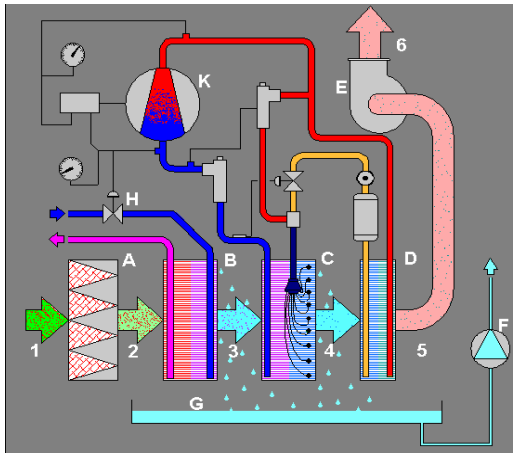
Mould Area Protector (MAP)

DATA SHEETS

FarragTech offers atmospheric air dryers in 4 sizes to cover air flow rates up to 6000 Nm³/h at a dew point between 1 and 5 ºC under any weather conditions even in tropical areas for ***M**ould **A**rea **P**rotection* (***MAP***) applications (see *Mould Area Protection Background*). The refrigeration type dryers are designed for central or individual applications. The system guaranties mould sweat free production with chilled water cooling at a temperature as low as 6 ºC with suitable enshrouding on the mould area (clamp cabin) of plastic processing machines.

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

Ambient air {1} is sucked into the unit through a filter {A} and the filtered air {2} is chilled in to steps. The 1st 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 3 ºC {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 25 ºC {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 moulds of the processing machine.

The first cooling step in MAP units requires chilled water at the same temperature of the mould cooling but it should not exceed 15 ºC. Applying antifreeze is not recommended for mould cooling or for the cooling in MAP units and it should not be used if avoidable (see *Mould 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 (Nm³/h)	1250	2500	4200	5850
Minimum air flow rate (Nm³/h)	850	1650	2500	3300
Air outlet diameter (mm)	300	300	400	400
Chilld water load at 40 ºC, 80% r.h. (kW)	42	83	142	201
Water flow rate (l/min)	60	120	204	288
Chilld water load at 35 ºC, 80% r.h. (kW)	30	60	103	145
Water flow rate (l/min)	43	85	146	207
Chilld water load at 30 ºC, 70% r.h. (kW)	18.3	36.6	62.2	87.8
Water flow rate (l/min)	27	54	89	126
Chilld water load at 25 ºC, 60% r.h. (kW)	10.4	21	35.4	50
Water flow rate (l/min)	15	30	51	72
Chilld water load at 20 ºC, 50% r.h. (kW)	7.1	14.2	24	34
Water flow rate (l/min)	10.5	11	35	49
Water connections (Inch)	¾	1 ¼	1 ½	2
Max. Condensation water flow (l/min)	50	100	167	233
Width (mm)	1055	1295	1590	1890
Depth (mm)	1000	1000	1020	1020
Height (mm)	1225	1550	1775	2000
Weight (kg)	290	450	630	740
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			