

# **SANYO AIR CONDITIONING PRODUCTS**

## **DUCTLESS SPLIT SYSTEM AIR CONDITIONERS & HEAT PUMPS**

### **SPECIFICATIONS - SECTION 15700**

**Covers Sanyo System Models > 42TS32A, 42TLS32A** (See plans for specified models & details)

#### **DUCTLESS SPLIT SYSTEM AIR CONDITIONERS – SUSPENDED CEILING TYPE**

##### **1) GENERAL SPECIFICATIONS**

Furnish & install a Sanyo manufactured Ductless, Split System Air Conditioner(s) consisting of a suspended ceiling type indoor 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 ETL Testing Laboratories and bear the ETL 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 room conditions & programs to the indoor microprocessor every 3 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, user selectable room temperature sensor located on either infrared remote controller or indoor unit, multiple system control using a single controller.

**1B) System Features** will include: Copeland high efficiency, scroll compressor, with a suction line accumulator, liquid sub-cooler, a liquid line strainer, cap tube refrigerant control, indoor coil

freeze protection, built-in auto restart after power failure, high pressure switch, short cycle time delay, automatic low ambient fan operation, low ambient cooling operation to zero degrees (selected systems), automatic indoor fan speed determined by system microprocessor, washable long-life anti-mold poly filters, indoor mounted operation selector & lamp showing operation, standby & timer modes, with start up test mode & manual on/off switch. System(s) shall be capable of utilizing Fresh Outside Air (OSA).

**Low Ambient System** shall be capable of operating in the cooling mode down to zero (0) degrees F. outdoor temperature.

### **1C) 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 on Heat Pump & Low Ambient specified system(s). Electrical wiring shall be sized & installed according to manufacturer's instructions & in conformance with the National Electric Code (NEC) & local codes. 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 Model– C4232A, CL4232A**

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, Copeland scroll 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. Unit(s) shall include a suction line accumulator, a condenser coil temperature sensor, a liquid, high side sub-cooler, as well as a high pressure switch. Dual (2) fan motor(s) shall be direct drive with internal overload protection, permanent lubrication, multi-speed for low ambient operation, with propeller type fans, mounted for horizontal air discharge. Brass valves with refrigeration flare connections & flare nuts, & service ports shall be factory mounted for easy access. The unit(s) shall be test started by the manufacturer at their factory prior to shipment for installation.

**Low Ambient** outdoor section(s) shall contain a printed circuit board, factory mounted & wired. Unit(s) shall be able to operate in the A/C mode down to zero (0) degrees Fahrenheit outdoor temperature. A factory installed, 30 watt crankcase heater shall provide additional compressor protection.

### **3) INDOOR EVAPORATOR SECTION – SANYO MODELS – TS4232**

Indoor section(s) shall be suspended ceiling type, factory assembled & wired. Unit(s) shall contain an evaporator heat exchanger constructed of nonferrous, rifled copper tubing with enhanced aluminum slit fins, mechanically bonded to the copper. Four centrifugal blower wheels, 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 liquid line strainer, a coil freeze safety thermistor to prevent freeze-up, a factory installed condensate drain pan, drain hose & fitting, and refrigeration line connections with flare nuts. Unit(s) shall contain knockouts on both sides & the top of the casing that allow refrigerant lines to be brought to the unit from multiple directions. Fresh Air knockouts shall be provided on the back and top of the unit(s), to allow system(s) to utilize fresh, outside air up to a maximum of 20% of the rated CFM of the system. 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 be furnished with 2,500 hour, long-life 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 Suspended Ceiling Mount Models**

Insulated Copper Line Sets, , Outdoor Unit Wall Mounting  
Bracket, Condensate Pumps, Hard Wired Remote Controller (straight cooling systems only).

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