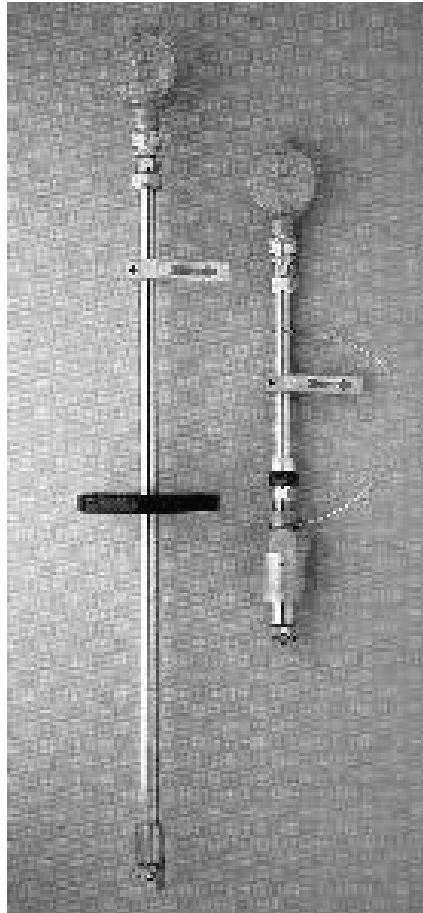


INSTALLATION & OPERATION MANUAL - Addendum



Insertion Meter (8/01)



LIQUID CONTROLS SPONSLE, INC.

FLOW MEASURING DEVICES AND CONTROLS

A Unit of the IDEX Corporation

105 Albrecht Drive • Lake Bluff, IL 60044

(847) 295- 1050 • www.sponsler.com



INSERTION METER HEAD ASSEMBLY INSTRUCTIONS

→ In order to remove meter head from the stem, the rotor assembly or internals must first be removed to avoid damage.

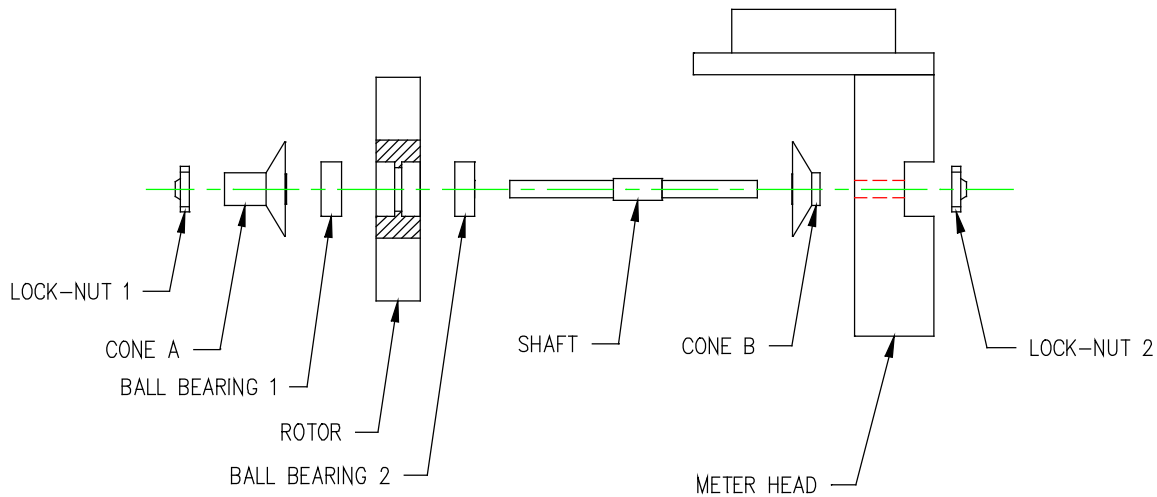


Figure 1: Disassembly/Assembly Drawing

Disassembly of Internals: (see figure 1 for disassembly drawing)

- 1) Remove both lock nuts
- 2) Once lock nuts have been removed, carefully slide cone A, ball bearing 1, rotor, and ball bearing 2 off the shaft.

Note: Before disassemble, make sure your environment is as dirt free as possible. Also try to handle bearings as little as possible.

It is very important to maintain the order of the internals as they are removed. Do not flip or turn the internals or they will not go back together correctly.

- 3) Remove the shaft and cone B from the meter head.
- 4) Once the internals have been removed the meter head can then be detached from the stem.

Reassemble of Internals: (see figure 1 for assembly drawing)

- 1) Slide cone B onto the shaft.
- 2) Insert shaft and cone B into the meter head.
- 3) Screw on lock nut 2 in order to hold shaft and cone B in position.
- 4) Slide ball bearing 2 onto the shaft.
- 5) Slide the rotor on the shaft so that the “IN” burned on the rotor faces the direction of the flow.
- 5) Slide ball bearing 1 and cone A onto the shaft.
- 6) Screw on lock nut 1

Note: When both lock nuts are on and tight make sure that cone A and cone B can not spin. (Do not torque over 2-in. lbs. Max.)

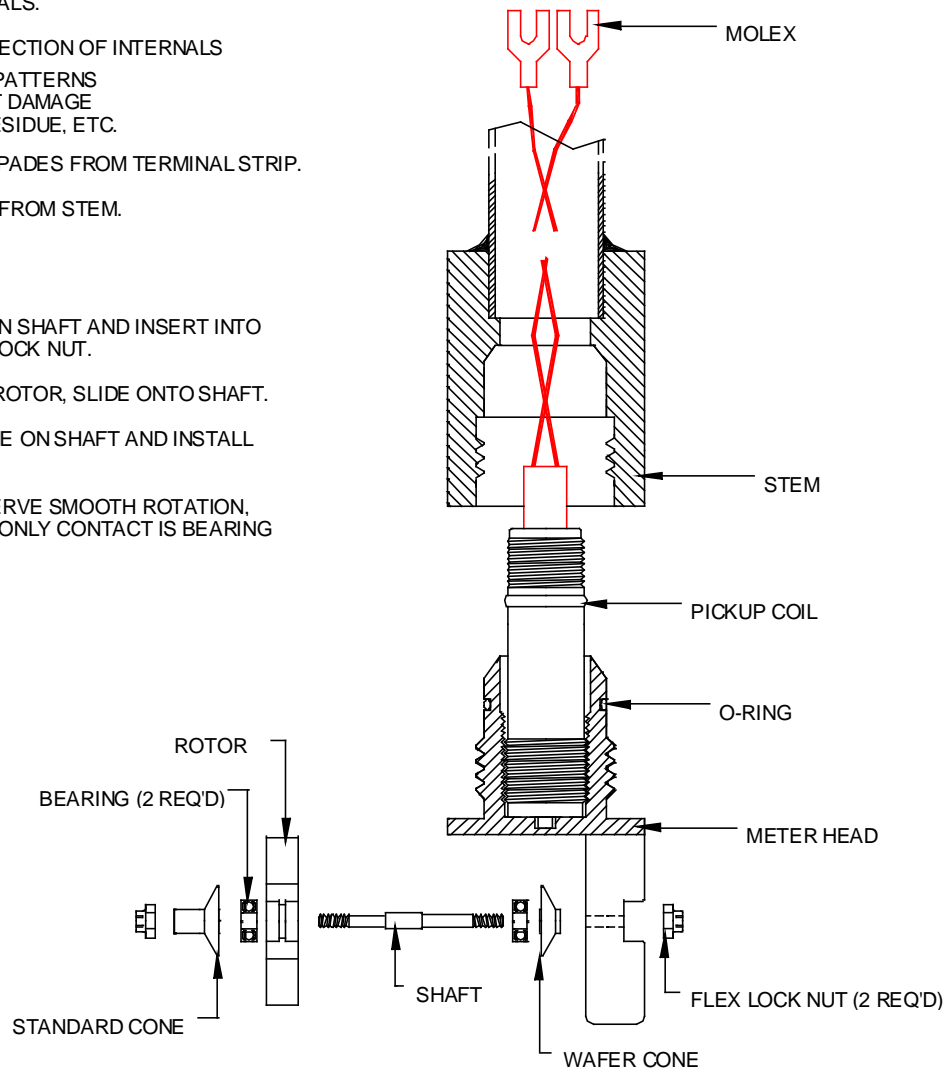
INSERTION METER INTERNALS-CHECK FOR DAMAGE

DIS-ASSEMBLY

- 1) DIS-ASSEMBLE INTERNALS.
- 2) PERFORM VISUAL INSPECTION OF INTERNALS
 - A) OBSERVE NO WEAR PATTERNS
 - B) OBSERVE NO IMPACT DAMAGE
 - C) CLEANLINESS, NO RESIDUE, ETC.
- 3) DISCONNECT MOLEX SPADES FROM TERMINAL STRIP.
- 4) REMOVE METER HEAD FROM STEM.

RE-ASSEMBLY

- 1) PLACE WAFER CONE ON SHAFT AND INSERT INTO METER HEAD. INSTALL LOCK NUT.
- 2) INSTALL BEARINGS IN ROTOR, SLIDE ONTO SHAFT.
- 3) PLACE STANDARD CONE ON SHAFT AND INSTALL LOCK NUT.
- 4) SPIN ROTOR AND OBSERVE SMOOTH ROTATION, NO WOBBLE. OBSERVE ONLY CONTACT IS BEARING TO CONE PLATFORM.

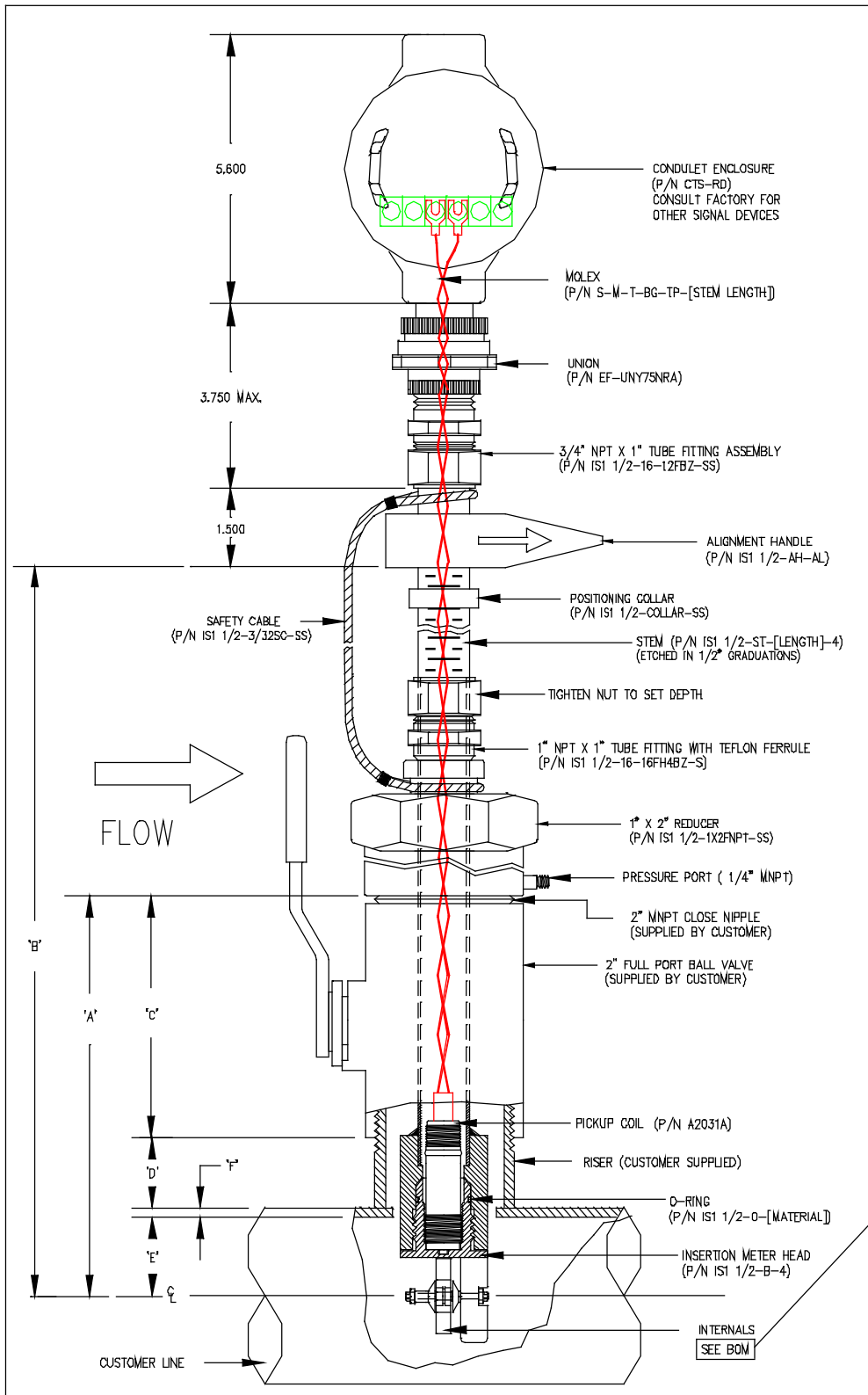


NOTE:

If any part of the insertion meter internals appear damaged, contact the factory for return instructions.

INSERTION METER ILLUSTRATIONS

Standard Insertion Meter with Bell Reducer



DATE	REV	REVISION RECORD	AUTH	DR	CK
4-11-00	1	MOD. STEM GOALS	TN	TN	
5-3-00	2	UPDATED TO			
		ATTACHED PRINT	TN	JPM	
5-4-00	3	ADDED 75" LENGTH		JPM	

SPECIFICATIONS:

	TEMPERATURE	PRESSURE	FLOW RANGE
LIQUID	-430 to 350F	150 psig	2-40 ft/sec
GAS	-430 to 350F	100 psig	20-200 ft/sec

SIZING:

1) STEM: LENGTH INSERTED

SIZE	'B' MAX
12"	18 3/4"
18"	24 3/4"
24"	30 3/4"
36"	42 3/4"
75"	75 3/4"

TO DETERMINE STEM LENGTH:
C + D + E + F = A

2) TO DETERMINE INSERTION DEPTH IN PIPE:

'E' = $\frac{\text{PIPE I.D.}}{2}$ { FOR 8" AND SMALLER PIPE

'E' = .125 X PIPE I.D. { FOR 8" AND LARGER PIPE

INSTALLATION:

MEASURE 'A', TIGHTEN NUT.

INSTALL BELL REDUCER TO VALVE (USE TEFLON TAPE/SEALANT ON CLOSE NIPPLE)

LOOSEN NUT SLIGHTLY ENOUGH TO TURN STEM SO THAT ARROW ON ALIGNMENT HANDLE POINTS IN THE DIRECTION OF FLOW. TIGHTEN NUT AGAIN.

NOTE: ALIGNMENT HANDLE IS SET AT FACTORY FOR CORRECT POSITIONING OF ROTOR. DO NOT ADJUST.

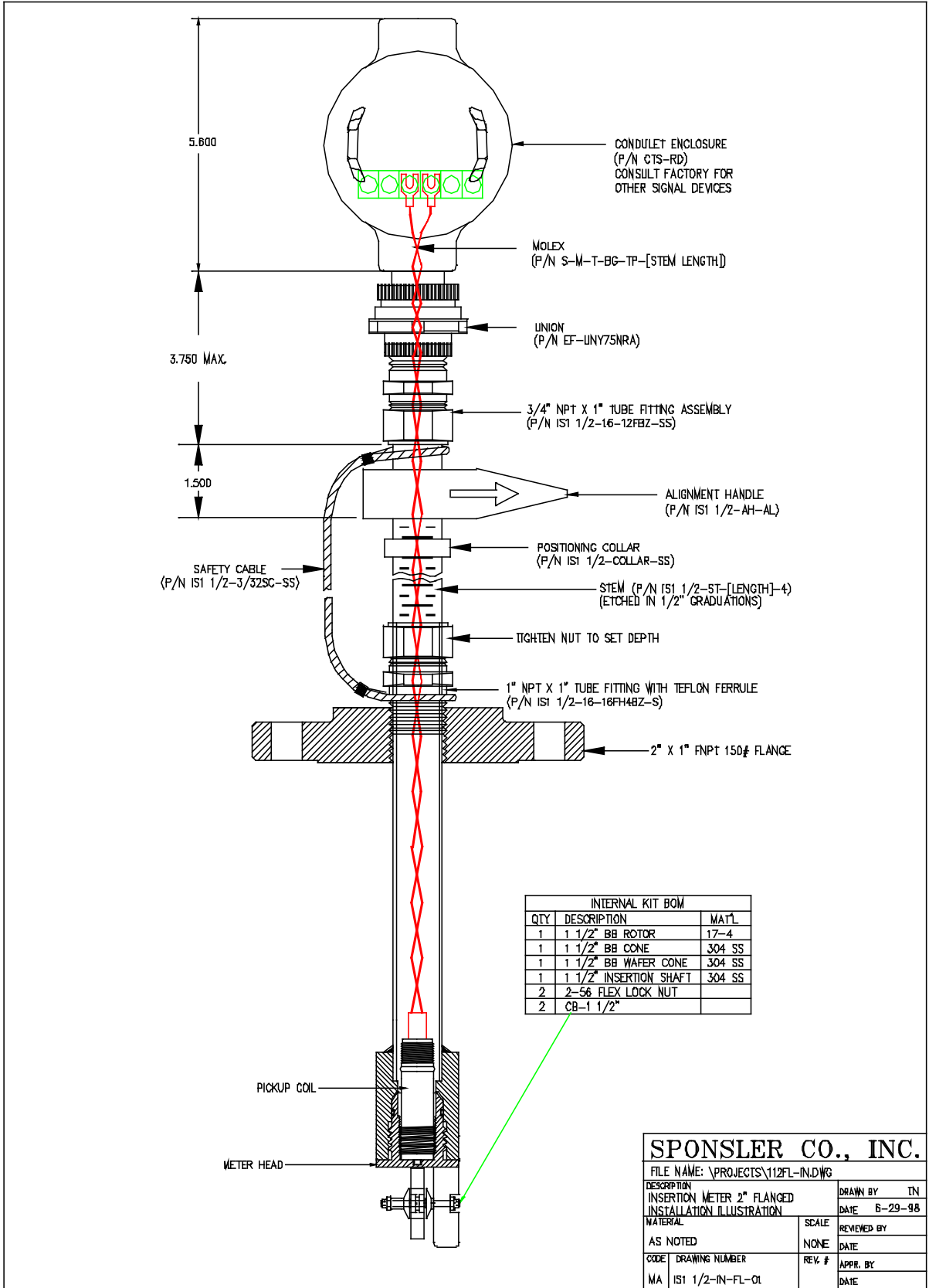
INTERNAL KIT BOM		
QTY	DESCRIPTION	MAT'L
1	1 1/2" BB ROTOR	17-4
1	1 1/2" BB CONE	304 SS
1	1 1/2" BB WAFER CONE	304 SS
1	1 1/2" INSERTION SHAFT	304 SS
2	2-56 FLEX LOCK NUT	
2	CB-1 1/2"	

SPONSLER CO., INC.

FILE NAME: \st12\SI12ASSY.dwg

DESCRIPTION INSERTION METER, ADJUSTABLE NPT INSTALLATION DRAWING	DRAWN BY TN DATE 3-16-98
MATERIAL	SCALE NONE REVIEWED BY
AS NOTED	DATE
CODE MA	DRAWING NUMBER IS112-ASSY-01
	REV. # 3 APPR. BY DATE

Insertion Meter with Fixed flange



LIQUID CONTROLS GROUP

IDEAL SOLUTIONS INTEGRATED SYSTEMS

LIQUID CONTROLS EUROPE • LIQUID CONTROLS SPONSLER

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