>	
FINISH		ISSUED V. CHULA	DATE 08-22-16		
DO NOT SCALE DRAWING		PRODUCTION	DATE		
SIZE	FSCM	DRAWING NO.	REV.		
D	21316	0588-0180	A		
FILE NAME: 588180A1.DWG		SCALE: NONE	SHEET 1 OF 4		

**DIMENSIONS- INCHES & [mm]**

TOLERANCES: ±0.015 [0.38] UNLESS OTHERWISE STATED

CAPACITY LBS [kN]	L1	L2	L3	L4	W1	T1	T2	H1	H2	∅D	MOUNT SCREW	WELD X	WELD Y	MAX LIFT- OFF FORCE	Q1 TORQUE LB-FT [NM]	Q2 TORQUE LB-FT [NM]
1125 LB [5kN]	7.87 [200.0]	6.000 [152.40]	3.500 [88.90]	0.50 [12.7]	4.50 [114.3]	0.46 [11.6]	0.75 [19.0]	3.42 [86.8]	3.51 [89.2]	0.441 [11.20]	3/8-16 OR M10 DIN 8.8	0.2 [5.0]	0.2 [5.0]	5.05 T [45kN]	66 LB-FT [90NM]	65 LB-FT [43NM]
2.25 KLB [10kN]																
4.5 KLB [20kN]																
11.25 KLB [50kN]	10.08 [256.0]	7.250 [184.15]	4.000 [101.60]	0.91 [23.2]	5.83 [148.0]	0.71 [18.0]	0.94 [24.0]	4.35 [110.6]	4.53 [115.0]	0.689 [17.50]	5/8-11 OR M16 DIN 8.8	0.2 [5.0]	0.2 [5.0]	8.43 T [75kN]	295 LB-FT [400NM]	133 LB-FT [180NM]
22.5 KLB [100kN]	13.98 [355.0]	10.630 [270.00]	5.118 [130.00]	0.94 [24.0]	7.01 [178.0]	0.94 [24.0]	1.14 [29.0]	6.06 [154.0]	6.20 [157.6]	0.866 [22.00]	3/4-10 OR M20 DIN 8.8	0.3 [8.0]	0.3 [8.0]	11.8 T [105kN]	516 LB-FT [700NM]	273 LB-FT [370NM]

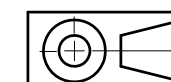


**HARDY**  
PROCESS SOLUTIONS

TITLE  
OUTLINE DRAWING, LOAD POINT,  
HI ONELP-H SERIES, HIGH CAPACITY

SIZE	FSCM	DRAWING NO.	REV.
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**INSTALLATION INSTRUCTIONS:**

**GENERAL:**

THE HI ONELP-H SERIES LOAD POINT MODULE IS SHIPPED IN THE "INSTALLATION STATE".

**INSTALLATION – BOLTED MODULE:**

1. POSITION THE LOAD POINT MODULES ON THE FOUNDATION SURFACE AS SHOWN IN FIGURE 1.

2. THE TOP PLATE OR THE BASE PLATE ASSEMBLY MAY BE BOLTED FIRST. (SEE TABLE ON SHEET 2 FOR BOLT SIZE AND TORQUE VALUES)

3. MARK ALL THE TOP PLATE HOLE POSITIONS ON THE VESSEL LOAD CARRIER PLATE/FOOT.

4. REMOVE MODULE IF NEEDED, THEN, DRILL AND/OR TAP ALL REQUIRED HOLES.

5. SECURE THE BASE PLATE ASSEMBLY TO THE FOUNDATION SURFACE. (SEE TABLE ON SHEET 2 FOR BOLT SIZE AND TORQUE VALUES)

6. LOWER THE VESSEL LOAD CARRIER ONTO THE TOP PLATE AND SECURE WITH BOLTS. (SEE TABLE ON SHEET 2 FOR BOLT SIZE AND TORQUE VALUES)

7. PREPARE THE LOAD SENSOR FOR INSTALLATION BY GREASING THE LOAD SENSOR LOADING CAVITY.

8. GREASE THE LOAD CUP AND THEN INSERT INTO THE CAVITY ON THE TOP PLATE. THIS CAN BE ACHIEVED BY UTILIZING THE RED SHIPPING BRACKET AS A GUIDE TO FIND THE CAVITY.

9. WHILE THE LOAD CUP IS HELD IN THE TOP PLATE CAVITY, INSTALL THE LOAD SENSOR WITH THE ROCKER PIN ASSEMBLY INSTALLED INTO THE MODULE BY TILTING IT SLIGHTLY TO GAIN ACCESS UNDER THE TOP PLATE.

10. RE-INSERT THE LOAD SENSOR MOUNTING BOLTS AND TORQUE TO Q1 VALUE LISTED IN TABLE ON SHEET 2. ALIGNMENT CHECK MUST BE DONE MANUALLY BY HOLDING CENTER PILLAR OF MODULE AND END OF LOAD SENSOR TO BE SURE IT IS ALIGNED CORRECTLY. BE SURE THE MOUNTING BOLTS ARE LINED UP IN THE CENTER OF THE LOAD SENSOR HOLES AS WELL PRIOR TO SECURING.

11. LOOSEN THE TWO LIFT OFF BOLTS LOCATED JUST UNDER THE RED SHIPPING BRACKET. PRY OR LIFT THE VESSEL LOAD CARRIER SLIGHTLY TO REMOVE THE RED SHIPPING BRACKET. LOWER THE VESSEL LOAD CARRIER SLOWLY UNTIL IT RESTS ON THE LOAD POINT MODULE.

12. INSERT LIFT-OFF BOLTS UNTIL THE BOLT END TOUCHES THE SURFACE OF THE VESSEL LOAD CARRIER/MOUNTING FOOT. (THREAD LOCKING COMPOUND IS PRE-APPLIED TO BOLT THREADS)

**INSTALLATION – WELDED MODULE:**

1. REMOVE THE LOAD SENSOR MOUNTING BOLTS AND LOAD SENSOR FROM BASE PLATE ASSEMBLY.

2. POSITION THE LOAD POINT MODULE BASE PLATE ASSEMBLY ON THE FOUNDATION SURFACE AND THE TOP PLATE ON THE VESSEL LOAD CARRIER/MOUNTING FOOT AS SHOWN IN FIGURE 2.

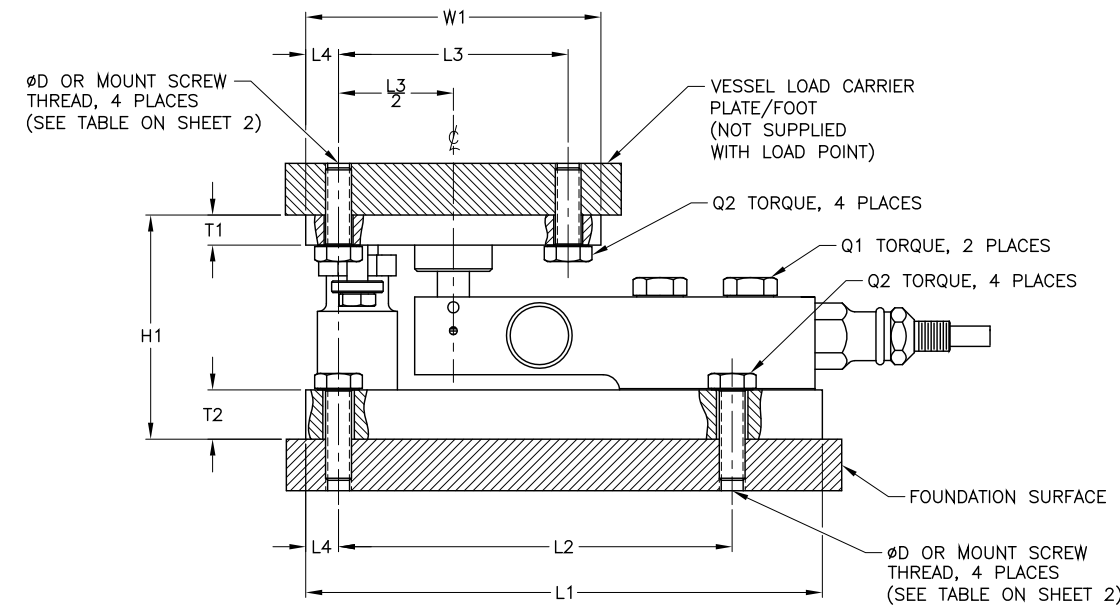
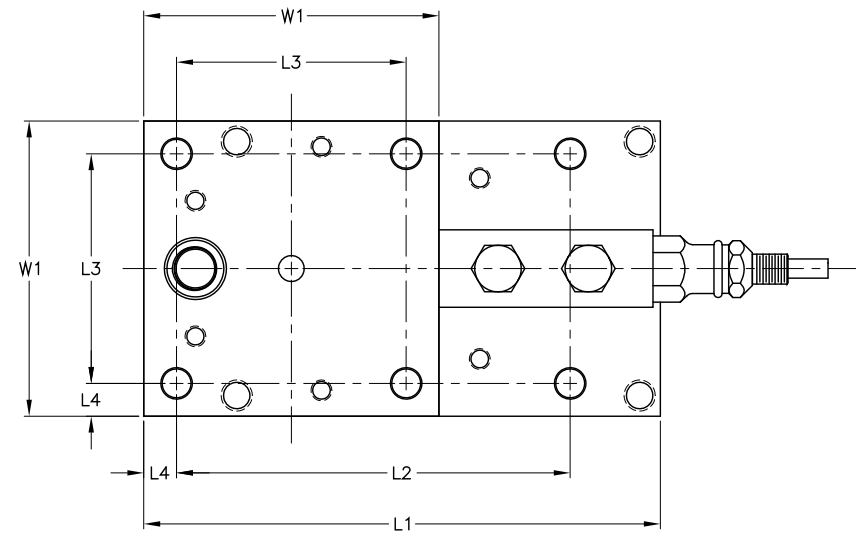
3. APPLY WELDS TO LOAD POINT MODULE TOP PLATE AND BASE PLATE ASSEMBLY AS SHOWN. (SEE TABLE ON SHEET 2 FOR RECOMMENDED WELD SIZES)

4. PREPARE THE LOAD SENSOR FOR INSTALLATION. FOLLOW STEPS 8 THROUGH 12 AS LISTED IN THE BOLTED MODULE INSTALLATION INSTRUCTIONS.

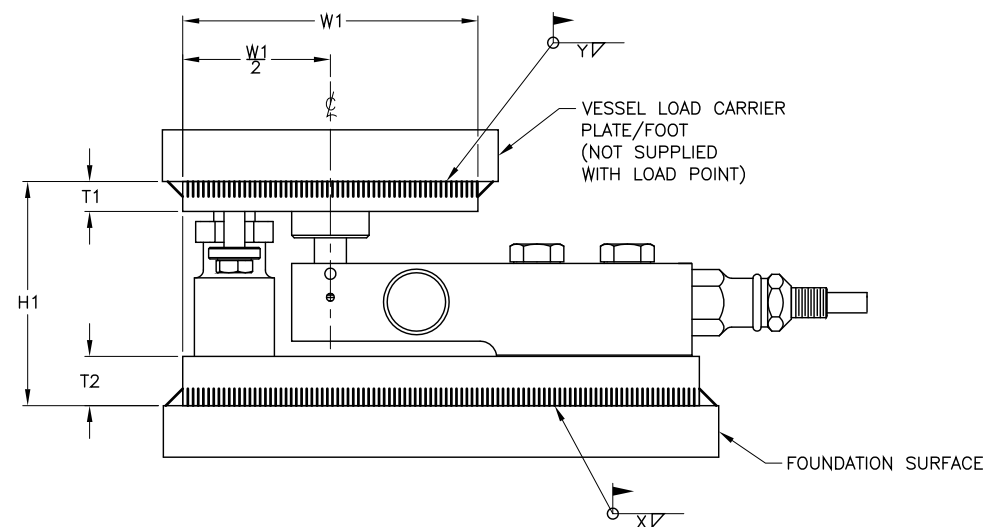
**IMPORTANT:**

- DO NOT WELD THE MODULE WHILE THE LOAD SENSOR IS INSTALLED.
- MAKE SURE TO INSERT THE LIFT OFF WASHERS AT THE FINAL INSTALLATION.
- SEE FIGURE 3 FOR FOUNDATION SURFACE AND TOP PLATE LEVELING REQUIREMENTS.
- ENSURE THAT THE GROUNDING CABLE IS PROPERLY SECURED AFTER INSTALLATION.
- TORQUE Q2 IS DETERMINED ASSUMING FRICTION COEFFICIENTS OF DRY THREADS.
- SEE OPERATION AND INSTALLATION MANUAL FOR ADDITIONAL INFORMATION.

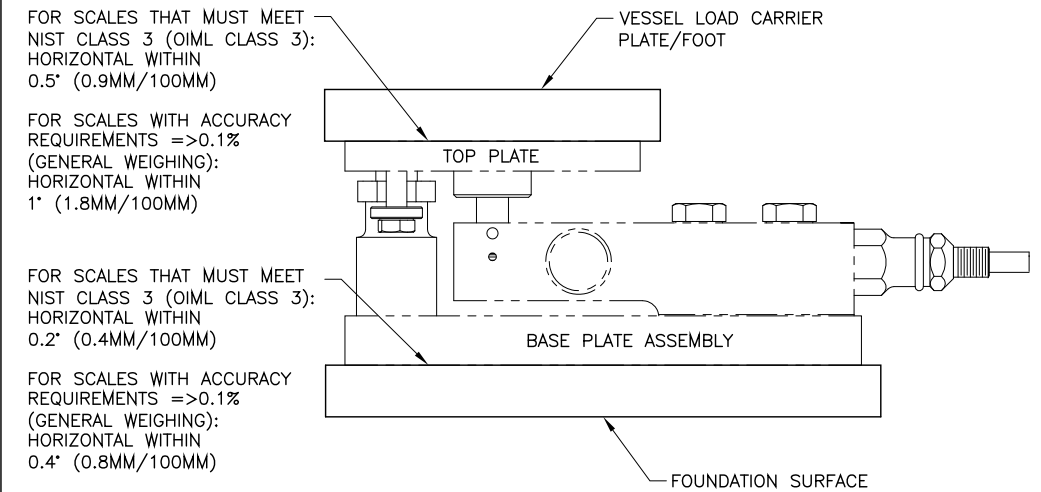
**FIGURE 1: BOLTED LOAD POINT MODULE (GROUNDING STRAP NOT SHOWN)**



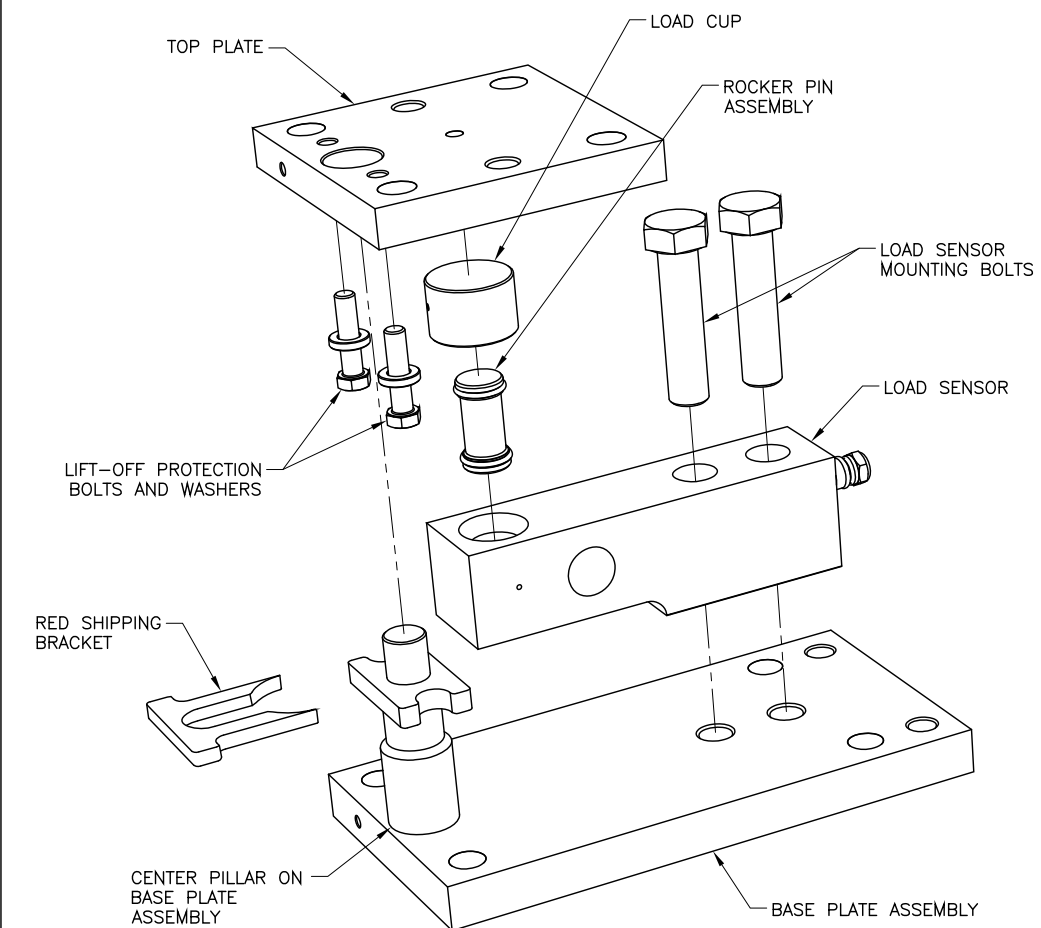
**FIGURE 2: WELDED LOAD POINT MODULE (GROUNDING STRAP NOT SHOWN)**



**FIGURE 3: FOUNDATION SURFACE AND TOP PLATE LEVELING REQUIREMENTS**



**EXPLODED ASSEMBLY VIEW (GROUNDING STRAP NOT SHOWN)**



<b>HARDY</b> PROCESS SOLUTIONS			
TITLE OUTLINE DRAWING, LOAD POINT, HI ONELP-H SERIES, HIGH CAPACITY			
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**LOAD POINT MOUNT SET MODEL NUMBERS (WITHOUT LOAD SENSOR)**

CAPACITY LBS [KN]	MODEL NUMBER PLATED ALLOY STEEL	MODEL NUMBER STAINLESS STEEL	MODEL NUMBER ELECTRO-POLISHED STAINLESS STEEL
1125 LB [5KN]	HI ONEMT-4.5KLB-AS	HI ONEMT-4.5KLB-SS	HI ONEMT-4.5KLB-ES
2.25 KLB [10KN]			
4.5 KLB [20KN]			
11.25 KLB [50KN]	HI ONEMT-11.25KLB-AS	HI ONEMT-11.25KLB-SS	HI ONEMT-11.25KLB-ES
22.5 KLB [100KN]	HI ONEMT-22.5KLB-AS	HI ONEMT-22.5KLB-SS	HI ONEMT-22.5KLB-ES

**LOAD POINT MOUNT SET ACCESSORY AND REPLACEMENT PART NUMBERS**

CAPACITY LBS [KN]	STABILIZER ROD ASSEMBLY PLATED ALLOY STEEL	STABILIZER ROD ASSEMBLY STAINLESS STEEL	REPLACEMENT ROCKER PIN ASSEMBLY	REPLACEMENT SHIPPING BRACKET
1125 LB [5KN]	5504-0074-AS-4.5KLB	5504-0074-SS-4.5KLB	5504-0075-4.5KLB	5504-0076-4.5KLB
2.25 KLB [10KN]				
4.5 KLB [20KN]				
11.25 KLB [50KN]	5504-0074-AS-11.25KLB	5504-0074-SS-11.25KLB	5504-0075-11.25KLB	5504-0076-11.25KLB
22.5 KLB [100KN]	5504-0074-AS-22.5KLB	5504-0074-SS-22.5KLB	5504-0075-22.5KLB	5504-0076-22.5KLB



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