

SANYO AIR CONDITIONING PRODUCTS

DUCTLESS SPLIT SYSTEM AIR CONDITIONERS & HEAT PUMPS

SPECIFICATIONS - SECTION 15700

Covers Sanyo System Models > 09KHS51, 12KHS51, 18KHS52, (See plans for specified model(s) & details)

DUCTLESS SPLIT SYSTEMS A/C & HEAT PUMPS - WALL MOUNT TYPE

1) GENERAL SPECIFICATIONS

Furnish & install a Sanyo manufactured Ductless, Split System Air Conditioner(s) & Heat Pump(s), consisting of an indoor, high wall mounted evaporator/blower section & matching outdoor condensing section. System(s) shall bear the ARI label showing that the system(s) is ARI 210 or 240 & 270 Certified. Systems shall be listed by CSA International and bear the C-CSA US label. Matching systems shall meet or exceed the minimum, Federally mandated Seasonal Energy Efficiency Rating (SEER) of 10, and Heating Seasonal Performance Factor (HSPF) of 6.8 (heat pump(s) only) as certified by the ARI testing programs. System(s) indoor & outdoor units will operate at sound levels equal to or below specified system(s) (see plans). Installation & Owners Manuals shall be provided with each system.

Matching indoor & outdoor sections shall be connected by deoxidized, annealed refrigerant copper tubing, type "L", cleaned & capped. All systems shall have flared refrigeration connections on both indoor & outdoor sections. Size & insulate tubing according to manufacturer's specifications.

System(s) indoor & outdoor sections shall be completely factory assembled & wired, with a pre-charge of refrigerant. A single power source shall provide voltage to both the outdoor & indoor units. Electrical wire & connections to outdoor section, and between indoor & outdoor section(s), shall be sized, installed & grounded by the installer in conformance with the National Electrical Code (N.E.C.), local codes, as well as, manufacturer's instructions.

System(s) shall be equipped with a microprocessor control system, utilizing an infrared remote controller with LCD display that provides access to all system functions, and transmits programs to the indoor microprocessor every 5 minutes. Infrared remote controller shall be capable of operating system mounted up to 26' from the indoor section, according to manufacturer's recommendations & instructions. System(s) shall have the capability of continuous operation in the case of a lost or damaged remote controller, utilizing a factory installed, integral manual switch in conjunction with the system microprocessor.

1A) System Infrared Remote Controller Functions will include: system mode selection, programmable temperature control, 24 hour programmable timer, one (1) hour off timer, automatic three (3) speed indoor fan speed control, constant fan speed selection, night setback mode, automatic sweep/flap control, automatic changeover from heat to cool, multiple system control using a single controller.

1B) System Features will include: Sanyo high efficiency, rotary compressor, cap tube refrigerant control, indoor coil freeze protection, crankcase heater, built-in auto restart after power failure, short cycle time delay, automatic indoor fan speed determined by the system microprocessor, low ambient cooling operation to zero degrees (using Sanyo recommended, field installed head pressure control), dehumidification mode, washable anti-mold poly filters, indoor mounted operation selector & lamp showing operation, standby & timer modes, with start up test mode & manual on/off switch. Systems shall include automatic microprocessor defrost control, hot start heating system (indoor coil must reach 95 degF before fan starts), and automatic changeover from heat to cool.

1C) OPTIONAL Low Ambient A/C Operation to Zero Degrees F. - System(s) shall be capable of operating in the A/C mode down to zero (0) degrees Fahrenheit outdoor temperature, with the addition of a field supplied & installed head pressure, fan speed control. Use Sanyo recommended ICM326H by ICM Corporation.

1D) INSTALLATION

System(s) shall be installed according to manufacturer's instructions & recommendations, as well as, all governing local & national codes. System(s), as well as the infrared remote controller, shall be mounted & placed as shown on plans within all minimum clearances as specified by manufacturer's instructions, & secured to provide for safe operation. Refrigerant tubing size shall not vary from manufacturer's specifications, and shall be properly secured & insulated. Installer shall insulate both liquid & suction lines individually. High voltage & low voltage communication wiring between indoor & outdoor unit(s) shall sized & installed according to the National Electric Code (NEC) & local codes, and be run separately from each other in their own enclosures per manufacturer's instructions. Outdoor condensers shall be mounted & secured to accommodate for extreme weather conditions. Distance between indoor & outdoor unit(s) shall not exceed manufacturer's specifications.

2) OUTDOOR CONDENSING SECTION – SANYO MODELS - CH0951, CH1251, CH1852

Outdoor condensing section(s) shall be factory assembled, wired, piped & pre-charged with a start up amount of R-22 refrigerant. Unit(s) shall be constructed of G90 galvanized steel with corrosion inhibiting, powder coated paint. Unit(s) shall be furnished with a high efficiency, Sanyo rotary compressor with internal overload protection, securely mounted with vibration isolators to reduce noise & vibration. Condenser coil heat exchanger shall be constructed of nonferrous, rifled copper tubing with enhanced aluminum slit fins mechanically bonded to the copper. A suction line accumulator, a coil temperature sensor & cap tube metering device shall be factory installed. Fan motor(s) shall be direct drive with internal overload protection, permanent lubrication, with propeller type fans, mounted for horizontal air discharge. Outdoor section(s) shall contain a printed circuit board (PCB), factory mounted & wired, and capable of communication with indoor PCB via field installed low voltage communication wiring. Unit(s) shall include an electronic, four (4) way reversing valve for automatic switching from the heating circuit to the cooling circuit, an in-line muffler, and a 20 watt crankcase heater for additional compressor protection. A factory mounted & wired outdoor coil temperature sensor shall work in conjunction with other system components to provide critical data to the system microprocessor. Brass valves with refrigeration flare connections & flare nuts, & service ports shall be factory mounted, externally for easy access. The unit(s) shall be test started by the manufacturer at their factory prior to shipment for installation.

**3) INDOOR EVAPORATOR SECTION – SANYO MODELS – KHS0951, KHS1251,
KHS1852**

Indoor section(s) shall be high wall mount type, factory assembled & wired. Wall mounting fixture, plate & mounting diagram shall be included with each system, as well as wall sleeves to protect wall where tubing passes through. Unit(s) shall contain an evaporator coil heat exchanger constructed of nonferrous, rifled copper tubing with enhanced aluminum slit fins, mechanically bonded to the copper. A single cross-flow blower wheel, statically & dynamically balanced shall be attached to a single direct drive, PSC fan motor, with overload protection, permanent lubrication & multi-speed capability. Unit(s) shall contain a Printed Circuit Board (PCB) with a control circuit fuse & microprocessor, factory wired & mounted, that receives & processes all commands & transmissions from the system Infrared Remote Controller. Indoor unit(s) shall also contain an Operation Switch with visible lamps for operation, standby & timer functions, as well as, a system test switch & a manual ON/OFF switch. Unit(s) shall contain a room sensor thermistor, a coil temperature safety thermistor to prevent freeze-up in the A/C mode & overheating in the heat pump mode, a factory installed condensate drain pan, drain hose & fitting, and refrigeration line connections with flare nuts. Unit(s) shall contain knockouts on both sides of the casing that allow refrigerant lines to be brought to the unit from multiple directions. A motorized louver/flap, controlled by the infrared remote controller, shall provide automatic, full oscillating supply airflow, as well as being capable of being placed in a set, stationary position. Unit(s) shall also contain adjustable, horizontal air louvers to provide user defined, directional airflow. Unit(s) shall be provided with anti-mold, poly type washable air filters that can be easily removed without removing indoor unit casing. Indoor unit(s) shall be powered by voltage from the matching outdoor unit(s).

4) AVAILABLE SANYO ACCESSORIES – All Wall Mount Models

Insulated Copper Line Sets, Condensate Pumps, Outdoor Section Mounting Brackett, and Odor Control Filters.