AIRTEC PRODUCTS CORPORATION

RECOMMENDED ENGINEERS SPECIFICATION FOR ASPEN PUMPS

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A SPLIT TYPE MINIATURE CONDENSATE PUMP **is defined as the type where the pump and the water level sensor/reservoir are separate units and are connected together with a communication cable as well as an intake tube through which the condensate water is drawn from the reservoir into the pump. Available in 24, 115 and 230 volt AC.**

In Minisplits, the reservoir is usually installed under the drain pan inside the evaporator and the intake nipple of the reservoir is connected directly to the insulated condensate drain hose from the drain pan.

The pump unit is sometimes installed inside the evaporator casing if space permits, but is more often placed overhead in the ceiling or in the attic. It can also be attached to the linesets, usually within 6 feet of the evaporator although this can be extended.

In ducted AC systems the sensor unit/reservoir is normally installed inside the drain pan and the pump unit is usually installed elsewhere either inside the air handler or externally on the casing.

1. TO SPECIFY SPLIT TYPE MINIATURE CONDENSATE PUMPS (ASPEN MINI OR MAXI ORANGE OR MINI AQUA) :

Where miniature split type condensate pumps are required, the sensor/reservoir housing shall be transparent to facilitate inspection. Housing shall disassemble easily to facilitate cleaning and maintenance and shall include a stainless steel or copper mesh filter which shall be easily removable for cleaning.

The sensor/reservoir housing shall incorporate an electronic Hall effect water level sensor with a quick connect telephone type jack to facilitate installation and removal (Mini/Maxi Orange)or shall be hard wired (Mini Aqua).

The sensor shall include volt free NO & NC contacts for overflow alarm and safety purposes which shall be rated at not less than 5 amp inductive and 3 amp resistive at line voltage. Power wiring shall be color coded in conformance with NEC standards.

The pump shall be self priming, operate automatically on water rise, have a capacity of not less than 0.8 GPH. @ 26 foot head and operate at a maximum of 33 DB(A)for the Mini Orange series, 35DB(A) for the Maxi Orange series and 21 DB(A) for the Mini Aqua series.

The pump shall be thermally protected, potted for water resistance, UL or ETL listed in conformance with UL 778 and shall either incorporate a single water resistant modular push-on electrical terminal for both primary power and alarm wires to facilitate installation and removal (Mini/Maxi Orange) or shall be hard wired (Mini Aqua). Open screw terminals are not acceptable.

Pump shall be correctly sized to suit worst case scenario condensate conditions and shall be installed, wired, tested and maintained strictly in accordance with manufacturer's instructions.

Pumping unit shall not be installed inside the evaporator , lineset cover or anywhere inside a bedroom, recording studio or any other noise sensitive area before the acceptable noise level of pump has been confirmed. This does not apply to reservoir which must always be situated below drain pan inside evaporator where applicable.

Whenever a fixed drain point is provided in the vicinity of the evaporator, to which the pump discharge hose can be connected, the drain point shall terminate above the ceiling, behind the evaporator or concealed in a place where the connection between the pump discharge hose and the drain point will not be exposed to view.

Pump shall be selected according to the unit capacity, head required and operating voltage available and shall be:

ASPEN Mini Orange series - Model ASP-MO-LG24, ASP- MO- 115 or ASP-MO-230 or equal.

ASPEN Maxi Orange series - Model ASP-MAXO-115 or ASP-MAXO-230 or equal.

ASPEN Mini Aqua series - Model ASP-MA-LG24, ASP-MART-LG24, ASP- MA-115, ASP-MA-230 or ASP-MA-UNI or equal.

A MONOBLOC MINIATURE CONDENSATE PUMP **is defined as a single package which incorporates both pump and reservoir/water level sensor in 1 unit. Available in 24, 115 and 230 volt AC.**

This type of pump unit is intended primarily for Minisplits and is supplied in 2 forms:

1. **As part of a package for those installations which have exposed linesets entering the evaporator from either end then turning 90° up into the ceiling. The package consists of a PVC duct system which encloses the linesets, the drain hose and the electrical wiring. This includes a reversible 90° elbow which encloses the pump and is surface mounted on either side of the Minisplit evaporator. This provides easy access to check and/or service the pump without opening the evaporator or going up into the attic. (Mini or Maxi Lime).**

2. **For those installations which have no exposed lineset and in which the pump assembly can be surface mounted at any point along the bottom of the evaporator. This provides easy access to check and/or service the pump without opening or disturbing the evaporator. (Mini White).**

2. TO SPECIFY ELBOW MOUNTED MONOBLOC TYPE MINIATURE CONDENSATE PUMP PACKAGES (ASPEN MINI OR MAXI LIME) :

Where 90º linesets entering the evaporator are exposed, Monobloc package condensate pumps/lineset covers shall be installed. The pump package shall include a Plastic lineset cover assembly which includes an elbow to conceal the pump and which shall be surface mounted next to the evaporator. It shall also conceal the lineset, drain hoses and wiring and with a flashing for the point where the lineset enters the ceiling.

The elbow and lineset cover shall both have removable covers which shall provide easy access for installation, checking and maintenance of the pump unit and/or the drain hoses, wiring or linesets.

The pump/reservoir assembly shall be incorporated into one unit which shall include a sensor housing/reservoir which shall be transparent to facilitate inspection. The sensor/reservoir shall disassemble easily from the pump to facilitate cleaning and maintenance and shall include a stainless steel or copper mesh filter which shall be easily removable for cleaning.

The sensor shall include volt free NO & NC contacts for overflow alarm and safety purposes which shall be rated at not less than 5 amp inductive and 3 amp resistive at line voltage. Power wiring shall be color coded in conformance with NEC standards.

The pump shall be self priming, self levelling, operate automatically on water rise, have a capacity of not less than 0.8 GPH. @ 26 foot head and operate at a maximum of 23 DB(A) (for the Mini Lime series) and 3.8 GPH @ 49 foot head and operate at a maximum of 35 DB(A) (for the Maxi Lime series.)

The pump shall be thermally protected, potted for water resistance, UL or ETL listed in conformance with UL 778 and shall include waterproof termination of electrical and alarm wiring. Open screw terminals are not acceptable.

Pump shall be correctly sized to suit worst case scenario condensate conditions and shall be installed, wired, tested and maintained strictly in accordance with manufacturer's instructions.

Monobloc pumps (Mini or Maxi Lime) shall not be installed anywhere inside a bedroom, recording studio or any other noise sensitive area before the acceptable noise level of pump has been confirmed.

Whenever a fixed drain point is provided in the vicinity of the evaporator, to which the pump discharge hose can be connected, the drain point shall terminate above the ceiling, behind the evaporator or concealed in a place where the connection between the pump discharge hose and the drain point will not be exposed to view.

Pump shall be selected according to the unit capacity, head required, size of linesets used and the operating voltage available and shall be:

ASPEN Mini Lime Series - Model ASP-ML-LG24, ASP- ML-115 or ASP-ML-230, ASP-MLS-LG24, ASP-MLS- 115, ASP-MLS-230, ASP-MLF-115, ASP-MLF-230 or equal.

ASPEN Maxi Lime Series – Model ASP-MAXLS-115 , ASP-MAXLS-230, ASP-MAXLF-115 or ASP-MAXLF-230 or equal.

3. TO SPECIFY SURFACE MOUNTED MONOBLOC TYPE MINIATURE CONDENSATE PUMP PACKAGES (ASPEN MINI OR MAXI LIME OEM KITS) :

Where miniature Monobloc package condensate pumps are required for concealed ducted Mini split evaporators or for "Pancake air handlers", the pump package shall include a plastic bracket which shall be surface mounted on the exterior of the evaporator and upon which the pump shall be mounted.

The pump kit shall include an adaptor for the drain pan outlet, a connector hose and a high surface area inline filter which shall be easily removable for cleaning.

The pump/reservoir assembly shall be incorporated into one unit which shall include a sensor housing/reservoir which shall be transparent to facilitate inspection. The sensor/reservoir shall disassemble easily from the pump to facilitate cleaning and maintenance.

The sensor shall include volt free NO & NC contacts for overflow alarm and safety purposes which shall be rated at not less than 5 amp inductive and 3 amp resistive at line voltage. Power wiring shall be color coded in conformance with NEC standards.

The pump shall be self priming, self levelling, operate automatically on water rise, have a capacity of not less than 0.8 GPH. @ 26 foot head and operate at a maximum of 23 DB(A))for the Mini Lime series) and 3.8 GPH @ 49 foot head and operate at a maximum of 35 DB(A) (for the Maxi Lime series.)

The pump shall be thermally protected, potted for water resistance, UL or ETL listed in conformance with UL 778 and shall include waterproof termination of electrical and alarm wiring. Open screw terminals are not acceptable.

Pump shall be correctly sized to suit worst case scenario condensate conditions and shall be installed, wired, tested and maintained strictly in accordance with manufacturer's instructions. Pump shall be resiliently mounted on the evaporator casing to minimize vibration and noise.

Whenever a fixed drain point is provided in the vicinity of the evaporator, to which the pump discharge hose can be connected, the drain point shall terminate above the ceiling or shall be concealed in a place where the connection between the pump discharge hose and the drain point will not be exposed to view.

Pump shall be selected according the unit capacity, head required and operating voltage available and shall be:

ASPEN Mini Lime OEM Series - Model ASP-MLOEM-LG24, ASP- MLOEM-115 , ASP-MLOEM-230 or equal.

ASPEN MAXI LIME OEM SERIES - Model ASP-MAXOEM-115 or ASP-MAXOEM-230, or equal.

4. TO SPECIFY SURFACE MOUNTED MONOBLOC TYPE MINIATURE CONDENSATE PUMP PACKAGES (ASPEN MINI WHITE) :

Where linesets are concealed and a Monobloc exposed surface mounted condensate pumps are required, the pump package shall include a Plastic casing which encloses the pump and shall be surface mounted at a convenient point on the bottom of the evaporator to conceal the pump, drain hoses and wiring.

The pump assembly shall have a removable cover to provide easy access for installation, checking and maintenance of the pump unit, the drain hoses and wiring.

The pump assembly shall be resiliently mounted to the wall on rubber grommets to minimize noise and vibration.

The pump/reservoir assembly shall consist of one unit which shall include a reservoir with a minimum capacity of 7 Fl. Oz. and shall be transparent to facilitate inspection. It shall disassemble easily from the pump to facilitate cleaning and maintenance and shall include a high surface area mesh filter which shall be easily removable for cleaning as well as a space to contain a water treatment tablet if so desired.

The sensor float shall be captive and include volt free NC contacts for overflow alarm and safety which shall be rated at not less than 5 amp inductive and 3 amp resistive at line voltage. Power wiring shall be color coded in conformance with NEC standards.

The pump shall be self priming, operate automatically on water rise, have a capacity of not less than 1.2 GPH. @ 33 foot head and operate at a maximum of 21 DB(A).

The pump shall be thermally protected, potted for water resistance, UL or ETL listed in conformance with UL 778 and shall include waterproof termination of electrical and alarm wiring. Open screw terminals are not acceptable.

Pump shall be correctly sized to suit worst case scenario condensate conditions and shall be installed, wired, tested and maintained strictly in accordance with manufacturer's instructions.

Monobloc pumps (Mini White) shall not be installed anywhere inside a bedroom, recording studio or any other noise sensitive area before the acceptable noise level of pump has been confirmed.

Whenever a fixed drain point is provided in the vicinity of the evaporator, to which the pump discharge hose can be connected, the drain point shall terminate above the ceiling, behind the evaporator or concealed in a place where the connection between the pump discharge hose and the drain point will not be exposed to view.

Pump shall be selected according to the unit capacity, head required and operating voltage available and shall be:

ASPEN Mini White Series - Model ASP- MW-115 or ASP-MW-230, or equal.