



## Mold Area Protector (MAP)

## DATA SHEETS

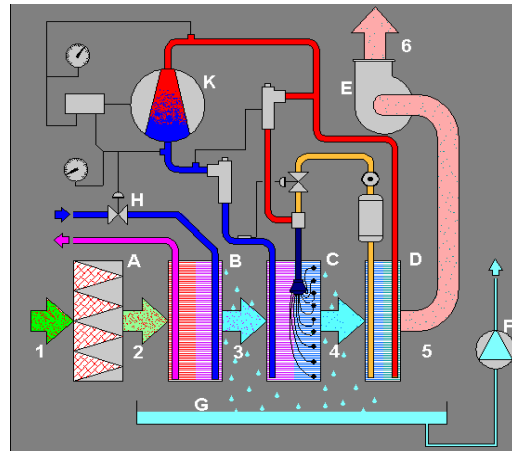
FarragTech offers atmospheric air dryers in 4 sizes to cover air flow rates up to 3,500 cfm at a dew point between 34 and 41 °F under any weather conditions even in tropical areas for **Mold Area Protection (MAP)** applications (see *Mold Area Protection Background*). The refrigeration type dryers are designed for central or individual applications. The system guarantees mold sweat free production with chilled water cooling at a temperature as low as 43 °F with suitable enshrouding on the mold area (clamp cabin) of plastic processing machines.

The pictures show a central system installed on multiple injection molding machines.



Ambient air {1} is sucked into the unit through a filter {A} and the filtered air {2} is chilled in 2 steps. The 1<sup>st</sup> step takes place in the chilled water heat exchanger {B} and the pre-cooled air {3} then enters the evaporator of the integrated refrigeration circuit {C} where it is cooled down to a temperature of 37 °F {4}.

A large amount of the moisture contained in the air is separated in both coolers due to condensation and is collected in a tray {G}. The water is then pumped out of the unit by the pump {F}.



The compressor {K} extracts the heat from the evaporator {C} and pumps it in the condenser {D} at high temperature. The chilled air now passes through the condenser and is warmed up to a temperature of 75 °F {5} before it leaves the unit {6} to a dry air duct work through the centrifugal blower {E}. The filtered dry air is distributed inside an isolated cabin containing the molds of the processing machine.

The first cooling step in MAP units requires chilled water at the same temperature of the mold cooling but it should not exceed 60 °F. Applying antifreeze is not recommended for mold cooling or for the cooling in MAP units and it should not be used if avoidable (see *Mold Area Protection Background*).

MAP is a very compact design with aluminum housing including access doors to the integrated refrigeration unit, the switch cabinet and the air intake filter.

External condensation pump is included with every MAP unit.

The units are virtually maintenance free. Cleaning the air intake filter pad and the condensation pump tray are the only items require attention when needed.



|  | MAP 750                      | MAP 1500 | MAP 2500 | MAP 3500 |
|--|------------------------------|----------|----------|----------|
| Maximum air flow rate (cfm)                  | 750                          | 1500     | 2500     | 3500     |
| Minimum air flow rate (cfm)                  | 400                          | 800      | 1300     | 2000     |
| Air outlet diameter (inch)                   | 12                           | 12       | 16       | 16       |
| Chilld water load at 105 °F, 80% r.h. (tons) | 12.4                         | 24.8     | 41.3     | 59.0     |
| Water flow rate (gal/min)                    | 15.85                        | 31.7     | 53.9     | 76.1     |
| Chilld water load at 95 °F, 80% r.h. (tons)  | 8.8                          | 17.6     | 29.4     | 42.6     |
| Water flow rate (gal/min)                    | 11.4                         | 22.8     | 38.6     | 54.7     |
| Chilld water load at 85 °F, 70% r.h. (tons)  | 5.4                          | 10.8     | 18.0     | 25.8     |
| Water flow rate (gal/min)                    | 7.1                          | 14.3     | 23.5     | 33.3     |
| Chilld water load at 77 °F, 60% r.h. (tons)  | 3.1                          | 6.2      | 10.4     | 14.7     |
| Water flow rate (gal/min)                    | 4.0                          | 8.0      | 13.5     | 19.0     |
| Chilld water load at 68 °F, 50% r.h. (tons)  | 2.1                          | 4.2      | 7.0      | 10.0     |
| Water flow rate (gal/min)                    | 2.8                          | 5.5      | 9.3      | 12.9     |
| Water connections (inch)                     | ¾                            | 1 ¼      | 1 ½      | 2        |
| Max. Condensation water flow (gal/min)       | 13.2                         | 26.4     | 44.1     | 61.6     |
| Width (inch)                                 | 41.54                        | 51.00    | 62.60    | 74.41    |
| Depth (mm)                                   | 39.37                        | 39.37    | 40.16    | 40.16    |
| Height (inch)                                | 48.23                        | 61.02    | 69.88    | 78.74    |
| Weight (lb)                                  | 640                          | 990      | 1370     | 1630     |
| Installed power (kW)                         | 4.7                          | 6.7      | 8.8      | 10.8     |
| Max. Power consumption (kW)                  | 3.2                          | 5        | 8.5      | 10       |
| Electrical power supply                      | 400 V, 50 Hz or 480 V, 60 Hz |          |          |          |

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