

INSTRUMENTATION

STEAM TRACING

C			IRANIAN PETROLEUM STANDARDS 			
B			NO REVISION PERMITTED UNLESS APPROVED BY STANDARD ORGANIZATION			
A			INSTRUMENTATION	DATE	DRAWING No.	SHT/REV.
REV.	DESCRIPTION	DATE	STEAM TRACING		IPS - D - IN - 107	/

GENERAL NOTES :

- 1- DANGER FROM OVERHEATING CAN BE MINIMIZED BY "LIGHT TRACING" IN WHICH DIRECT CONTACT BETWEEN THE TRACER AND LINE OR INSTRUMENT IS PREVENTED BY THE USE OF INSULATION OR SPACING.
- 2- THE SUPPLY HEADER SHOULD BE AT THE HIGHEST POINT AND SHUTOFF VALVE SHOULD BE PROVIDED FOR EACH TRACER , SO THE SHUTTING OFF STEAM TO ONE HOUSING FOR SERVICING DOES NOT AFFECT OTHER INSTRUMENTS.
- 3- TRACING SHOULD SLOPE DOWNWARD CONTINUOUSLY TO AVOID POCKETS AND FACILITATE DRAINAGE.
- 4- A SEPARATE TRAP AND CONDENSATE ISOLATING VALVE SHOULD BE PROVIDED FOR EACH TRACER.
- 5- JOINTS IN TRACING TUBING SHOULD BE AVOIDED IF POSSIBLE WHERE THEY ARE NECESSARY , THEY SHOULD BE MADE OUTSIDE THE INSULATION WITH EXPANSION LOOPS TO PREVENT STRESS ON THE FITTINGS.
- 6- ALL TRACERS SHALL HAVE SHUTOFF VALVE AT SOURCE AND STEAM TRAP OR VALVE AT TERMINATION FOR CONDENSATE DISPOSAL.
- 7- WHERE MAXIMUM HEAT IS REQUIRED , THE TRACER TUBING CAN BE CEMENTED TO THE LINES WITH HEAT TRANSFER CEMENT OR MORE THAN ONE TRACER CAN BE USED.
- 8- EITHER COPPER OR STAINLESS STEEL TUBING WHICH ARE SIZED FOR THE PARTICULAR SERVICE SHOULD BE USED TO CARRY HEATING STEAM.
- 9- FOR THE INSTRUMENTS WHICH REQUIRE FREQUENT SERVICING OR ACCESS,THE USE OF A HEATED AND INSULATED HOUSING AND TRACING ARRANGEMENT, AS SHOWN IN FIG- 4, IS ADVISABLE.

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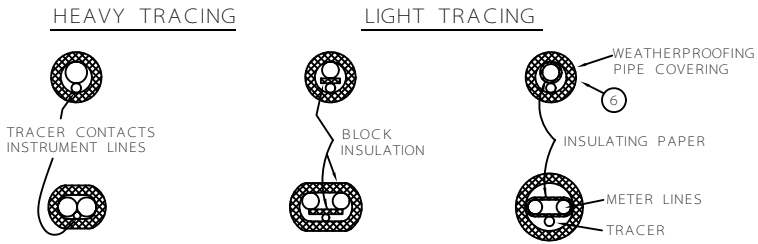


FIG - 1
STEAM TRACING AND INSULATION METHODS
FOR INSTRUMENT LINES

HEAVY TRACING

LIGHT TRACING

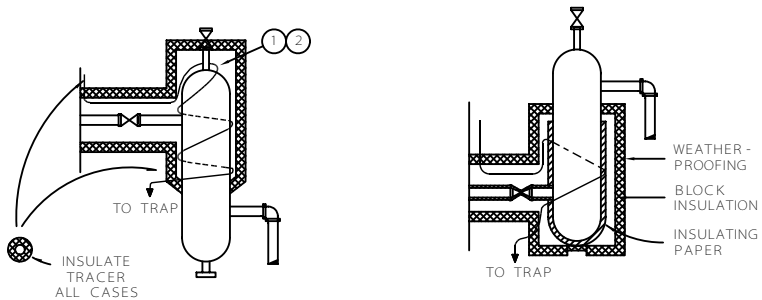


FIG - 2
TYPICAL FOR SEAL POTS

ITME	SIZE	DESCRIPTOIN	MATERIAL
1	1/4*(6mm)	TRACER TUBE	COPPER OR S.S.
2	3/8*(10mm)	TRACER TUBE	COPPER OR S.S.
6	7/8*(22mm)	MAGNESIA OR EQUIVALENT	

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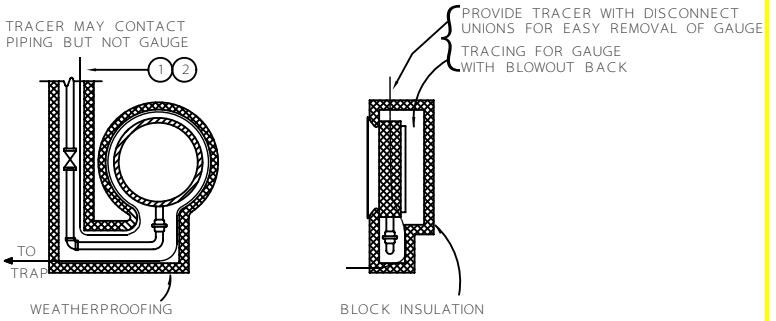


FIG - 3

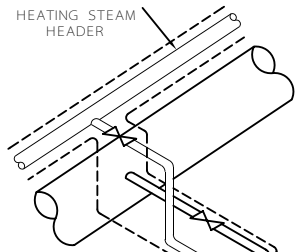


TYPICAL FOR GAUGES
STEAM TRACING AND INSULATION METHODS

NOTES : INSULATION MUST NOT BE APPLIED IN MANNER WHICH WILL OBSTRUCT
GAUGE BLOWOUT PROTECTION FEATURES.

ITEM	SIZE	DESCRIPTOIN	MATERIAL
1	1/4*(6mm)	TRACER TUBE	COPPER OR S.S.
2	3/8*(10mm)	TRACER TUBE	COPPER OR S.S.

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INSULATION
SEE FIG. 1 & 2
FOR DETAILS

INSULATED HOUSING

HEATING COIL MOUNTED ON BOTTOM OR SIDE OF HOUSING ANCHOR AND SHIELD TO PREVENT ACCIDENTAL CONTACT AND BURNS. COIL MAY BE MADE IN FIELD FROM COPPER TUBING. USE 3/8" OR LARGER TUBING. RADIATING SURFACE REQUIRED VARIES WITH CLIMATE, SIZE OF HOUSING, HOUSING INSULATION, AND STEAM PRESSURE.

STEAM TRAP AND HAND VALVE

CONDENSATE
DISPOSAL

TYPICAL METHOD OF STEAM TRACING AND HOUSING FOR FIELD-MOUNTED PRESSURE INSTRUMENT

FIG - 4

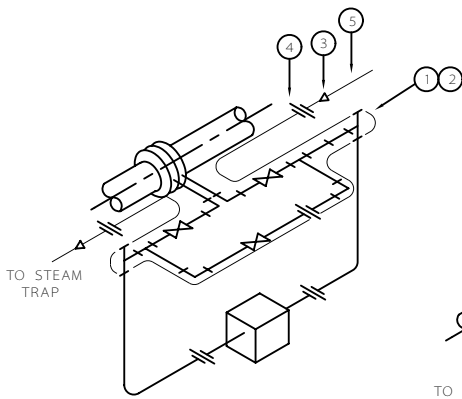
ITEM	SIZE	DESCRIPTION	MATERIAL
1	1/4"(6mm)	TRACER TUBE	COPPER OR S.S.
2	3/8"(10mm)	TRACER TUBE	COPPER OR S.S.

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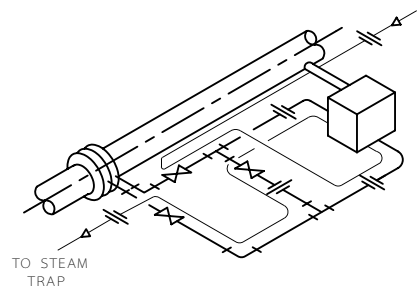
IRANIAN PETROLEUM STANDARDS

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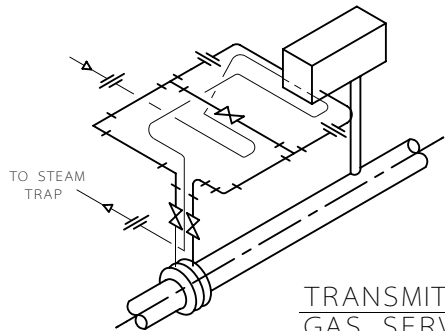
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SEALED TRANSMITTER
LINE TO SEAL TRACING



TRANSMITTER FOR
LIQUID SERVICE



TRANSMITTER
GAS SERVICE

FIG - 5

NOTES :

- 1 - USE LIGHT TRACING ON ELECTRIC TRANSMITTERS.
- 2 - PROVIDE DISCONNECT UNIONS IN TRACER TO PERMIT EASY REMOVAL OF TRANSMITTER.

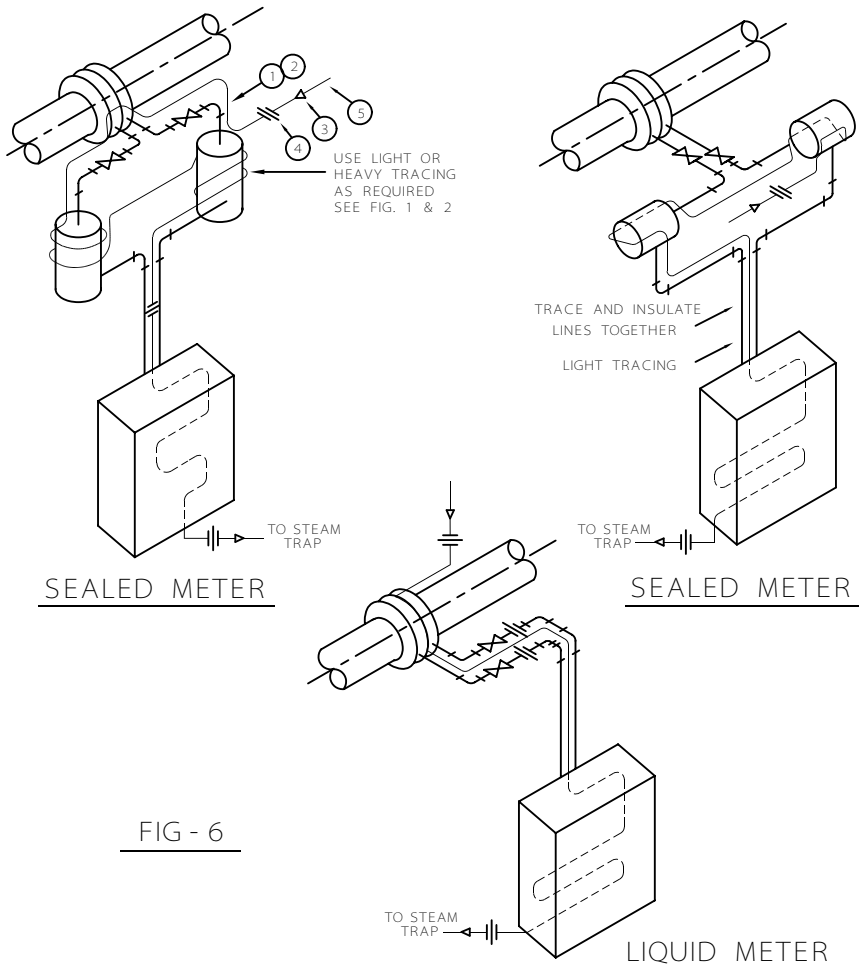
ITME	SIZE	DESCRIPTOIN	MATERIAL
1	1/4*(6mm)	TRACER TUBE	COPPER OR S.S.
2	3/8*(10mm)	TRACER TUBE	COPPER OR S.S.
3	3/8"x1/2"	FEMALE CONNECTION (REDUCER)	BRASS OR S.S.
4	3/8*(10mm)	UNION	BRASS OR S.S.
5	1/2*(15mm)	PIPE	CARBON STEEL

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IRANIAN PETROLEUM STANDARDS

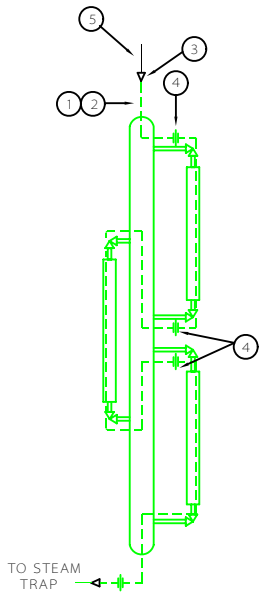
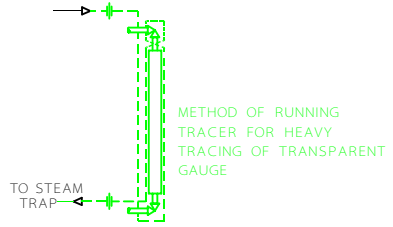
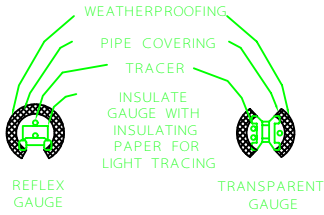
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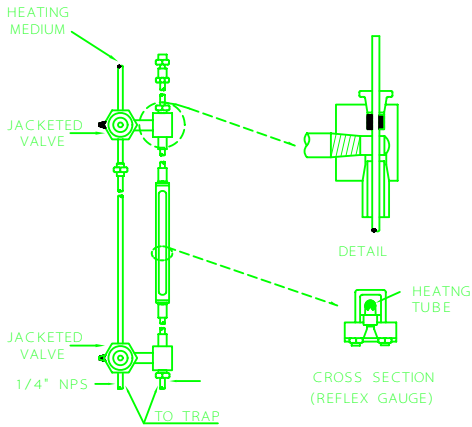
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1	1/4"(6mm)	TRACER TUBE	COPPER OR S.S.
2	3/8"(10mm)	TRACER TUBE	COPPER OR S.S.
3	3/8"x1/2"	FEMALE CONNECTION (REDUCER)	BRASS OR S.S.
4	3/8"(10mm)	UNION	BRASS OR S.S.
5	1/2"(15mm)	PIPE	CARBON STEEL

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TYPICAL
GAUGE GLASS TRACING

FIG - 7



HEATED GAUGE GLASS
(OR "STEAM-CUTTED")

FIG - 8

ITME	SIZE	DESCRIPTOIN	MATERIAL
1	1/4"(6mm)	TRACER TUBE	COPPER OR S.S.
2	3/8"(10mm)	TRACER TUBE	COPPER OR S.S.
3	3/8"x1/2"	FEMALE CONNECTION (REDUCER)	BRASS OR S.S.
4	3/8"(10mm)	UNION	BRASS OR S.S.
5	1/2"(15mm)	PIPE	CARBON STEEL

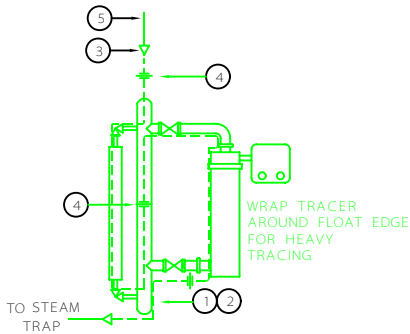
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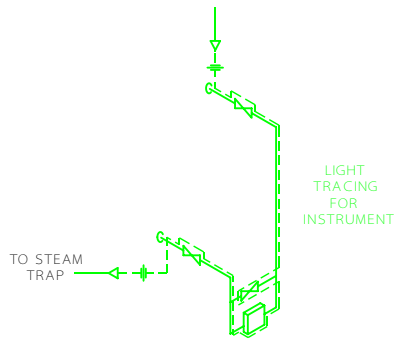


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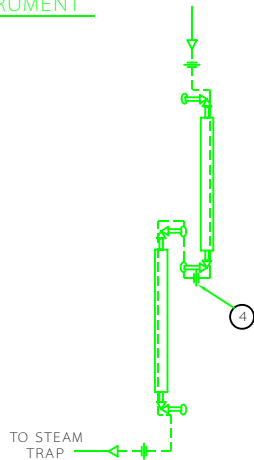
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TYPICAL TRACING
GAUGE GLASS AND
FLOAT LEVEL INSTRUMENT



LEVEL INSTRUMENT



TYPICAL
GAUGE GLASS TRACING

FIG - 9

ITME	SIZE	DESCRIPTOIN	MATERIAL
1	1/4*(6mm)	TRACER TUBE	COPPER OR S.S.
2	3/8*(10mm)	TRACER TUBE	COPPER
3	3/8"x1/2"	FEMALE CONNECTION (REDUCER)	BRAS OR S.S.
4	3/8*(10mm)	UNION	BRASS OR S.S.
5	1/2*(15mm)	PIPE	CARBON STEEL

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IRANIAN PETROLEUM STANDARDS



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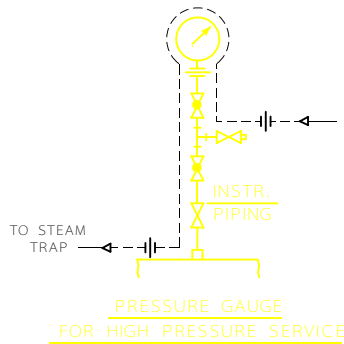
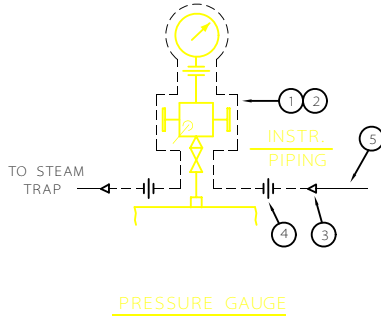


FIG - 9

ITME	SIZE	DESCRIPTOIN	MATERIAL
1	1/4*(6mm)	TRACER TUBE	COPPER OR S.S.
2	3/8*(10mm)	TRACER TUBE	COPPER OR S.S.
3	3/8"x1/2"	FEMALE CONNECTION REDUCER	BRASS OR S.S.
4	3/8*(10mm)	UNION	BRASS OR S.S.
5	1/2*(15mm)	PIPE	CARBON STEEL

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