



The energy-efficient Miyako Hybrid Hotel in Torrance, CA.

On December 2, 2009, Kintetsu Corporation opened the new Miyako Hybrid Hotel in Torrance, CA, outside Los Angeles. The seven-story, 208-room hotel includes amenities like a full-service shiatsu spa and a fine dining Japanese restaurant. All guest rooms are equipped with Japanese-style soaking tubs, requiring a high output hot water system. In order to meet the high hot water demand, Kintetsu elected to incorporate two finely-modulating hot water systems powered by energy efficient Noritz commercial water heaters.

Given the high share of water heating in the overall energy profile of lodging facilities, these Noritz-based solutions contributed to Kintetsu's successful LEED Silver certification due to their higher system efficiencies compared to conventional water heating systems.

LEED[®] Facts

**Miyako Hybrid Hotel
Torrance, CA**



LEED for New Construction v2.2
Certification awarded in 2009

LEED Silver Certification

The LEED[®] Green Building Rating System™ is the national benchmark for the design, construction, and operations of high-performance green buildings. Visit the U.S. Green Building Council's Web site at www.usgbc.org to learn more about how you can make LEED work for you.



Six units on the ground level providing hot water for the spa and restaurant.



Eight Noritz N-1321M-ASME commercial water heaters on the roof top for 208 guest rooms.

Sources of System Efficiency:

- Demand- tracking modulation
- Distribution design- no tank storage

Property profile

Location: Miyako Hybrid Hotel
City: Torrance
Max. occupancy: 208 guest rooms
Installer: DK Mechanical

Noritz installation

Location: Outdoor installation, ground level and roof top.
Applications: 208 showers, tubs, sinks, 7 mop rooms, spa and restaurant.
Vent set-up: Outdoor vent cap (VC-132).

Solution profile

Noritz units: System #1: Eight NC380-SV-ASME
System #2: Six NC380-SV-ASME
Noritz accessories: Isolator valves (IK-WV-9-TH) and System Controllers (SC-201-12M)
Fuel type: Natural gas
Gas consumption:
System #1: Max. 3,040,000 btuh – Min, 22,500 btuh
System #2: Max. 2,280,000 btuh – Min, 22,500 btuh
Flow rate performance:
System #1: 0.7 – 105.6 GPM
System #2: 0.7 – 79.2 GPM
Temperature settings: 100–180 degree F
Warranty: 5 years on heat exchanger and parts (non-prorated)



Model NC380-SV-ASME Commercial Water Heater Specification Sheet

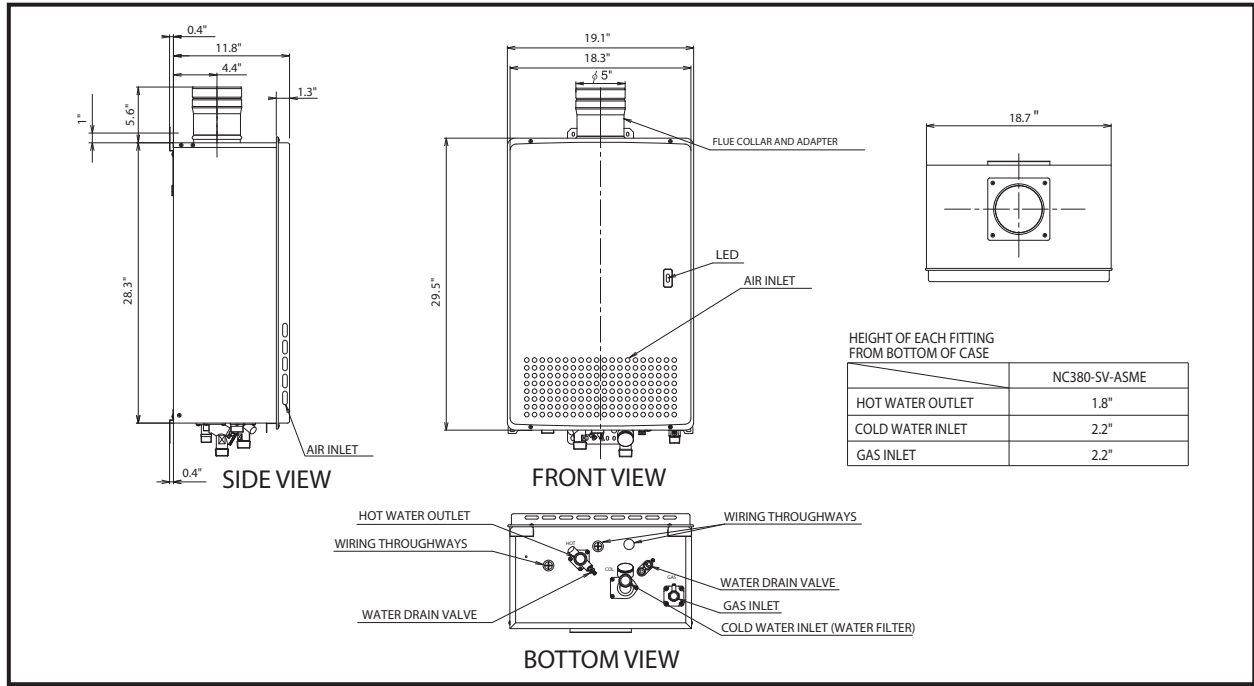
Job Name _____
 Location _____
 Architect/Engineer _____
 Wholesaler _____
 Contractor _____
 Model No. _____
 Gas Type _____
 No. of Units _____ Total BTU/hr Input _____
 Flow Rate (GPH) _____
 Notes _____

- **Standard Input** - gas consumption ranges from 22,500 BTU/h to 380,000 BTU/h
- **Compact Design** - ANSI Z21.10.3/CSA 4.3 certified design that can be wall-mounted indoors or installed outdoors using optional Vent Cap
- **Durable Stainless Steel Casing**
- **Heat Exchanger** - manufactured with commercial grade copper, 25% thicker piping than standard models
- **Venting** - available in standard power vent model that requires 4" Category III stainless steel pipe
- **Direct Electronic Ignition**
- **Multi-System Capability** - units can be linked together by using either the optional 2-unit Quick Connect or multi-unit System Controller for up to 24 units.
- **Fully Modulating** - BTU input can range from 22,500 to 9.1 million BTU/h (for 24-unit Multi-System)
- **Thermal Efficiency** - 80% efficient for use with natural gas and 84% for propane
- **Temperature Controls** - includes remote thermostat that can precisely adjust the output temperature from 100°F to 180°F
- **Safety Devices** - Flame Sensor, Overheat Prevention Device, Lightning Protection Device, Freeze Protection
- **Five Year Limited Heat Exchanger Warranty for Commercial Use**
- **Five Year Limited Parts Warranty**
- **ASME Certified** - all models are certified by ASME and the National Board
- **Approvals** - CSA, UPC, NSF, ASME, Low NOx Approved By SCAQMD (Rule 1146.2)



- Model**
NC380 - SV - ASME
- Accessories**
- Vent Cap (#VC-132)
 - Isolator Valves (#IK-WV-9)
 - Pipe Cover (#PC-4S-SUS)
 - Quick Connect Cord (#QC-1)
- System Controller**
- 6-unit (#SC-201-6M)
 - 12-unit (#SC-201-12M)
 - 24-unit (#SC-201-24M)

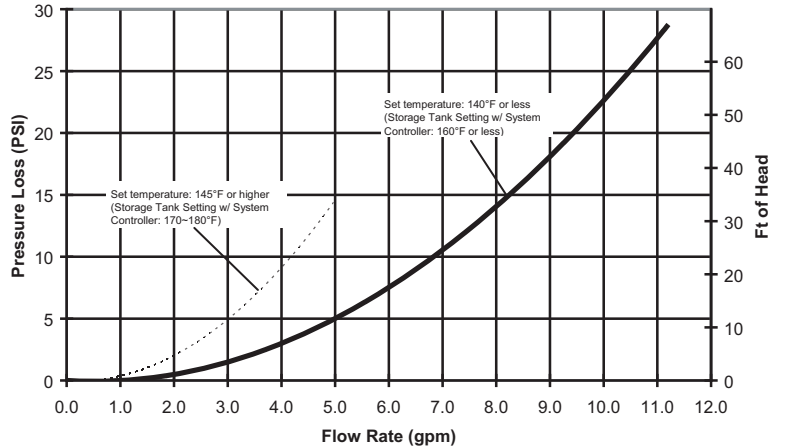
Dimensions



Flow Rates

Temperature Rise (°F)	70	100	
Flow Rate (GPM)	1-unit	8.9	6.2
	2-unit	17.8	12.4
	3-unit	26.7	18.6
	6-unit	53.4	37.2
	9-unit	80.1	55.8
	12-unit	106.8	74.4
24-unit	213.6	148.8	
Flow Rate (GPH)	1-unit	534	372
	2-unit	1068	744
	3-unit	1602	1116
	6-unit	3204	2232
	9-unit	4806	3348
	12-unit	6408	4464
24-unit	12816	8928	

Pressure Loss



NOTE: For Quick-Connect and Multi-System installations, pressure loss remains constant throughout the system regardless of the number of units installed. Multiply the total number of units in the system by the required flow rate from each unit to determine the total pressure loss from the chart above.

Temperature Settings and Options

Temperature Settings	100-150°F (In 5°F intervals), 160, 170, *180°F (14 Options)
Default Temperature Options	120, 130, 140, *180°F (Default is 120°F)

*181.4°F actual output temperature

Specification

Commercial, gas-fired, wall-mounted water heater(s) shall be power vent Model NC380 Series as manufactured by Noritz America Corporation. The water heater(s) shall have a 5-year limited Heat Exchanger warranty and a 5-year limited Parts warranty per Noritz Limited Warranty. Unit(s) shall be designed to burn natural/propane gas and certified by CSA International to the latest edition of ANSI standard Z21.10.3/CSA 4.3. Water heater(s) shall have a nominal flow rate capacity of ____ GPH @ 100°F rise with rated input of ____ BTU/hr. Water heater(s) shall be vented with 5" Category III stainless steel vent pipe a distance not to exceed 15 feet (or equivalent) with 3 elbows terminating vertically or horizontally. Water heater(s) is rated for 150 PSI working water pressure and 300 PSI test pressure. Unit(s) shall have a stainless steel case, copper heat exchanger, stainless steel burner, aluminum gas control valves and connections, brass inlet and outlet water connections. Unit(s) shall include features such as an adjustment for high elevation installations, temperature lockout, and 14 temperature options from 100-150°F in 5°F intervals and 160-180°F in 10°F intervals. The heater(s) shall be controlled by an internal circuit board that monitors the inlet and outlet temperatures with installed thermistors, sensing and controlling flow rate to set point temperature with air-fuel ratio controls in order to maintain thermal combustion efficiency. Unit(s) shall include safety features such as flame sensor system, thermal cut-off fuses, wind pressure switch, lightning protection device, overheat prevention device, freeze protection device, and fan rotator detector. Multi-system applications that require 2 units shall be installed by connecting the units using a single cable-only connection (Quick-Connect). Applications that require 3 to 24 units shall use a multi-unit central controller (System Controller). The water heater(s) exceeds the energy efficiency requirements of ASHRAE 90.1b-1992 and listed by SCAQMD rule 1146.2 Low NOx.

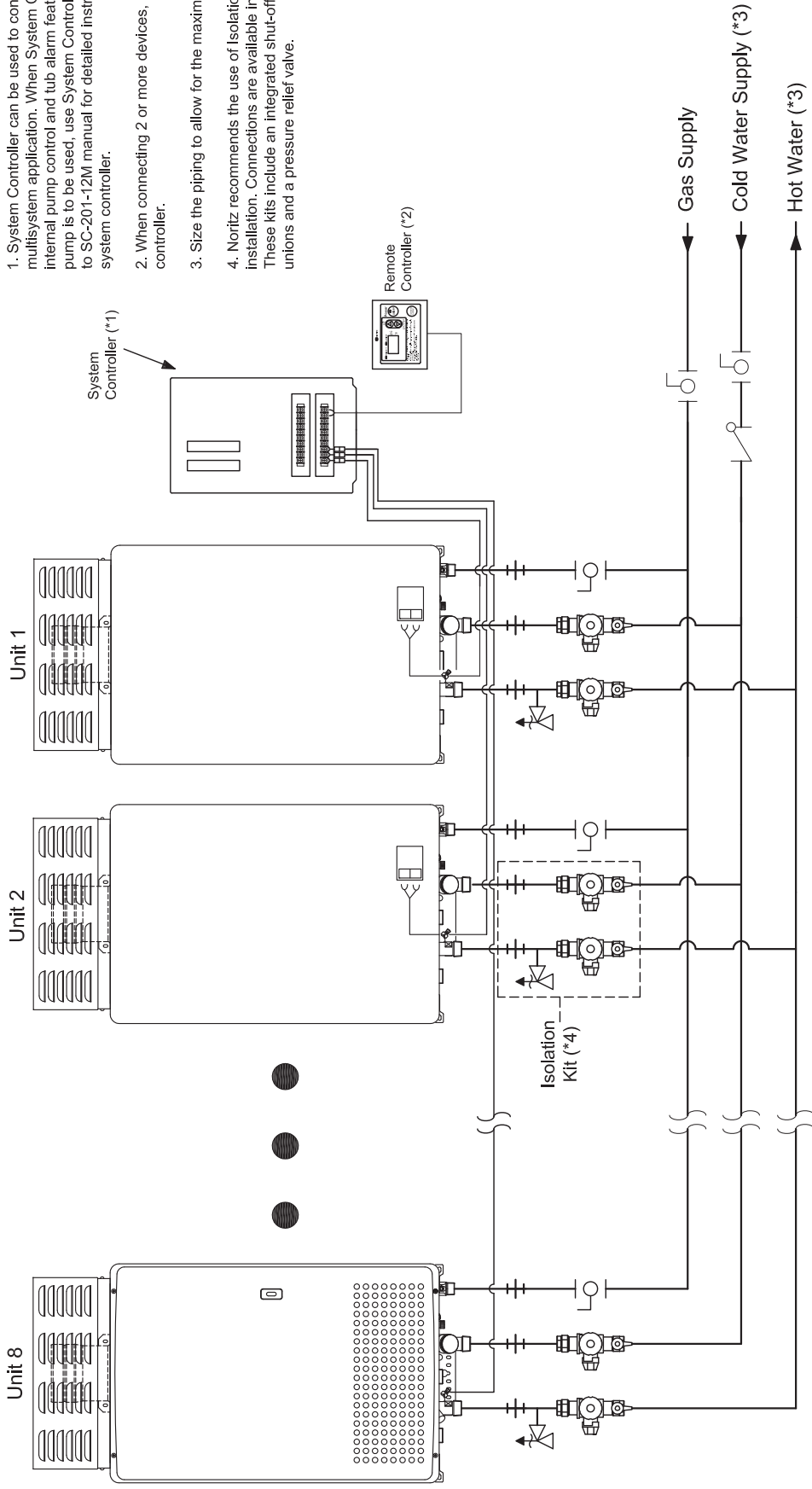
Noritz America reserves the right to discontinue, or change at any time, the designs and/or specifications of its products without notice.

REVISIONS

REV.	DESCRIPTION	DATE	APPRVD.

Notes:

1. System Controller can be used to connect a 2 or more unit multisystem application. When System Controller is in use, internal pump control and tub alarm features are disabled. If pump is to be used, use System Controller to control pump. Refer to SC-201-12M manual for detailed instructions in setting up system controller.
2. When connecting 2 or more devices, use only a single remote controller.
3. Size the piping to allow for the maximum flow rates of the units.
4. Norritz recommends the use of Isolation Kit (IK-WV-9) with installation. Connections are available in Threaded or Sweat. These kits include an integrated shut-off and service valve with unions and a pressure relief valve.



<p>NORRITZ 11160 Grace Avenue Fountain Valley, California 92708 866-7NORRITZ (866-766-7489) www.norritz.com</p>	<p>MODEL: NC380-SV-ASME</p> <p>APPLICATION: 8 Unit Multi-System Domestic Hot Water</p> <p>DRAWING NAME: (1a2-8)NC380</p> <p>DRAWING DATE: November 18, 2009</p>	<p>Norritz Accessories</p> <ul style="list-style-type: none"> RC-7649M (Remote Controller) RC-CORD10 (10' Remote Controller Cord, optional in 26') VC-132 (Outdoor Vent Cap for -SV model only) SC-201-12M (System Controller, for 2 or more unit Multi-System) 	<p>Note: This diagram is for reference only. Installation must comply with State and Local Code, all gas and water pipe must be sized correctly to specific length, according to accepted engineering methods or the UPC Code for Norritz Water Heaters to operate correctly.</p> <ul style="list-style-type: none"> Shut-off Ball Valve Check Valve Union Pressure Relief Valve (Watts 174A, Zurn P3000BR, Cash Acme FWL-82) <p>Aquastat (Honeywell Model #L6006A or L6006C) Pump Mixing Valve Thermal Expansion Tank</p>
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