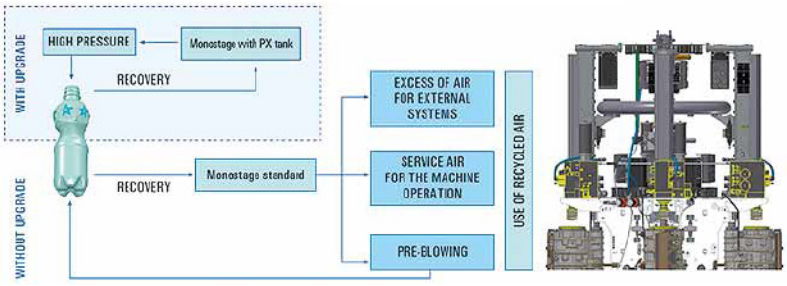
Air Master technology in stretch-blow moulding systems

Reusing air

The production process of PET and rPET containers by means of stretch-blow moulding systems requires the use of high pressure compressed air produced by a compressor powered by electricity. SMI stretch-blow moulders are designed to ensure energy efficiency; in particular, the machines of the latest generation using the technology of the Air Master double stage air recovery system, that enables compressed air consumption to be reduced by up to 40% compared to the systems that are not equipped with it.



Air Master: what it is

The double stage air recovery system is configured as follows: the first stage recovers the air that is then used for the pre-blowing and the machine service phases. The second system, that complements the first one, takes part of the exhaust air and uses it exclusively for the blowing phase.

Air Master: how it works

On every stretch-blow moulding station, two exhaust valves are installed: the first feeds the recovery system, pumping air into the recovery line, while the second discharges the air that cannot be recovered. The air recovered is taken and used for feeding the pre-blowing and the machine service circuits. Some extra air is used for feeding the low pressure line of the machine external utilities. The second stage allows a further saving, as it uses the exhaust air for the blowing phase. SMI stretch-blow moulders of the previous generations can benefit from the advantages of this recovery system, by installing an upgrade package.

Air Master upgrade

The upgrade ensures recovering the compressed air that would otherwise be released to the environment. By reusing the air of the stretch-blow moulding process the reduction of high pressure air and electricity consumption of up to 30% results in an eco-sustainable production process. As a positive side effect, there is less wear and reduced maintenance costs of the compressor.

An example of calculation: savings can be achieved by installing the Air Master upgrade on a stretch-blow moulder with 8 cavities, producing 1.5 l PET bottles at 2,250 bph, with a blowing pressure of 33 bar and a production of 4,000 h/a. With an upgrade, 30% air savings can be achieved, the consumption is about 784 Nm^3/h, resulting in energy costs at 43,903 € per year. Without the upgrade the air consumption is about 1,120 Nm^3/h with energy costs at 62,720 € per year.

www.smigroup.it