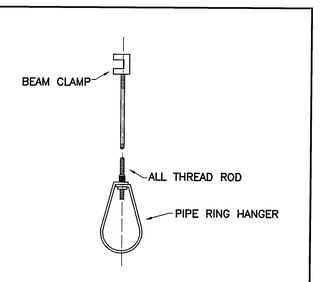
MAX. DISTANCE OF FIXTURE TRAP FROM VENT FPC TABLE 906.1

SIZE OF TRAP	SIZE OF FIXTURE DRAIN	SLOPE	DISTANCE FROM TRAP
1 1/4"	1 1/4"	1/4"	3 1/2'
1 1/4"	1 1/2"	1/4"	5'
1 1/2"	1 1/2"	1/4"	5'
1 1/2"	2"	1/4"	6'
2"	2"	1/4"	6'
3"	3"	1/8"	10'
4"	4"	1/8"	12'

HANGER SPACING

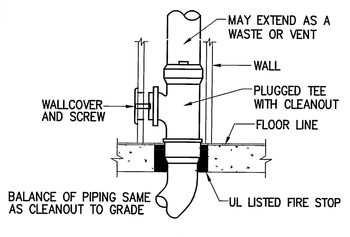
PIPING MATERIAL	MAXIMUM HORIZONTAL SPACING	MAXIMUM VERTICAL SPACING
CAST IRON	5' (A)	15'
COPPER PIPE	12'	10'
COPPER TUBING 1 1/4"ø AND LESS	6'	10'
COPPER TUBING 1 1/2"ø AND OVER	10'	10'
PVC PIPE	4'	10' (B)
STEEL PIPE	12'	15'

A – SPACING SHALL BE 10' IF 10' LENGTHS ARE INSTALLED
B – MID STORY GUIDE FOR 2"ø AND LARGER



PIPE HANGER

NOT TO SCALE



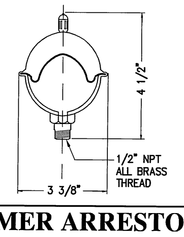
WALL CLEANOUT

WALL CLEANOUT

NOT TO SCALE

SPECIFICATIONS:
PRECHARGE PRESSURE = 22 PSIG.
TOTAL VOLUME = 10 CUBIC INCHES
MAXIMUM WORKING PRESSURE = 125 PSIG.
MAXIMUM SHOCK PRESSURE = 200 PSIG
MAXIMUM OPERATING TEMPERATURE = 200 DEG F.
MAXIMUM FLOW RATE = 10 FPS.

NOTES:
1. THIS UNIT IS A COMPLETELY SEALED AND DOES NOT REQUIRE AN ACCESS PANEL.
2. THIS A TYPICAL UNIT DETAIL. FOR SPECIFIC SIZE SEE ISOMETRICS.



TYPICAL WATER HAMMER ARRESTOR

NOT TO SCALE

FIXTURE SCHEDULE

MARK	DESCRIPTION	COLD	HOT	DRAIN
L-1	OVAL (19"X15"), VITREOUS CHINA, UNDERCOUNTER MOUNT, LAVATORY WITH 8" CENTERS. WRIST BLADE LEVER FAUCET WITH 0.35 GPM AERATOR SPRAY HEAD. NO POP UP ASSEMBLY. GRID DRAIN. LAVATORY: KOHLER K-2011 CAXTON, WHITE FAUCET: KOHLER K-7443-5A-CP TRITON 8" WIDESPREAD PROVIDE TRU BRO PROTECTIVE SHIELD FOR EXPOSED DRAINAGE AND HOT & COLD WATER PIPING.	1/2"	1/2"	1 1/4"
L-2 ADA	ADA WALL MOUNTED LAVATORY (21"X18"), VITREOUS CHINA, WITH 8" CENTERS. WRIST BLADE LEVER FAUCET WITH 0.35 GPM AERATOR SPRAY HEAD. NO POP UP ASSEMBLY. GRID DRAIN. PROVIDE CONCEALED ARM SUPPORT. LAVATORY: KOHLER K-2006-0 KINGSTON, WHITE FAUCET: KOHLER K-7443-5A-CP TRITON 8" WIDESPREAD PROVIDE TRU BRO PROTECTIVE SHIELD FOR EXPOSED DRAINAGE AND HOT & COLD WATER PIPING.	1/2"	1/2"	1 1/4"
WC-1 & WC-2 ADA	ADA WATER CLOSET, FLOOR MOUNTED, MANUAL FLUSH VALVE TYPE, VITREOUS CHINA, ELONGATED BOWL, SIPHON JET ACTION, 1.6 GPF. MOUNTED WITH RIM AT 17" A.F.F., PROVIDE OPEN SEAT WITHOUT COVER. WATER CLOSET: KOHLER K-4368 HIGHCLIFF, WHITE FLUSH VALVE: SLOAN REGAL 111-XL 1.6 GPF SEAT: KOHLER STRONGHOLD ELONGATED WHITE			3"
WC-3	WATER CLOSET, WALL MOUNTED, MANUAL FLUSH VALVE TYPE, VITREOUS CHINA, ELONGATED BOWL, SIPHON JET ACTION, 1.6 GPF. MOUNTED WITH RIM AT 15" A.F.F., PROVIDE OPEN SEAT WITHOUT COVER. WATER CLOSET: KOHLER K-4330-0 KINGSTON, WHITE FLUSH VALVE: SLOAN REGAL 111-XL 1.6 GPF SEAT: KOHLER STRONGHOLD ELONGATED WHITE	1"		3"
WC-4 ADA	ADA WATER CLOSET, WALL MOUNTED, MANUAL FLUSH VALVE TYPE, VITREOUS CHINA, ELONGATED BOWL, SIPHON JET ACTION, 1.6 GPF. MOUNTED WITH RIM AT 17" A.F.F., PROVIDE OPEN SEAT WITHOUT COVER. WATER CLOSET: KOHLER K-4330-0 KINGSTON, WHITE FLUSH VALVE: SLOAN REGAL 111-XL 1.6 GPF SEAT: KOHLER STRONGHOLD ELONGATED WHITE	1"		3"
UR-1	URINAL, WALL MOUNTED, MANUAL FLUSH VALVE TYPE, VITREOUS CHINA, ELONGATED BOWL, BLOW OUT, 1.0 GPF, MOUNTED WITH RIM AT 24" A.F.F. URINAL: KOHLER 4972-ET-0 STANWELL LITE, WHITE FLUSH VALVE: SLOAN GEM 180-1.0 YB, 1.0 GPF	3/4"		2"
UR-2	ADA URINAL, WALL MOUNTED, MANUAL FLUSH VALVE TYPE, VITREOUS CHINA, ELONGATED BOWL, BLOW OUT, 1.0 GPF, MOUNTED WITH RIM AT 17" A.F.F. URINAL: KOHLER 4972-ET-0 STANWELL LITE, WHITE FLUSH VALVE: SLOAN GEM 180-1.0 YB, 1.0 GPF	3/4"		2"
WCO	WALL CLEANOUT. PROVIDE ROUND CHROME ACCESS PLATE IN FINISHED AREAS.			
FD	6"ø FLOOR DRAIN W/ HEEL PROOF CROME PATED BRONZE STRAINER. ZURN FD-2210-PVC3 PROVIDE TRAP PRIMER.			3"
SD	SHOWER DRAIN WITH STAINLESS STEEL STRAINER. ZURN FD-2254			2"
EWC-1	COMBO HI/LOW WALL MOUNTED ELECTRIC WATER COOLER ELKAY MODEL# EZTL8C, 115/1/60, 370W, 4.0A	1/2"		1 1/4"
SHR-1	SINGLE HANDLE PRESSURE BALANCING MIXING SHOWER VALVE. NICKEL CHROME PLATED TRIM. 2.5 GPM MAX SHOWER HEAD. ZURN TEMP-GAURD III SHOWER UNIT Z7301-SS-MT	1/2"	1/2"	
SHR-2 ADA	SINGLE HANDLE PRESSURE BALANCING MIXING SHOWER VALVE. NICKEL CHROME PLATED TRIM. SUPPLIED WITH HAND/WALL SHOWER HEAD, HAND/WALL UNIT, 60" FLEXIBLE METAL HOSE, 24" MOUNTING BAR, SUPPLY ELBOW AND FLANGE. 2.5 GPM MAX SHOWER HEAD. ZURN TEMP-GAURD III SHOWER UNIT Z7300-SS-HW-MT	1/2"	1/2"	
WH-1	ELECTRIC TANK WATER HEATER 119 GALLON, 12KW, 480/3/60 LOCHINVAR LTX120PP 6000W/6000W SIMULTANEOUS	1"	1"	
EXP	EXPANSION TANK AMTROL ST-5 THERM-X-TROL, 2 GALLON	3/4"		
GT	GREASE TRAP, ACID RESISTANT COATED FABRICATED STEEL. ZURN Z-1170 GREASE TRAP 25 GPM, 50 LBS GREASE CAPACITY, 3" INLET/OUTLET			3"

PLUMBING SPECIFICATIONS:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH FLORIDA PLUMBING CODE 2007 AND ALL CODES ADOPTED BY IT.
2. PRIOR TO ORDERING, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT TO ENGINEER OF RECORD FOR APPROVAL.
3. PLUMBING CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE THAT ALL PLUMBING WORK IS FREE FROM DEFECTS OF MATERIALS AND WORKMANSHIP, AND FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE, REPAIR AND REPLACE ALL WORK WHICH BECOMES DEFECTIVE AT NO EXPENSE TO THE OWNER
4. MATERIALS SHALL BE AS FOLLOWS:
   A. DOMESTIC WATER PIPING – TYPE 'L' COPPER WITH LEAD FREE SOLDER
   B. SANITARY WASTE PIPING – ABOVE GROUND: SCH 40 NO-HUB CAST IRON
      UNDERGROUND: SCH 40 PVC
      WASTE FROM DISHWASHER SHALL BE SCH 80 PVC.
   C. CONDENSATE DRAINAGE PIPING – TYPE 'L' COPPER IN 1" ARMAFLEX
   D. VALVES – BRONZE NIBCO OR EQUAL AND RATED AT 125 PSI
   E. HANGERS – COPPER SHALL BE SUPPORTED EVERY 8'-0" HOR.
      – CAST IRON SHALL BE SUPPORTED EVERY 5'-0" HOR. AND AT THE BASE OF EACH STORY LESS THAN 15' HIGH.
      – PVC PIPING SHALL BE SUPPORTED EVERY 4'-0" HOR. AND AT THE BASE OF EACH STORY FOR PIPES GREATER THAN 2"ø AND AT EACH HALF STORY FOR PIPES UP TO 1 1/2"ø
   F. ELECTRIC WATER HEATER SHALL BE GLASS LINED WITH 5 YEAR WARRANTY.
   G. ALL HOSE BIBS SHALL BE EQUIPPED WITH VACUUM BREAKER
   H. ALL PLUMBING FIXTURES SHALL BE WATER SAVER PER CODE. FPC TABLE 604.4. TYPE, COLOR AND TRIM TO BE SELECTED BY OWNER.
   I. ALL FLOOR DRAINS SHALL HAVE TRAP PRIMERS.
   J. HOT WATER SHALL BE INSULATED IN 1" FIBERGLASS ENCASED IN CANVAS JACKET.
5. PERFORM FOLLOWING TESTS:
   A. WATER PIPING SHALL BE SUBJECTED TO 100 PSI HYDROSTATIC PRESSURE FOR A PERIOD OF TIME SUFFICENT TO EXAMINE THE WHOLE SYSTEM BUT NOT LESS THAN 24 HOURS.
   B. DRAINAGE PIPING – THE ENDS OF THE PIPING SHALL BE PLUGGED AND THE SYSTEM FILLED WITH 10 FOOT HEAD OF WATER. WATER SHALL STAND UNTIL INSPECTION IS MADE AND WATER LEVEL REMAINS CONSTANT.
   C. CORRECT DEFECTS DISCLOSED BY ABOVE TEST.
   D. CONCTRACTOR SHALL PROVIDE ENGINEER A CERTIFIED LETTER THAT THE PLUMBING SYSTEM HAS PASSED ALL TESTS.
6. STERILIZE WATER LINES WITH A MIXTURE OF 2 LBS OF CHLORINATED LIME TO EACH 1000 GALLONS OF WATER. RETAIN THE MIXTURE IN PIPES FOR 24 HOURS AND FLUSH THOROUGHLY WITH POTABLE WATER BEFORE PLACING IN SERVICE.
7. COMPLETE SYSTEM: FIXTURES AND EQUIPMENT SHALL BE GIVEN AN IN-SERVICE TEST AFTER COMPLETION OF INSTALLATION.
8. FURNISH REQUIRED FLASHING TO ROOFING CONTRACTOR FOR PIPES PENETRATING THE ROOF
9. PROVIDE EXCAVATION AND BACKFILL COMPACTION REQUIRED FOR PLUMBING UNDERGROUND WORK. ALL PIPING BELOW GRADE SHALL BE COORDINATED WITH STRUCTURAL ELEMENTS PRIOR TO ROUTING.
10. ASSE 1010 CERTIFIED WATER HAMMER ARRESTORS SHALL BE ONLY APPROVED MEANS OF CONTROLLING WATER HAMMER.
11. AIR ADMITTANCE VALVES SHALL BE INSTALLED ONLY WHERE INDICATED IN PLANS. THE USE OF AIR ADMITTANCE VALVES IN LIEU OF PIPED VENTS IN OTHER LOCATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
	GATE VALVE
	BALL VALVE
	P&T RELIEF VALVE
	GATE VALVE IN RISER
	PIPE TURNS DOWN
	PIPE TURNS UP
	UNION
	HOSE BIBB
A	WATER HAMMER ARRESTOR LETTER DENOTES SIZE.
	WALL CLEAN OUT
M	WATER METER
	FLOOR CLEAN OUT
	COLD WATER PIPING
	HOT WATER PIPING
	SANITARY WASTE PIPING
	VENT PIPING
	CONDENSATE DRAIN PIPE
PAN	PAN DRAIN PIPE
P&T	P&T RELIEF PIPE

WARNING!

MECHANICAL EQUIPMENT ORDERED AND DELIVERED TO THE CONSTRUCTION SITE WITH THE WRONG ELECTRICAL CHARACTERISTICS IS A MAJOR SOURCE OF CONSTRUCTION DELAYS , EXTRA COSTS AND LITIGATION THE CONTRACTOR IS HEREBY NOTIFIED THAT IT IS THEIR RESPONSIBILITY FOR FINAL COORDINATION BETWEEN TRADES TO GUARANTEE THAT ALL EQUIPMENT HAS THE CORRECT ELECTRICAL REQUIREMENTS FOR THE ELECTRICAL DIESIGN THE ENGINEERS' REVIEW OF SHOP DRAWINGS IS FOR THE PURPOSE OF ATTEMPTING TO HELP THE CONTRACTOR CONFORM TO PLANS AND SPECIFICATIONS CHANGES TO EQUIPMENT AND/OR CHARACTERISTICS CANNOT BE MADE THROUGH THE SHOP DRAWING PROCESS CHANGES TO EQUIPMENT SPECIFICATIONS CAN ONLY BE MADE THROUGH THE ISSUANCE OF REVISED SIGNED AND SEALED PLANS AND SPECIFICATIONS

TO THE BEST OF MY KNOWLEDGE, THE PLANS AND SPECIFICATIONS SUBMITTED HEREWITH COMPLY WITH EXISTING INTERPRETATIONS AND PROVISIONS OF THE APPLICABLE BUILDING CODES THIS DRAWING IS THE SOLE PROPERTY OF 'HENZ ENGINEERING INC.' AND IS AN INSTRUMENT OF SERVICE NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF HENZ ENGINEERING INC.

I, DAVID A. SCHMIDT, P.E.#59492, CERTIFY THAT I CURRENTLY HOLD AN ACTIVE LICENSE IN THE STATE OF FLORIDA AND I AM COMPETENT THROUGH EDUCATION OR EXPERIENCE TO PROVIDE ENGINEERING SERVICES IN THE MECHANICAL DISCIPLINE CONTAINED IN THIS PLAN. I FURTHER CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE AS DEFINED IN CHAPTER 61G15-18.001 F.A.C. MOREOVER I CERTIFY THAT THE COMPANY OFFERING THE ENGINEERING SERVICES, 'HENZ ENGINEERING INC', HOLDS AN ACTIVE CERTIFICATE OF AUTHORIZATION #3880 TO PROVIDE THE ENGINEERING SERVICE.

DAVID A. SCHMIDT, P.E.
PROFESSIONAL ENGINEER No 59492
STATE OF FLORIDA

DATE

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JUPITER WEST PALM BEACH COUNTY, FLORIDA

FPL

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date: 04-29-11

job no: 1104

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