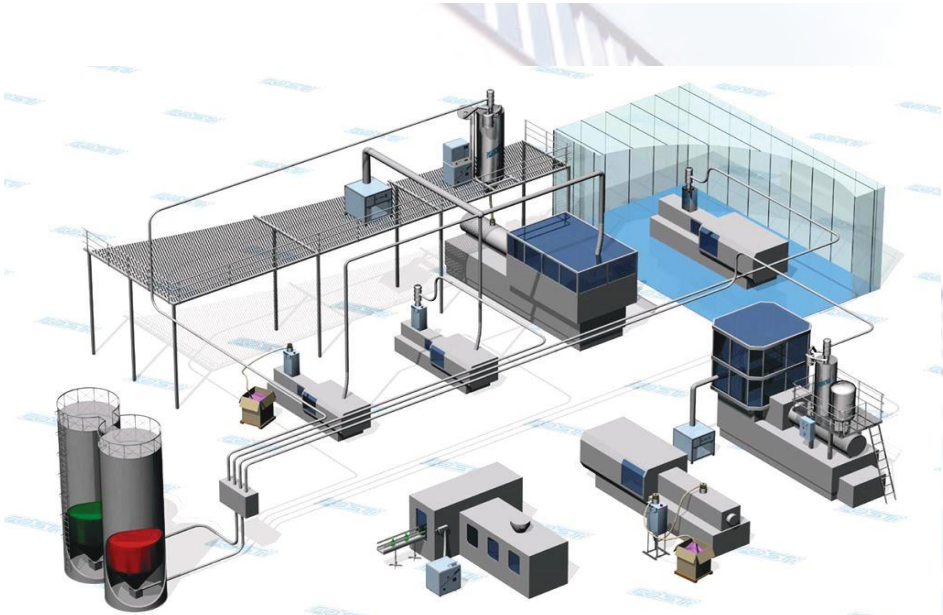
The Advantage of Blue Air Systems



BLUE AIR SYSTEMS, an Austrian-based company, founded in 2010, located in Kundl/Tirol with 20 years of experience supplies the plastics industry with innovative technology. Core subject is climate technology with solutions for extremely dry air for energy efficient processing in the plastics industry.

Peripheral equipment for the plastics processing industry
DRYING AND COOLING

Blue Air
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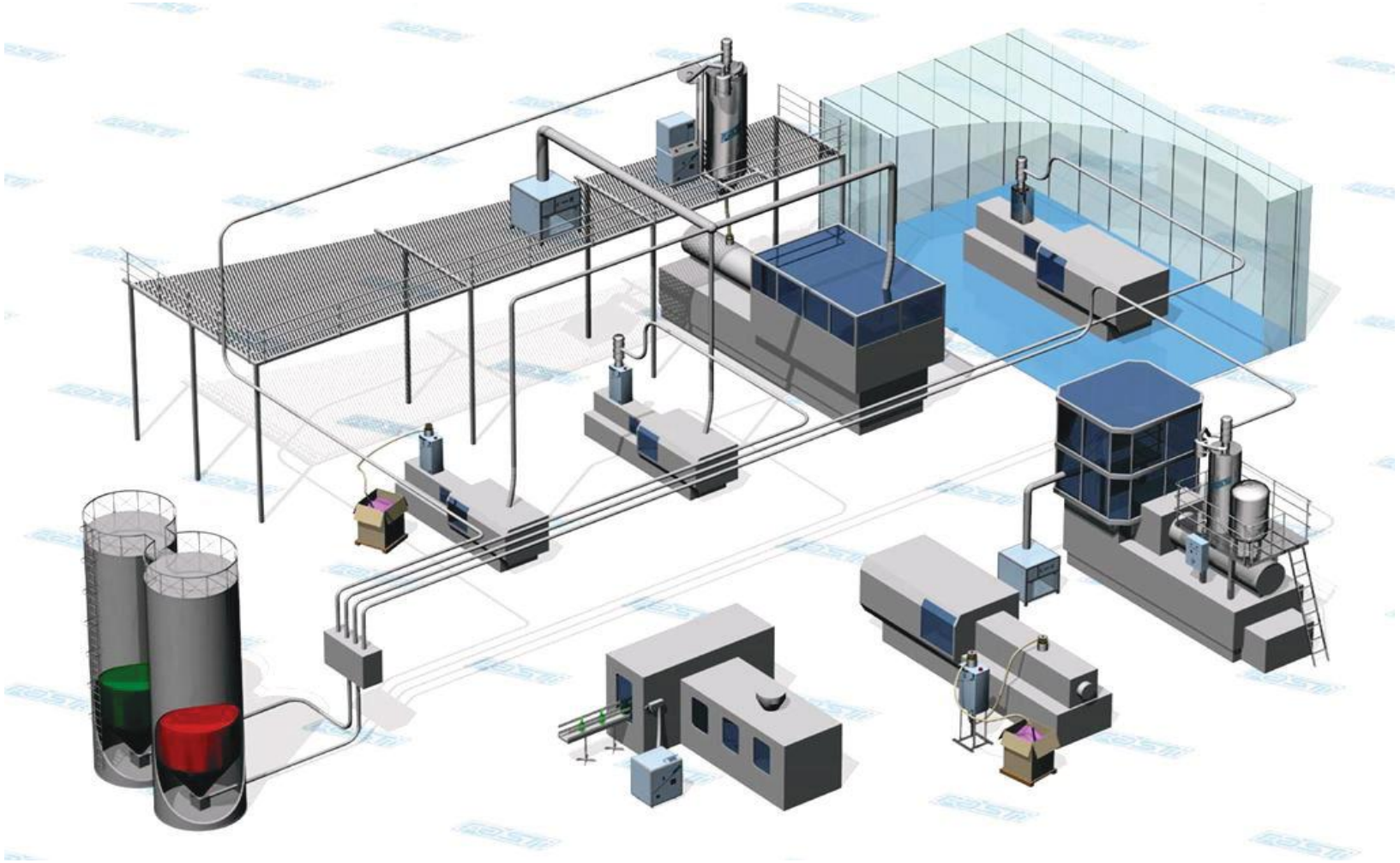
Solutions for Plastics Processing



Solutions for Plastics Processing

Drying

Drying Resin
Mold Area Dehumidification

Cooling

Internal Product Cooling
Water Chiller

Handling

Conveying
Dosing & Mixing

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Mold Area Dehumidification BA-S (MSP)

Injection and Blow Molding without Mold Condensation

Mold Area Dehumidification MSP

Consequences of Condenation upon Molds

When the surface temperature of an object sinks below the dew point of the ambient air, condensation builds on this object. This problem especially occurs on chilled molds of plastic processing machines.

As a result the optimal water temperature used for the cooling process cannot be realised. To avoid condensation the cooling water temperature has to be raisen. This leads to extended cooling time and reduction of productivity to prevent orange skin.

Mold Area Dehumidification MSP

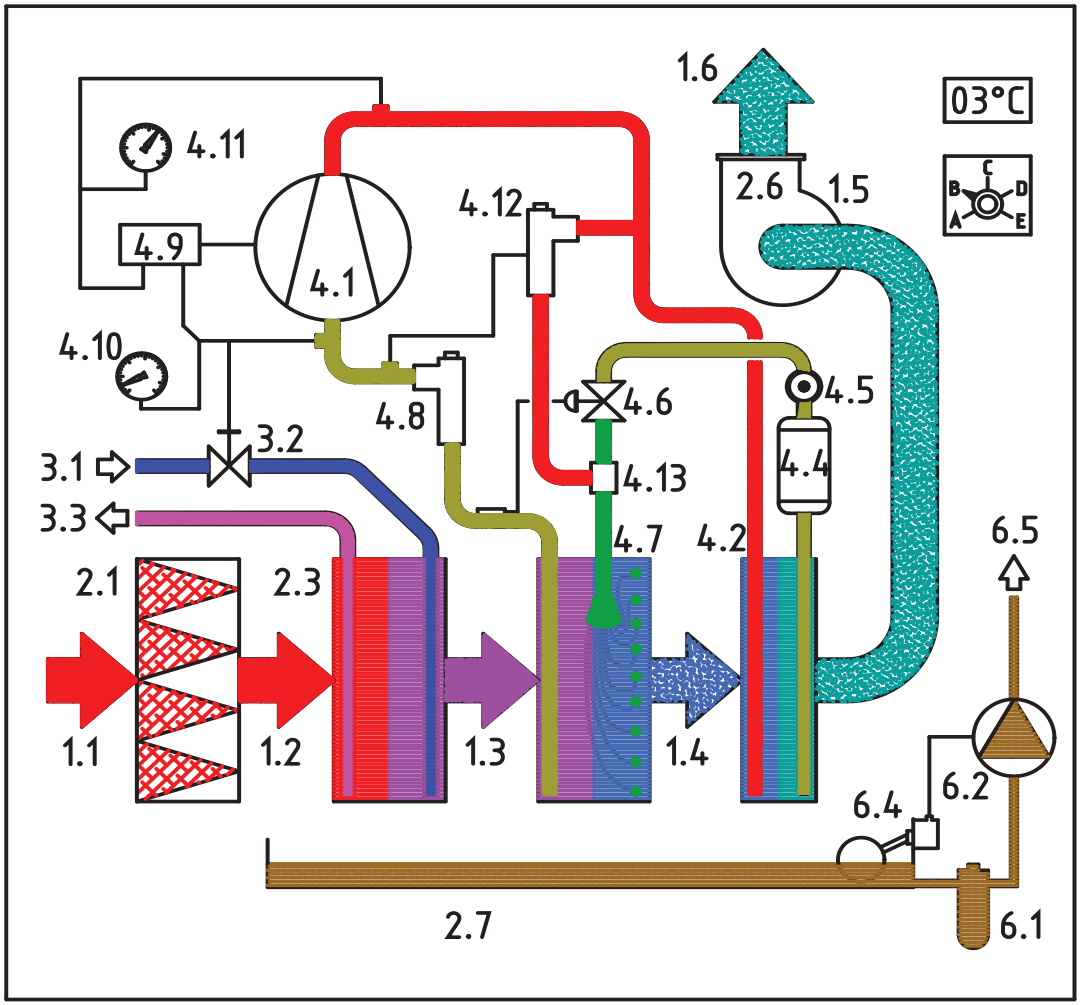
Advantages of the MSP-System

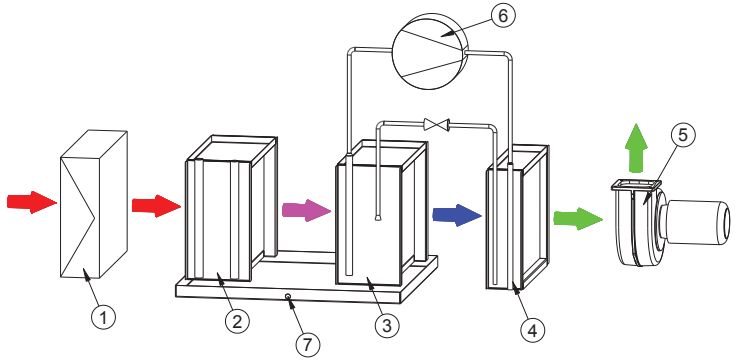
- Condesation free production with optimal mold cooling temperature
- Same production conditions throughout the year
- Higher machine efficiency through shorter cooling time
- Suitable for single production machines or complete production lines
- Tailor made enclosures for mold area
- CFC - free system
- Low maintenance expenses
- Low energy consumption
- Quick return on investment

1°C increase in water temperature = 1% loss in production

Mold Area Dehumidification MSP

Operating Principle





1. Airfilter
2. Precooler
3. Evaporator
4. Condenser
5. Blower
6. Refrigerant circuit
7. Condensation water drain with integrated condensate pump

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Mold Area Dehumidification MSP

Reference

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Mold Sweat Protector - MSP

Type		MSP-5 C/4	MSP-10 C/4	MSP-20 C/4	MSP-30 C/4	MSP-50 C/4
Nominal process air flow*	Nm³/h [cfm]	500 [300]	1000 [600]	2000 [1200]	3000 [1800]	5000 [3000]
Power consumption	kW [HP]	1.5 [2.0]	2.8 [3.8]	4.9 [6.6]	6.7 [9.1]	10.9 [14.8]
Maximum water flow at Δt 4°C [39°F] and 40°C [104°F], 80% r.F.	m³/h [cfm]	4 [2.4]	8 [4.8]	15 [9.0]	23 [13.8]	38 [22.8]
Cooling load at						
40°C [104°F], 80% r.F.	kW [tons]	18 [5]	35 [10]	70 [20]	105 [30]	175 [50]
35°C [95°F], 80% r.F.	kW [tons]	13 [3.6]	26 [7]	52 [15]	77 [22]	127 [36]
30°C [86°F], 70% r.F.	kW [tons]	8 [2.2]	16 [4.5]	32 [9]	47 [14]	77 [22]
25°C [60°F], 60% r.F.	kW [tons]	5 [1.4]	10 [2.9]	20 [6]	30 [9]	49 [14]
20°C [68°F], 50% r.F.	kW [tons]	2.5 [0.7]	5 [1.4]	10 [3]	20 [6]	39 [11]
Width [B]	mm [inch]	830 [32 3/8]	1005 [39 3/8]	1270 [50]	1480 [58 1/4]	1910 [75 3/8]
Depth [T]	mm [inch]	870 [34 1/4]	980 [38 3/8]	980 [38 3/8]	1170 [44 1/2]	1200 [47 3/8]
Height [H]	mm [inch]	890 [35]	1100 [43 1/4]	1375 [54 1/8]	1600 [63]	1800 [70 7/8]
Air outlet [LA]	Ø mm [inch]	125 [5]	160 [6 1/4]	315 [12 3/8]	315 [12 3/8]	400 [15 3/4]
Chilled water connections [WI/WO]		G 1"	G 1"	G 1 1/4"	G 1 1/4"	G 1 1/2"
Condens water outlet [KO]		G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"
Weight	kg [lbs]	180 [396]	280 [617]	410 [904]	520 [1146]	710 [1565]

*Technical data is based on 3x400 V, 50 Hz and 1x230 V, 50Hz (for MSP 5), chilled water temperature 8°C [47°F]

Possible Operating Conditions:

- Chilled water temperature: 6°-10°C [43°-50°F]
- Chilled water pressure: 3-10 bar [44-145 psi]
- Standard voltage: (other voltages upon request)
  1x230 V, 50 Hz (for MSP 5)
  3x400 V, 50 Hz
  3x460 V, 60 Hz
- Refrigerant: R 404 A
- Standard colour: RAL 7035 lichtgrau