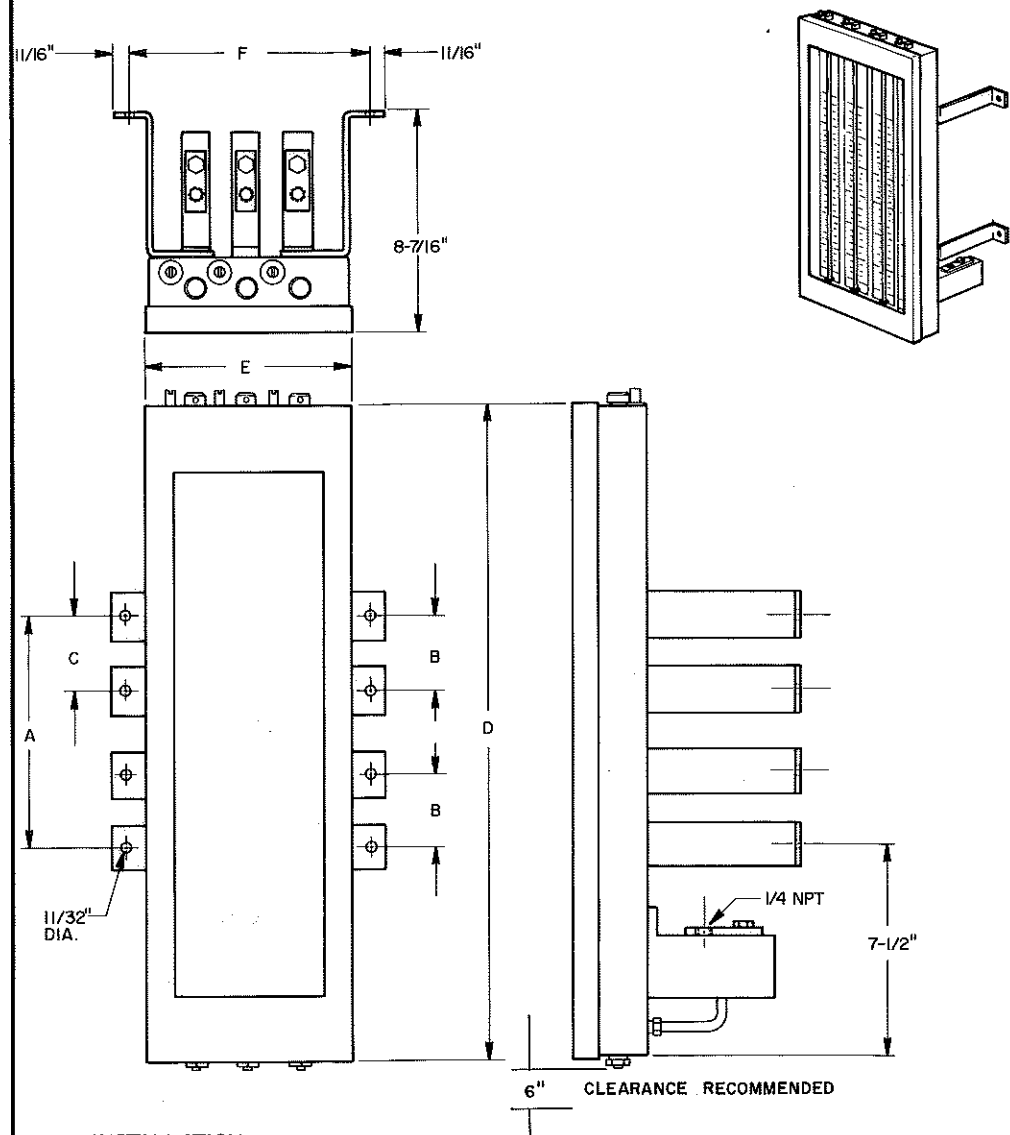


KING COLUMN INDICATORS MODELS 3210F&S, 3230F&S and 3250F&S



INSTALLATION---

1. MOUNT INDICATOR RIGIDLY IN A VERTICAL POSITION USING DIMENSIONS SHOWN IN "A" TABLES.
2. REMOVE FRONT COVER. REMOVE AND DISCARD ALL FELT PACKING MATERIAL FROM CASE.
3. REMOVE AND DISCARD PLASTIC THREAD PROTECTORS FROM INDICATOR WELL(S) (DETAIL IA & II). IF OPTIONAL OVERFLOW CHECK VALVE IS TO BE USED SEE SEPARATE INSTRUCTIONS AND DETAIL IB.
4. ADJUST SCALE(S) TO LOWEST POSITION USING SCALE SCREW ADJUSTMENT. (DETAIL IA) IF SCALES HAVE NOT BEEN INSTALLED SEE SEPARATE INSTRUCTIONS.
5. ADD INDICATING LIQUID (SHIPPED SEPARATELY). SEE SEPARATE INSTRUCTIONS.
6. REPLACE FRONT COVER AND CONNECT SIGNAL TUBING FROM PROPER SENSOR CONTROL ("6" PORT) TO PROPER INDICATOR WELL. (DETAIL II)

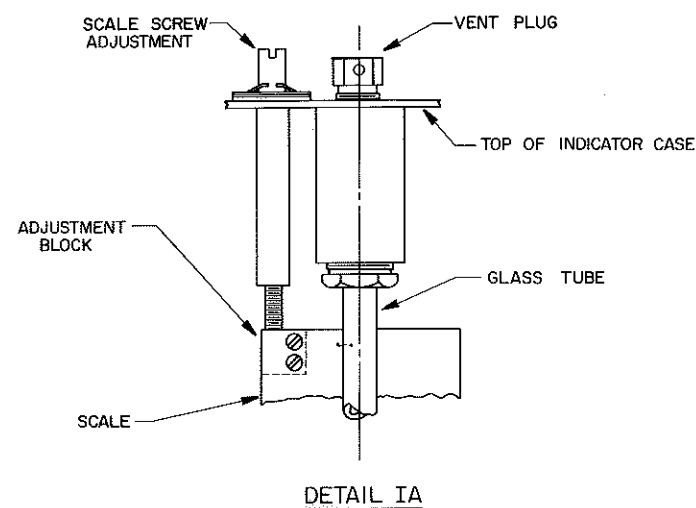


TABLE A-1

RANGE	A"	B**	C**	D***
6	---	---	---	11-1/2
12	---	---	---	17-1/2
20	10-1/2	---	---	25-1/2
30	20-1/2	---	---	35-1/2
35	25-1/2	---	---	40-1/2
40	30-1/2	---	---	45-1/2
50	40-1/2	---	---	55-1/2
60	50-1/2	---	27	65-1/2
70	60-1/2	---	30-1/4	75-1/2
80	70-1/2	---	35-1/4	85-1/2
90	80-1/2	28-3/16	---	95-1/2
100	90-1/2	30-5/32	---	105-1/2

* NOT APPLICABLE TO SINGLE TUBE MODELS.
 ** FOR SINGLE TUBE UNITS SUBTRACT 1/8" FROM DIMENSION "D".

TABLE A-2 (MODEL 3230)

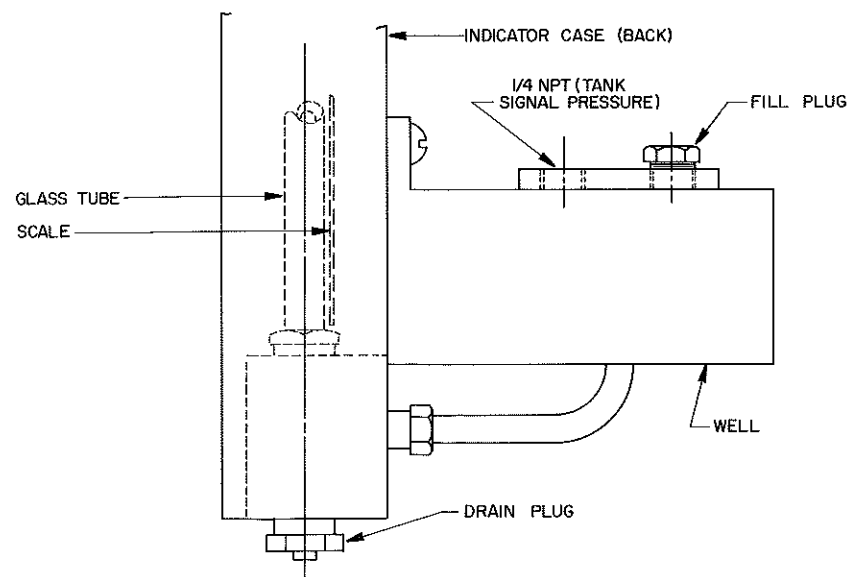
NUMBER OF TUBES	E"	F"
2	5-3/16	5-7/8
3	6-11/16	7-3/8
4	8-3/16	8-7/8
5	9-11/16	10-3/8
6	11-3/16	11-7/8
7	12-11/16	13-3/8
8	14-3/16	14-7/8
9	15-11/16	16-3/8
10	17-3/16	17-7/8

TABLE A-3 (MODELS 3210 & 3250)

NUMBER OF TUBES	E"	F"
1	3-5/16	5-3/8
2	5-5/8	6-5/16
3	7-15/16	8-5/8
4	10-1/4	10-15/16
5	12-9/16	13-1/4
6	14-7/8	15-9/16
7	17-3/16	17-7/8
8	19-1/2	20-3/16
9	21-13/16	22-1/2
10	24-1/8	24-13/16

ADDING INDICATING LIQUID---

1. INDICATING LIQUID CAN BE ADDED EITHER THRU THE TOP OPENING, ABOVE GLASS TUBE OR THRU ONE OF THE OPENINGS IN THE WELL (DETAIL II).
2. ADD INDICATING LIQUID UNTIL ITS LEVEL IN THE GLASS TUBE IS SLIGHTLY HIGHER THAN THE LOWEST MARK ON THE SCALE. REPEAT FOR EACH INDICATING TUBE. (DETAIL III)
3. MAKE FINAL ADJUSTMENT BY ALIGNING LOWEST MARK ON SCALE TO COINCIDE WITH THE LIQUID LEVEL. USE SCALE ADJUSTMENT SCREW FOR THIS ADJUSTMENT (DETAIL IA & IIA). ANY VARIATION WILL RESULT IN A FALSE READING. REPEAT FOR EACH INDICATING TUBE.
4. CONNECT TRANSMISSION TUBING. SEE SEPARATE INSTRUCTIONS.



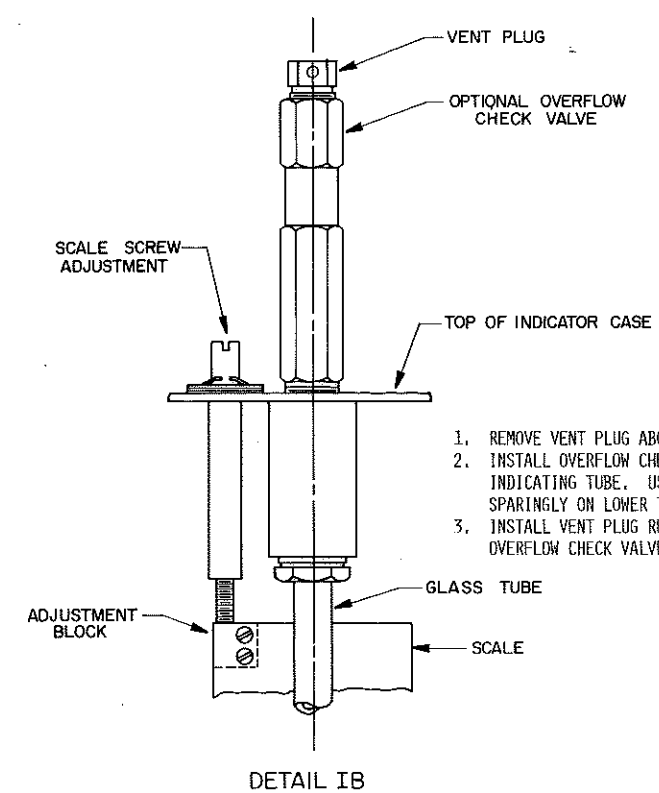
INSTALLATION OF SCALES---

MULTI-TUBE -- WITH FRONT COVER REMOVED ---

1. POSITION SCALES BEHIND THEIR APPROPRIATE INDICATING TUBES. NOTE: ON 50" RANGE AND LONGER INDICATORS THE TUBE SUPPORT (IN CENTER OF EACH TUBE) WILL HAVE TO BE LOOSENED FROM BACK OF CASE AND ROTATED AROUND INDICATING TUBE SO TUBE SUPPORT CAN PASS THRU SCALE. RETURN SUPPORT TO ORIGINAL POSITION AND RE-TIGHTEN.
2. ALIGN SLOT IN LOWER PART OF SCALE WITH SET SCREW IN CASE (DETAIL III) AND CONNECT ADJUSTMENT SCREW BLOCK TO UPPER LEFT SIDE OF SCALE (DETAIL IA). ADJUST SCALE TO LOWEST POSITION.
3. REPEAT FOR REMAINING SCALES AND REPLACE FRONT COVER.
4. ADD INDICATING LIQUID (SEE SEPARATE INSTRUCTIONS).

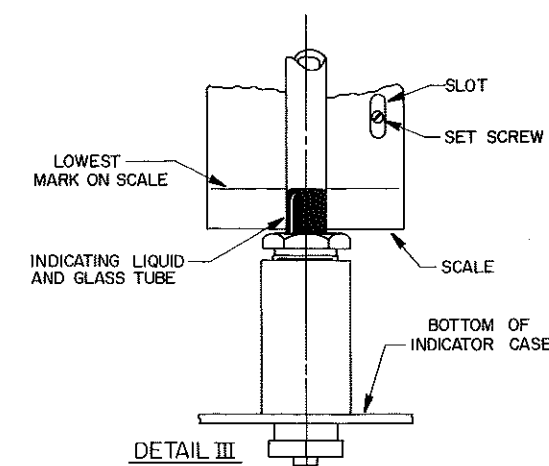
SINGLE TUBE -- WITH FRONT COVER REMOVED ---

1. REMOVE SPRING CLIPS FROM LEFT EDGE OF CASE AND PUSH THEM BACK INTO CASE.
2. SLIDE SCALE INTO CASE FROM RIGHT SIDE --- BEHIND GLASS TUBE --- AND "NEST" SCALE INTO SPRING CLIPS.
3. CONNECT ADJUSTMENT SCREW BLOCK TO UPPER LEFT SIDE OF SCALE. ADJUST SCALE TO LOWEST POSITION.
4. SNAP SPRING CLIPS BACK INTO PLACE AND REPLACE FRONT COVER.
5. ADD INDICATING LIQUID. (SEE SEPARATE INSTRUCTIONS)



TRANSMISSION TUBING INSTALLATION---

THE TRANSMISSION TUBING THAT CONNECTS THE SENSOR CONTROL TO THE INDICATOR MAY BE 1/4" O.D., OR SMALLER, COPPER, NYLON OR POLY-FLO. THIS TUBING CONVEYS THE SIGNAL PRESSURE FROM THE SENSOR CONTROL "6" PORT TO THE INDICATOR WELL. CONSIDERATION SHOULD BE TAKEN AS TO THE LOCATION OF THE INDICATOR SO THE TUBING IS CLEAR AND FREE FROM EXCESSIVELY SHARP BENDS FOR ITS ENTIRE LENGTH. CARE SHOULD ALSO BE TAKEN TO PROTECT THE TUBING FROM ANY POSSIBLE DAMAGE. (DETAIL II)



KING COLUMN INDICATORS --WALL MOUNT VENTED SYSTEMS

MODEL 3210F&S--- SINGLE TUBE
 MODEL 3230F&S---MULTI-TUBE, 1-1/2" TUBE CENTERS
 MODEL 3250F&S---MULTI-TUBE, 2-5/16" TUBE CENTERS
 F=PAINTED STEEL CASE & COVER
 S=STAINLESS STEEL CASE & COVER
GENERAL INFORMATION:

KING COLUMN INDICATORS SHOULD BE MOUNTED SO AS TO ENSURE EFFICIENT READING AND ACCESSIBILITY FOR MAINTENANCE. INDICATING LIQUID IS SHIPPED SEPARATELY AND MUST BE ADDED ONLY AFTER THE INDICATOR IS PERMANENTLY MOUNTED.

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K-1000-2-V
 EFFECTIVE 4-28-78
 (ORIGINAL)