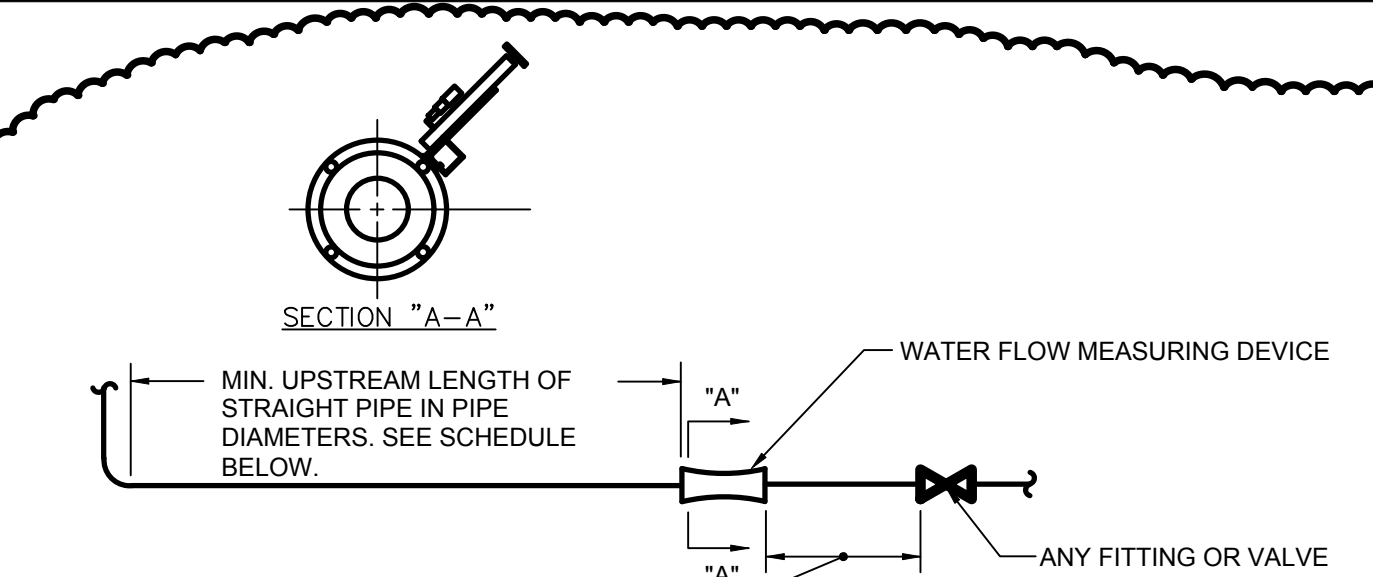


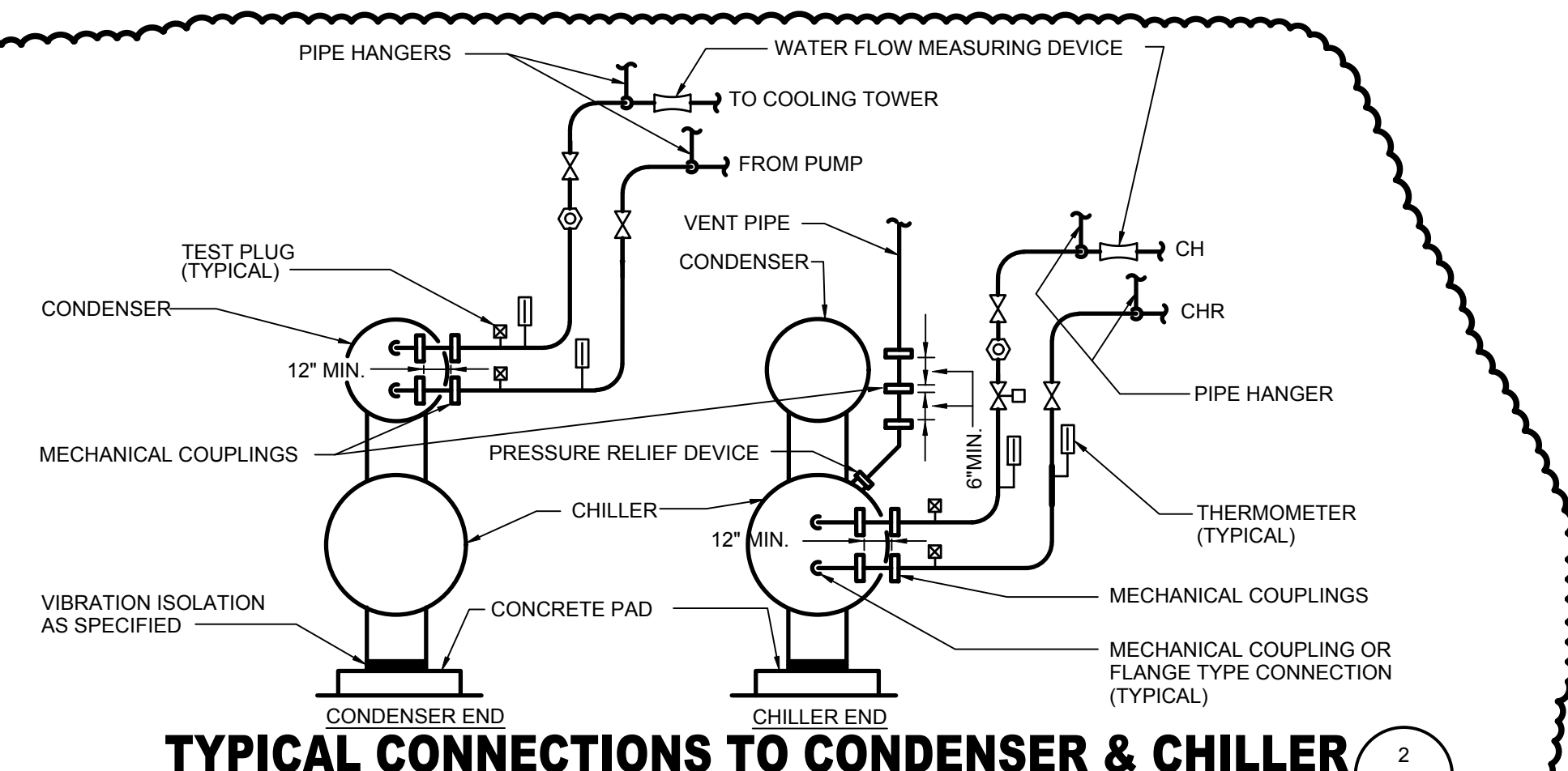
three inches = one foot
one and one-half inches = one foot
one inch = one foot
three-quarters inch = one foot
one-half inch = one foot
three-eighths inch = one foot
one-quarter inch = one foot
one-eighth inch = one foot



WATER FLOW MEASURING DEVICE INSTALLATION DETAIL 1 8-M10

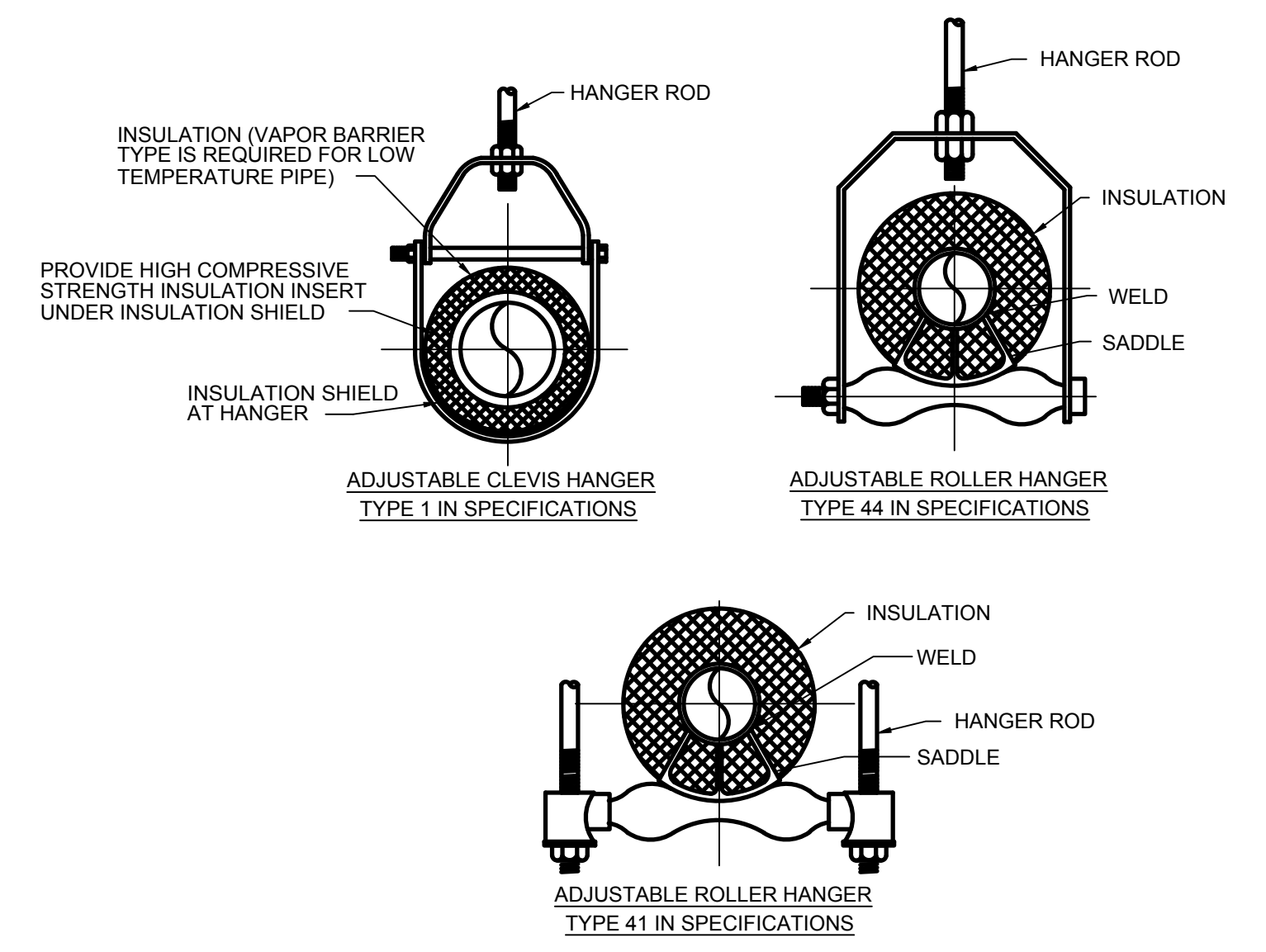
WATER FLOW MEASURING DEVICE INSTALLATION SCHEDULE			
TYPE	MIN. UPSTREAM LENGTH OF STRAIGHT PIPE IN PIPE DIAMETERS FOR SIDE TEE	FOR VALVE OR OTHER FITTING	MIN. DOWNSTREAM LENGTH OF STRAIGHT PIPE IN PIPE DIAMETERS
V-BAR INSERTION VORTEX	10	10	5

- NOTES:
- DIMENSIONS SHOWN IN SCHEDULE ARE MINIMUM REQUIRED. IF MANUFACTURER OF FURNISHED WATER FLOW MEASURING DEVICE RECOMMENDS A GREATER DIMENSION, USE THEIR RECOMMENDATION.
 - INSTALL THE WATER FLOW MEASURING DEVICE SO THE FLOW ARROW IS IN THE SAME DIRECTION AS THE FLOW.
 - THE WATER FLOW MEASURING DEVICE MAY BE INSTALLED IN EITHER HORIZONTAL OR VERTICAL PIPE.



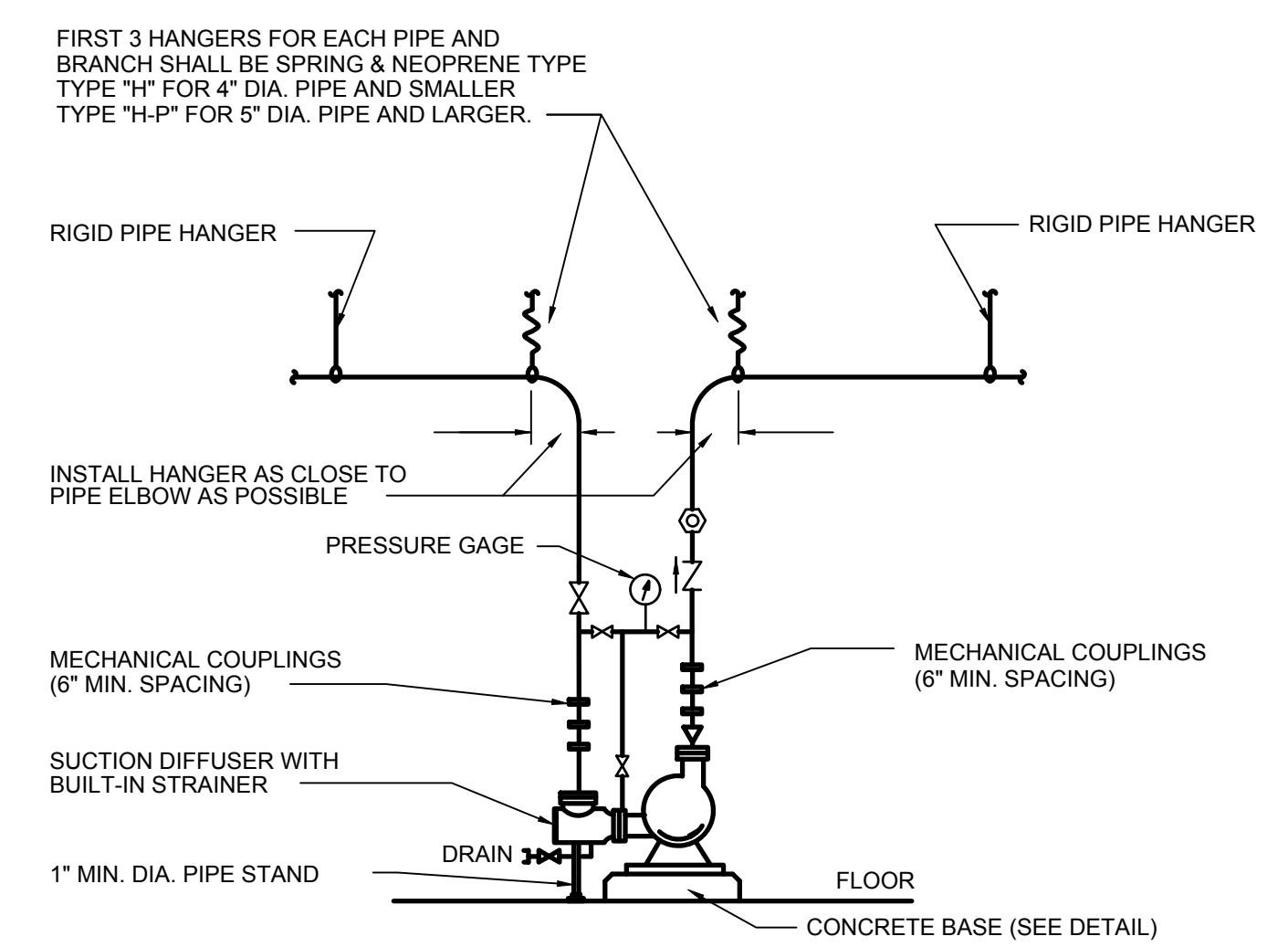
TYPICAL CONNECTIONS TO CONDENSER & CHILLER 2 8-M10

- NOTES:
- DRAIN ALL LOW POINTS OF SYSTEM TO NEAREST FLOOR DRAIN.
 - PROVIDE ADDITIONAL MECHANICAL COUPLINGS OR FLANGED CONNECTIONS IF MECHANICAL COUPLING ARE NOT USED AS REQUIRED TO REMOVE A MINIMUM AMOUNT OF PIPING FOR REMOVAL OF TUBES.
 - COLLECT VENT PIPES FROM ALL REFRIGERANT SAFETY RELIEF DEVICES AND EXTEND TO EXTERIOR OF BUILDING IN ACCORDANCE WITH ANSI B-9.1. HEADER SIZE TO EQUAL OR EXCEED TOTAL AREA OF DEVICES CONNECTED TO THE HEADER.



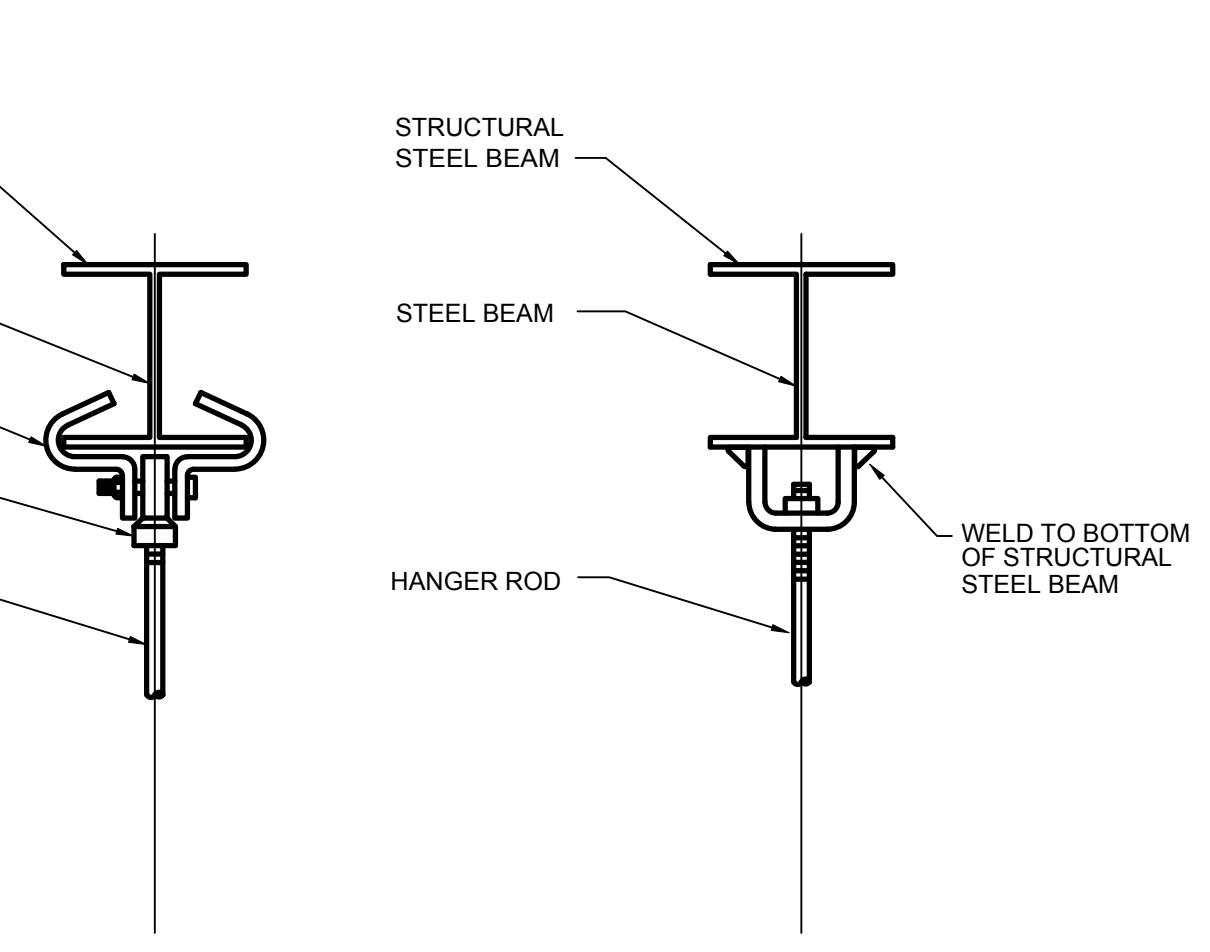
MAXIMUM PIPE SUPPORT SPACING, FEET															
NOM. SIZE	THRU 3/4"	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16
PIPE	7 FT	7	7	9	10	11	12	14	16	17	19	22	22	23	23

TYPICAL PIPE HANGERS 3 8-M10

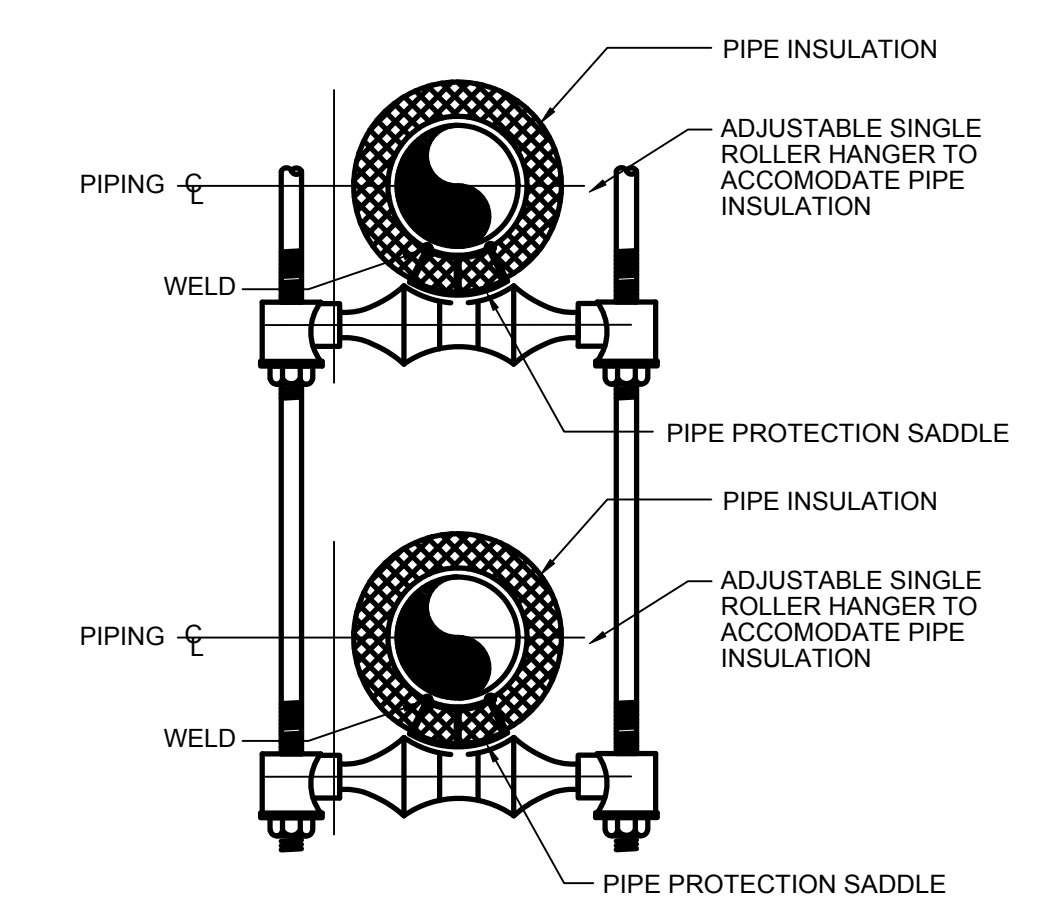


TYPICAL CONNECTIONS TO FLOOR MOUNTED DOUBLE SUCTION WATER PUMPS 7 8-M10

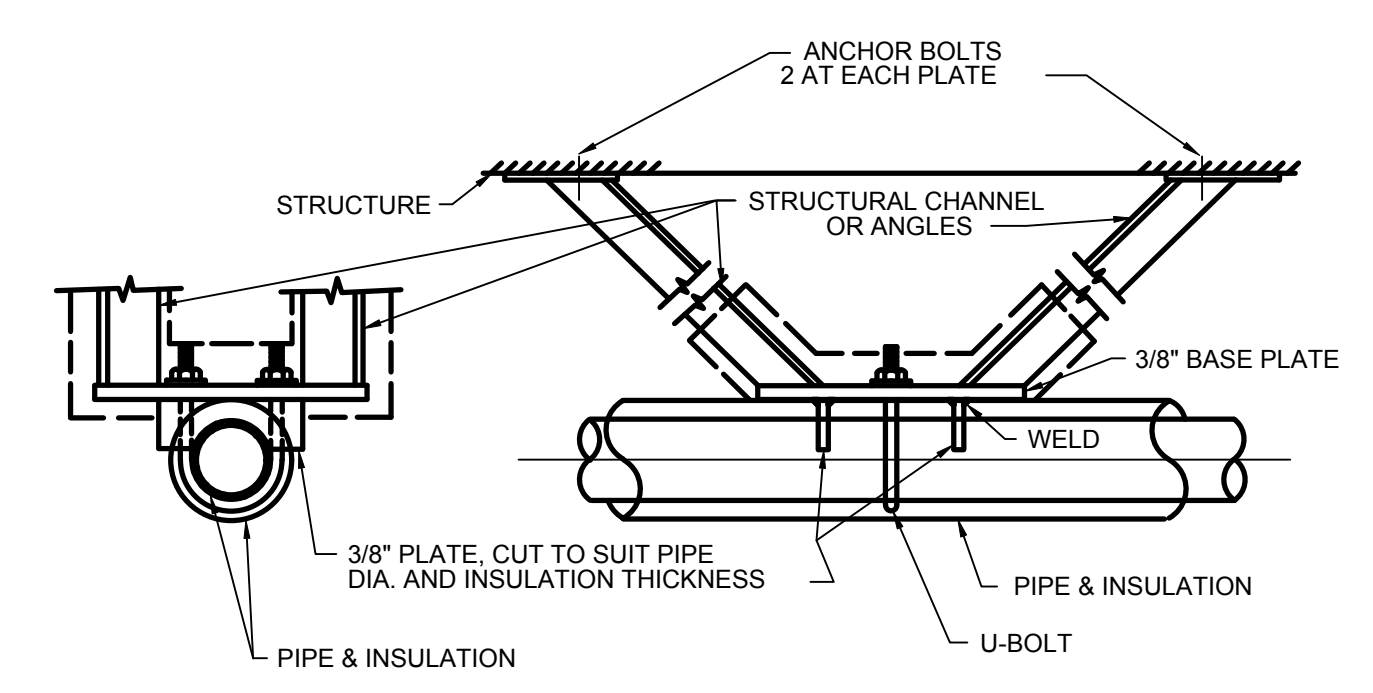
- NOTE:
- SEE SPECIFICATION SECTION "PUMPS" FOR Y STRAINER OPTION.



TYPICAL PIPE HANGER SUPPORTS 4 8-M10

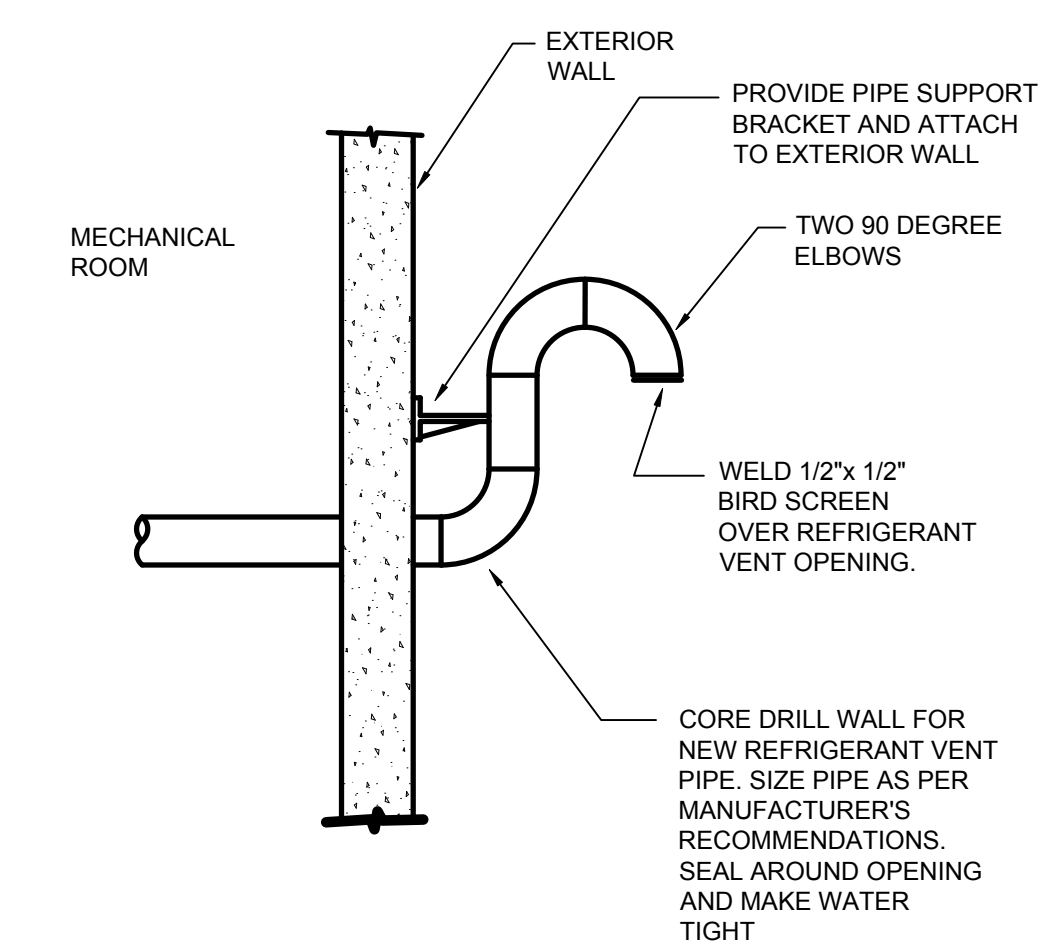


DOUBLE PIPE HANGER SUPPORT 5 8-M10

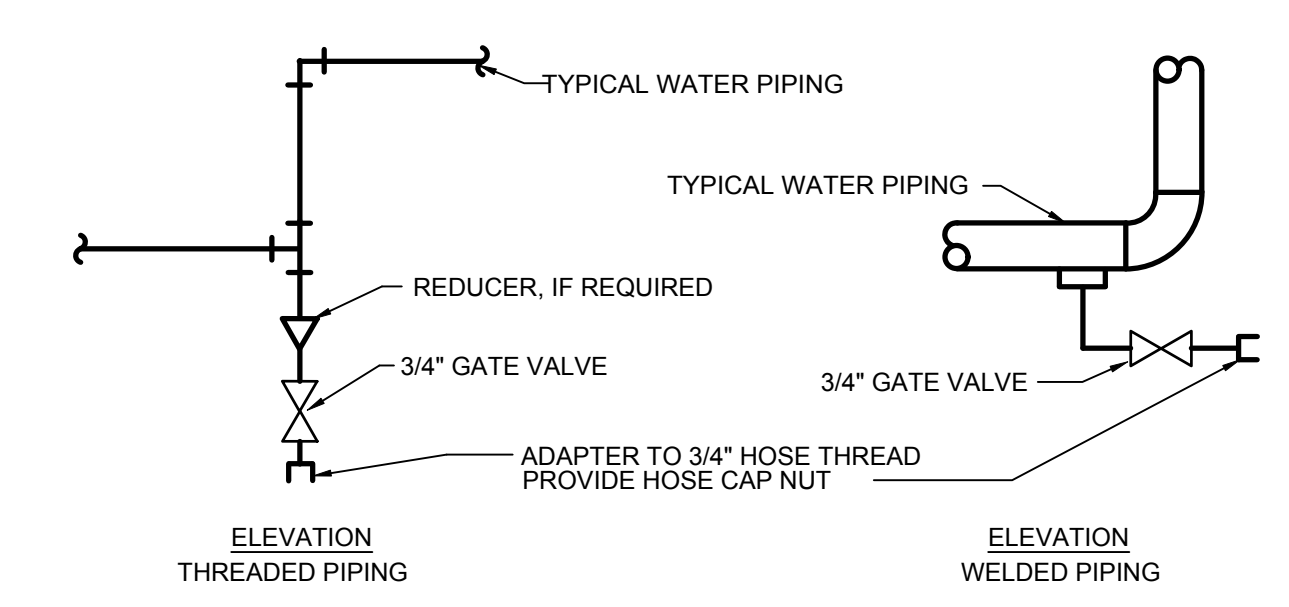


HORIZONTAL PIPE ANCHOR DETAIL 6 8-M10

- NOTE:
- INSULATE ANCHOR AS INDICATED FOR COLD PIPING.

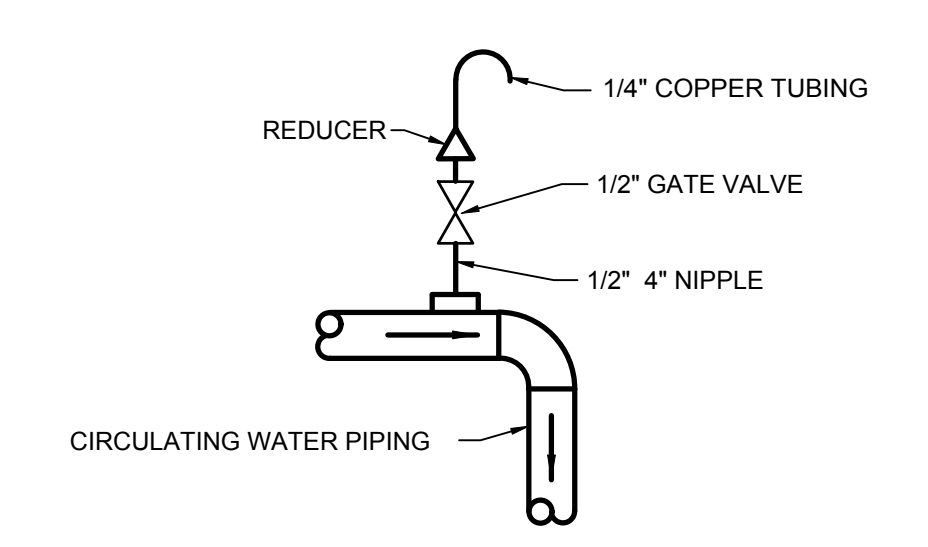


REFRIGERANT VENT DETAIL 8 8-M10



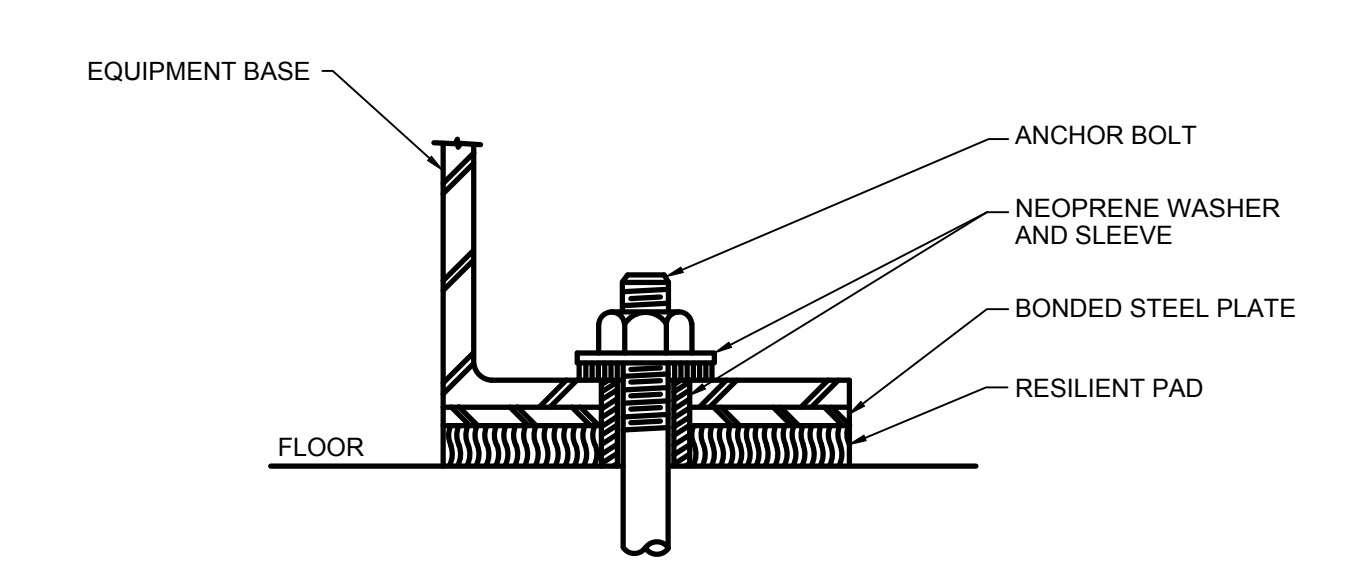
TYPICAL DRAIN VALVE CONNECTION 9 8-M10

- NOTES:
- DRAIN ALL LOW POINTS AS INDICATED ABOVE.
 - WHERE SCALE POCKETS ARE SHOWN ON PIPE RISER DIAGRAMS AND/OR PLANS LOCATE DRAIN AT BOTTOM OF SCALE POCKET.

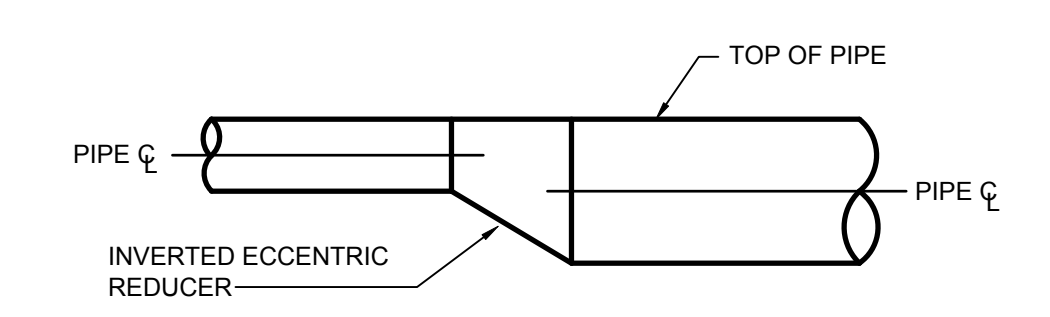


ELEVATION TYPICAL AIR VENT 10 8-M10

- NOTES:
- VENT ALL HIGH POINTS AS INDICATED ABOVE.
 - IF AUTOMATIC AIR VENTS ARE USED, PIPE DISCHARGE TO DRAIN.



EQUIPMENT RESTRAINED BY RESILIENT PADS (TYPE DS) 11 8-M10



TYPICAL PIPE SIZE CHANGE FOR WATER 12 8-M10

AMENDMENT No. 5
Revisions

10/07/11
Date

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Approved: _____
Approved: _____

Approved: Director, VA Pittsburgh Healthcare System
Approved: Associate Director, VAPHCS
Approved: Vice President, Facilities Management
Approved: Manager, Projects Section

Drawing Title
MECHANICAL DETAILS
Approved: Site Manager
Approved: Project Manager

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Scale NONE
Drawn/Checked CRE/DEP
Location VA PITTSBURGH HEALTHCARE SYSTEM
UNIVERSITY DRIVE DIVISION
PITTSBURGH, PA 15240

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Veterans Affairs

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