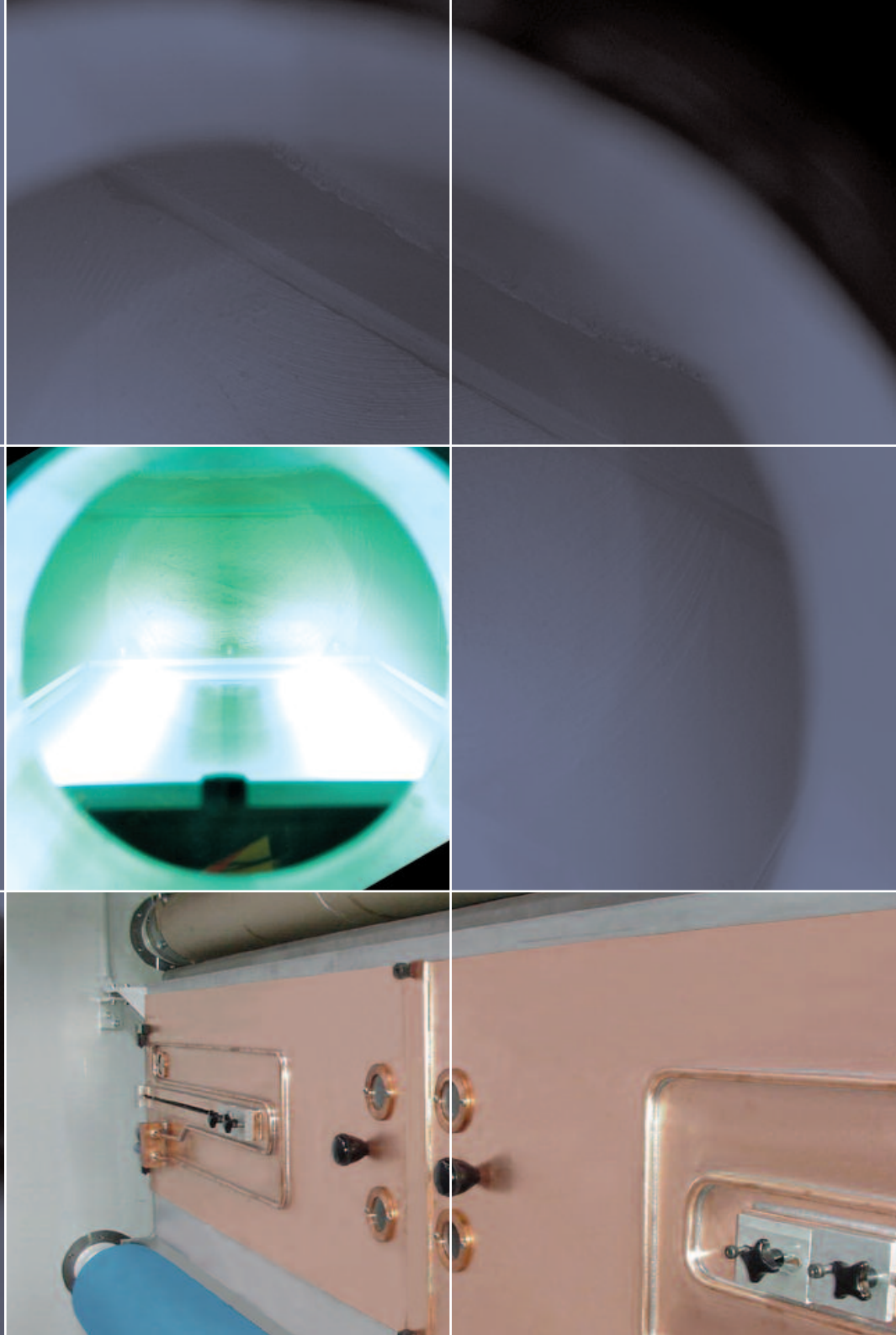
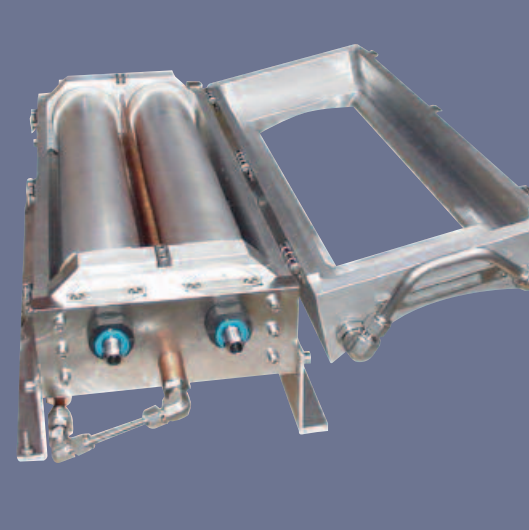


General's plasma pre-treatment system acts to enhance adhesion and/or barrier against oxygen and water vapour transmission for improved packaging performance and extended shelf-life.



Plasma pre-treatment system



Plasma pre-treatment system

The surface of the web is prepared in-line with the coating process. The plasma is formed when a gas, or combination of gases, are injected into an isolated treatment zone and ionised under vacuum conditions.

Plasma interacts with the surface of the web in a variety of ways. In addition to removing moisture and other contaminants, it also acts to increase the number of nucleation sites through the introduction of polar groups, resulting in a coating with homogeneous surface morphology and less defects.

With over 30 plasma installations throughout the world and years of development, GVE is world leader in surface activation of polymeric materials using plasma pre-treatment.

■ Intense treatment

The plasma is magnetically enhanced allowing intense treatment at high line speed. Treatment is further intensified by the use of medium frequency a.c. electrodes, which help increase plasma activation at the web's surface and minimise cleaning. General's unique plasma focussing greatly reduces the power requirement for a given application.

■ Precise web control

The risk of web breaks is minimised through the use of entry rollers and machined low conductance slots.

■ Low cost of ownership

The environment within the web treatment zone is isolated with the help of low conductance seals. Plasma leakage is minimised, protecting the vacuum vessel interior and reducing gas consumption. Higher process pressures greatly increase the life of the electrodes.

■ Consistent results

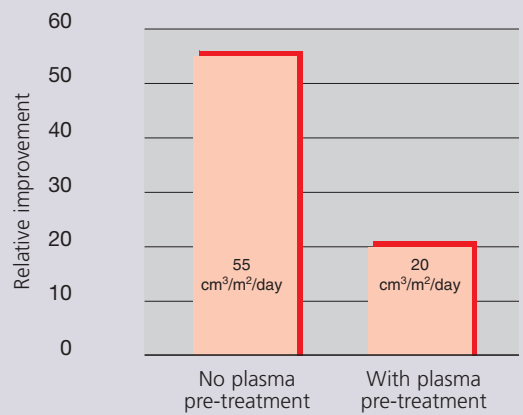
A closed-loop control system maintains stable conditions within the web treatment zone by automatically regulating the gas injection rate and ratio, allowing consistent full width treatment throughout the cycle.

Effects of plasma pre-treatment

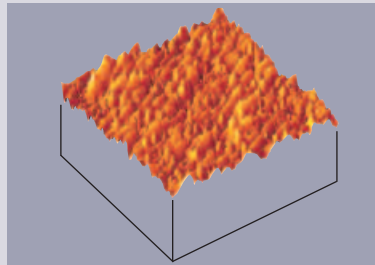
■ Low maintenance

The efficient use of input power by plasma focussing maximises process improvement whilst reducing cleaning. Removable front covers allows fast and easy cleaning.

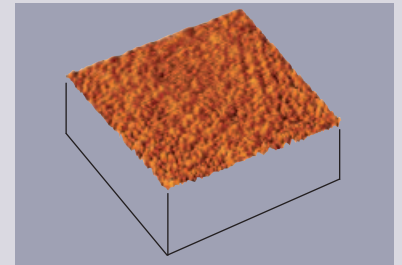
Effect on oxygen barrier 20mm BOPP



Effect on surface morphology



No plasma pre-treatment



With plasma pre-treatment

GENERAL

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