



PIPING SYMBOLS

- CHEMICAL FEED
- COLD WATER
- SOFTENED WATER
- HOT WATER
- MEDIUM PRESSURE STEAM (16 PSIG THRU 99 PSIG)
- LOW PRESSURE STEAM (15 PSIG AND BELOW)
- LOW PRESSURE STEAM CONDENSATE RETURN
- CONDENSATE PUMP DISCHARGE
- HOT WATER HEATING SUPPLY
- HOT WATER HEATING RETURN
- HOT GLYCOL-WATER HEATING SUPPLY
- HOT GLYCOL-WATER HEATING RETURN
- CONDENSER WATER SUPPLY (FROM TOWER)
- CONDENSER WATER RETURN (TO TOWER)
- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- CHILLED GLYCOL-WATER SUPPLY
- CHILLED GLYCOL-WATER RETURN
- WAKE-UP WATER
- DRAIN LINE
- VENT LINE
- EXISTING PIPE TO BE REMOVED
- MEDIUM PRESSURE GRAVITY CONDENSATE RETURN
- LOW PRESSURE GRAVITY CONDENSATE RETURN

CONTROLS SYMBOLS

- ROOM THERMOSTAT
- ROOM HUMIDISTAT
- TEMPERATURE TRANSMITTER
- TEMPERATURE TRANSMITTER, AVERAGING ELEMENT
- MOISTURE (HUMIDITY) TRANSMITTER
- PRESSURE TRANSMITTER
- STATIC PRESSURE SENSOR
- FLOW TRANSMITTER
- CURRENT TRANSMITTER
- CONDUCTIVITY TRANSMITTER
- SMOKE DETECTOR
- ELECTRIC OPERATED CONTROL DAMPER/OR VALVE
- DIFFERENTIAL PRESSURE TRANSMITTER
- HAND SWITCH (HAND-OFF-AUTO SWITCH)
- TIME CLOCK CONTROLLING EQUIPMENT ON A SCHEDULE
- VALVE OR DAMPER POSITION CONTROLLER
- LOCAL RECORDING TIME CLOCK (RUNTIME)
- TEMPERATURE SWITCH, LOW (FREEZE/STN)
- LEVEL CONTROLLER
- LEVEL TRANSMITTER

VALVE SYMBOLS

- GATE VALVE - THREADED/FLANGED
- GLOBE VALVE - THREADED/FLANGED
- GATE VALVE WITH 3/4" HOSE ADAPTER
- CHECK VALVE
- WYE STRAINER (WITH BALL VALVE & HOSE CONNECTION)
- FLEXIBLE CONNECTION
- ANGLE GLOBE VALVE
- BUTTERFLY VALVE
- BALL VALVE
- MODULATING CONTROL VALVE
- MODULATING CONTROL BUTTERFLY VALVE
- TWO POSITION CONTROL VALVE
- THREE-WAY MODULATING CONTROL VALVE
- THREE-WAY TWO POSITION CONTROL VALVE
- PRESSURE REGULATING VALVE
- PRESSURE SAFETY VALVE
- BAKING VALVE
- GATE VALVE WITH GLOBE-WAIVED BYPASS
- PLUG VALVE
- CONTROL VALVE (CV) - FLOAT-OPERATED
- PRESSURE REDUCING VALVE (PRV)
- STRAINER WITH VALVED DRAIN AND QUICK-COUPLE HOSE CONNECTION
- WATER LEVEL CONTROLLER
- FLOW METER
- TRIPLE DUTY VALVE
- PRESSURE GAUGE
- THERMOMETER
- STEAM TRAP, FLOAT & THERMOSTATIC

CONTROLS SYMBOLS

- TEMPERATURE SENSING ELEMENT FOR THERMOSTAT, THERMOMETER, THERMISTOR (PROVIDE 1/2 INCHES (12.5mm) MINIMUM LENGTH IN DUCT WHEN SPACE PERMITS)
- SENSOR WITH AVERAGING ELEMENT TO TRANSMIT TEMPERATURE TO ENCS
- ELECTRO-PNEUMATIC (EP) SWITCH
- DIGITAL OUTPUT
- DIGITAL INPUT
- ANALOG OUTPUT
- ANALOG INPUT
- AIR FLOW MEASURING STATION
- HUMIDITY SENSOR
- PRESSURE SENSOR
- SPACE THERMOSTAT
- AVERAGING SPACE THERMOSTAT

SPECIAL NOTES

- REFER TO SPECIFICATIONS FOR GENERAL REQUIREMENTS AND MATERIALS OF CONSTRUCTION FOR DUCTWORK AND ASSOCIATED COMPONENTS.
- CONTRACTOR SHALL VERIFY ARRANGEMENT AND CONFIGURATION OF DUCTWORK WITH OTHER COMPONENTS INCLUDING, BUT NOT LIMITED TO, ELECTRICAL, MECHANICAL, PLUMBING, AND STRUCTURAL. SUSPENDED CEILING COMPONENTS AND SUPPORT SYSTEM.
- CONTRACTOR SHALL DEVELOP ALL NECESSARY FABRICATION AND ASSEMBLY DRAWINGS, AND ALL SHOP FABRICATION OF THE MECHANICAL SYSTEMS INCLUDING, BUT NOT LIMITED TO, THE LOCATION OF CLEARANCES, THE LOCATION AND MAINTAINABILITY OF FIRE AND/OR SMOKE DAMPERS, THE LOCATION OF ACCESS DOORS, THE LOCATION OF DETECTORS, AND OTHER COMPONENTS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
- CONTRACTOR MAY, UPON APPROVAL OF ENGINEER, SUBSTITUTE ROUND DUCT FOR RECTANGULAR DUCT PROVIDED THE DUCT IS OF EQUIVALENT OR GREATER CLEARANCE RATING AND MEETS THE REQUIREMENTS FOR DUCTWORK, INCLUDING, BUT NOT LIMITED TO, THE LOCATION OF CLEARANCES, THE LOCATION AND MAINTAINABILITY OF FIRE AND/OR SMOKE DAMPERS, THE LOCATION OF ACCESS DOORS, THE LOCATION OF DETECTORS, AND OTHER COMPONENTS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
- ONLY, NOT ALL SYMBOLS AND/OR ABBREVIATIONS MAY APPLY TO THIS PARTICULAR PROJECT. ANY ADDITIONS OR OMISSIONS TO THIS PARTICULAR PROJECT SHALL BE DETERMINED AS WORK PROGRESS, IN COOPERATION AND COORDINATION WITH THE ARCHITECT AND ENGINEER. THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL CHARGE, ALL MATERIALS AND SUPPLIES REQUIRED FOR THE PROJECT.
- THE PLANS ARE DIMENSIONAL AND INDICATE ONLY THE SIZE AND LOCATION OF EQUIPMENT. THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL CHARGE, ALL MATERIALS AND SUPPLIES REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL CHARGE, ALL MATERIALS AND SUPPLIES REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL CHARGE, ALL MATERIALS AND SUPPLIES REQUIRED FOR THE PROJECT.
- ITEMS OF WORK OR EQUIPMENT SHOWN ON THE DRAWINGS ONLY, OR CALLED FOR IN THE SPECIFICATIONS ONLY, SHALL BE LEFT UNLESS OTHERWISE INDICATED. THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL CHARGE, ALL MATERIALS AND SUPPLIES REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL CHARGE, ALL MATERIALS AND SUPPLIES REQUIRED FOR THE PROJECT.
- PRIMINGS DO NOT INDICATE ALL OPENINGS, CHANGES IN ELEVATIONS, SUCH CHANGES IN PRIMING AND LOCATION OF EQUIPMENT ETC. TO ACCOMMODATE WORK WITH THAT OF OTHER CONTRACTORS.
- ALL PHYSICAL ATTRIBUTES OF EQUIPMENT AND DEVICES ARE BASED ON THOSE MANUFACTURERS LISTED IN THE SPECIFICATIONS AND/OR INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL CHARGE, ALL MATERIALS AND SUPPLIES REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL CHARGE, ALL MATERIALS AND SUPPLIES REQUIRED FOR THE PROJECT.
- ALL EQUIPMENT AND APPURTENANCES ARE TO BE INSTALLED SO AS TO AVOID INTERFERENCE WITH OTHER PIPING, ELECTRICAL FIXTURES, EQUIPMENT, BUILDING TRUSSES, AND APPURTENANCES.
- ALL EQUIPMENT AND APPURTENANCES SHALL BE INSTALLED AND ADJUSTED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. FINAL ARRANGEMENT OF PIPING INSTALLATION SHALL PERMIT ACCESS TO ALL VALVES AND EQUIPMENT TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL PROVIDE APPROVED EXPANSION DEVICES WHERE REQUIRED, AS APPROVED BY THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL PROVIDE APPROVED SLEEVES AND WATERPROOF HUBS FOR ALL PIPES PASSING THROUGH WALLS, FLOORS, AND ROOFS.
- ALL NOTES AND LEGENDS ON ANY ONE DRAWING APPLY TO ALL DRAWINGS WHERE APPLICABLE.
- VALVES SHALL BE SUPPORTED SO AS NOT TO IMPOSE STRESSES ON THE PIPE.
- SEVERAL DRAWINGS IN THIS PACKAGE SCHEMATICALLY SHOW THE LOCATION OF ALL EQUIPMENT AND MATERIALS REQUIRED FOR COMPLETE AND OPERATING SYSTEM. ALTHOUGH SOME ITEMS ARE NOT SPECIFIED OR SHOWN, ANY WORK THAT IS NECESSARY OR REQUIRED TO MAKE THE SYSTEM OPERABLE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. EVEN THOUGH NOT SPECIFICALLY INCLUDED, SHALL BE PERFORMED AS INCIDENTAL WORK AS IF IT WERE DESCRIBED.
- SUSPENDED MECHANICAL EQUIPMENT SHALL BE MOUNTED AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER FOLLOWING SUBMITTAL APPROVAL BY THE ENGINEER.
- SOME MECHANICAL EQUIPMENT SHOWN ON DRAWINGS ARE NOT TO SCALE. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF EACH UNIT, VERIFY FINAL DIMENSIONS BASED ON APPROVED EQUIPMENT SUBMITTALS, COORDINATE CLEARANCES, AND COORDINATE WITH OTHER INSTALLATION REQUIREMENTS.
- MECHANICAL EQUIPMENT IS TO BE SELECTED AND INSTALLED TO MEET THE REQUIREMENTS OF THE PROJECT. THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL CHARGE, ALL MATERIALS AND SUPPLIES REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL CHARGE, ALL MATERIALS AND SUPPLIES REQUIRED FOR THE PROJECT.
- COORDINATE ALL MECHANICAL AND PLUMBING WORK WITH THE PATIENT LIFTS, LIFT ACCESSORIES, AND LIFT STRUCTURAL COMPONENTS.

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100% Submission		7/02/10															
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Revisions		Date															
VA WESTERN NEW YORK HEALTHCARE SYSTEM 3495 BAILEY AVENUE BUFFALO, NEW YORK 14215																	
Architect																	
stamp																	
CARDIOLOGY		DATE		ENGINEERING MANAGER		DATE		Drawing Title		Project Title		Date		Building Number		Checked	
INFECTION CONTROL		DATE		CARELINE MANAGER		DATE		MECHANICAL, LEGEND, ABBREVIATIONS, AND NOTES (SHEET 2 OF 2)		RENOVATION OF BLDG #1, 2ND FLOOR, B-WARD		JULY 2, 2010 (UPDATED 10/07/10)		328		09-352 MH-002	
SAFETY OFFICER		DATE		CHIEF OF STAFF		DATE		MEDICAL CENTER DIRECTOR		ASSOCIATE MEDICAL CENTER DIRECTOR		DATE		Location		V.A.M.C. BATAVIA, NEW YORK	
Office of Facilities																	
Department of Veterans Affairs																	