

# Applications

## PLASTIC APPLICATION INJECTION MOULD MACHINE APPLICATION SHEET



The problems associated with injection moulding machines are in two areas, the tool face and collection bucket or conveyor line. When small parts are ejected from the tool face they can be attracted to the tool face (earth potential) as they fall away. This can cause damage to the tool, rejects, down time and a loss of productivity.

When the parts fall into a collection bucket or container, they will start to cool and static will be generated. This charge, although small on each individual part will create a very large electro-magnetic field as more and more parts enter the collection area. This will lead to contamination being attracted into the container as well as operators in the area will absorb the charge into their bodies and discharge (often very violently) when they come into contact with an earth potential (machine, door handle or another operator). The shock received by an operator is not dangerous, but the involuntary reaction to the shock can be very serious if working in close proximity to working machines. When parts fall onto a moving conveyor, the static charge will attract contamination from the air and this will become bonded to the part. This can cause quality issues if the part has to be painted or is used as a food or pharmaceutical container.

### Tool face

By positioning a PULSElectronic air boost bar across the top of the tool face, you can blow a blade of ionised air down across the face when the tool opens. This will remove any statically attracted products or particles and ensure that the tool face remains clean. To reduce the amount of compressed air used, PULSElectronic recommend that you fit a solenoid and relay valve that will only blow the ionised air across the tool face as the tool opens.

### Collection container

By positioning a PULSElectronic ionising air blower that will blow ionised air into the container as the parts fall from the tool face, you will, Prevent large static charges from building up, remove the electro-magnetic field and eliminate the possibility of contamination being attracted onto the product.

### Conveyor belt

By positioning a PULSElectronic ionising blower across the conveyor belt you will aid in the cooling of the part, remove any static charge on the part and eliminate the possibility of contamination being attracted to the part. In all cases the removal of the static charge will protect the safety of operators who work within the electro-magnetic field generated.