

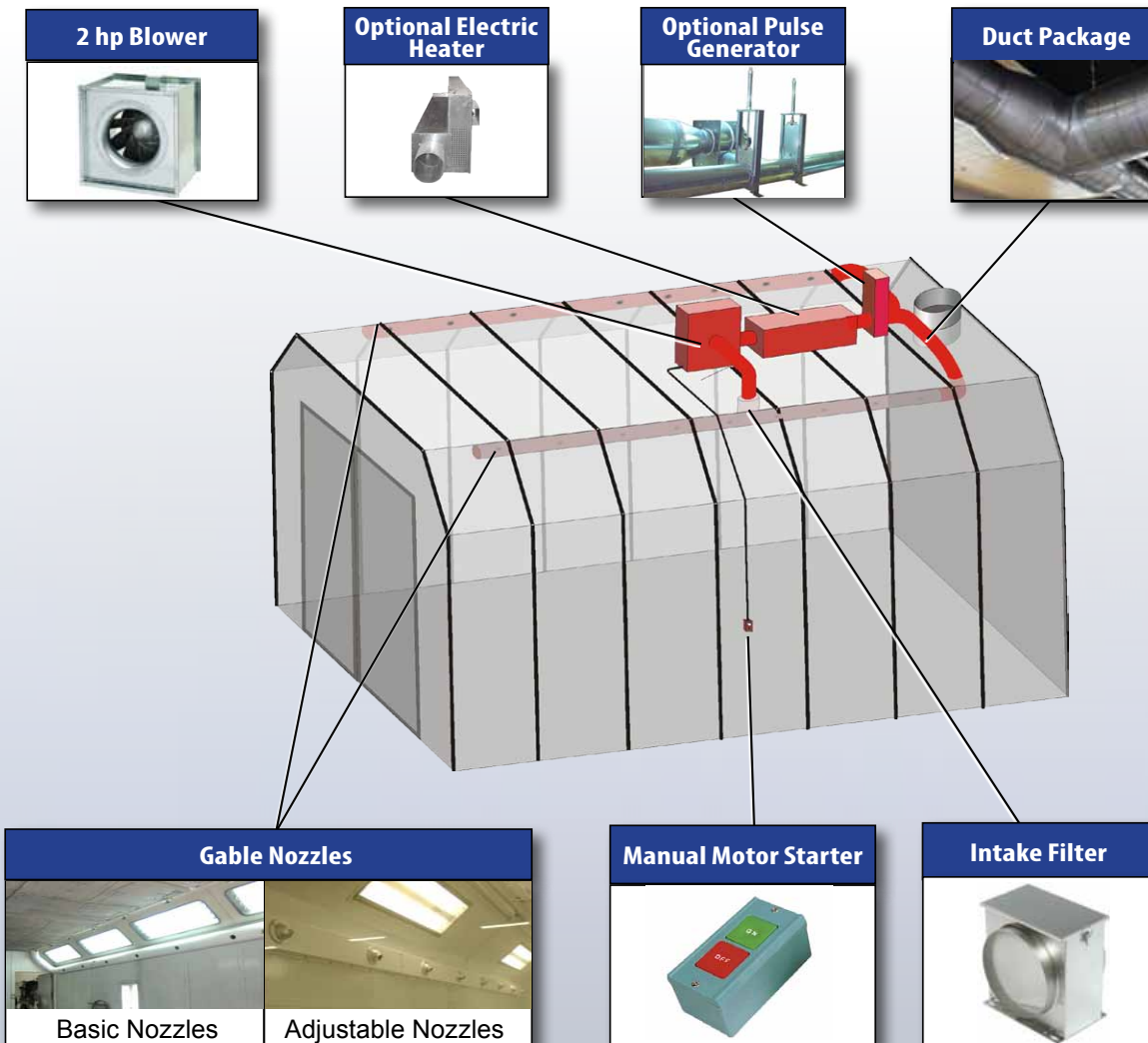


TURBULENCE PAINT DRYING SYSTEM

ISTpaint's Turbulence Paint Drying System provides a fast-drying method to accelerate the curing time of freshly painted surfaces. Our unique design can accommodate paint spray booths of any sizes or complexities. The system takes air from the spray booth through an intake filter controlled by the blower and recirculate the air by creating the ideal turbulence that efficiently reduces the flash-off time of either waterborne or solvent-based coating products. The air is then delivered evenly onto the painted surface from a set of nozzles horizontally mounted at the gable of the spray booth.

KEY FEATURES

- Reduces flash-off times by up to 5-10 minutes according to the application
- Provides the ideal turbulence to evenly cover the painted surface, including blind spots
- Universal system that could be retrofitted on booths of any designs and sizes
- Does not interfere with regular airflow during spray mode
- Self-contained system that recirculate heated air from inside the booth
- Very inexpensive add on that optimizes the overall coating process





EXISTING SYSTEMS

There are many different water borne paint drying systems on the market today. The goal is to create turbulence and to speed up airflow on the surface of the drying part. Some systems use tube axial fans while other systems use pressurized plenums with nozzles to create turbulence on the painted surface.

VENTURI SYSTEMS

Use compressed air from the shop's air compressor. Producing compressed air is very expensive and the air is cold. They have to be moved frequently to make sure they are not in the painter's way during the spray process. They have to be repositioned and set up for every job. The only advantage they have is that they are very inexpensive to buy. However, because they use compressed air, operational costs of these systems are high.

PROS	CONS
<ul style="list-style-type: none"> ✓ Inexpensive to buy, but the cost of compressed air offsets potential savings 	<ul style="list-style-type: none"> ✓ Compressed air is very expensive ✓ Blown air is cold, lowering booth's temperature and the drying performance ✓ Affects the painter's productivity

FAN BASED SYSTEMS

Use tube axial fans to create a turbulent air flow inside the spray booth. Some are placed on the ceiling some are placed in the upper corners of the spray booth. The placement is important in order to pull the hottest air possible in the booth. The problem is that they move a great volume of air as a wide air stream. They create circular airflow in the spray booth between the ceiling and the floor. As the air flow reaches a critical speed, these systems start stirring up dry overspray on the floor of the booth.

Since overspray is airborne inside the spray booth during the spray cycle this dust tends to settle on any structure inside the booth. The fan assemblies provide a prime area for overspray to settle on. When the fans are turned on, the settled overspray gets airborne and the dust is blown directly onto the painted surfaces.

PROS	CONS
<ul style="list-style-type: none"> ✓ Low energy consumption 	<ul style="list-style-type: none"> ✓ Airborne particles and dusts are blown on the painted surface

NOZZLE BASED SYSTEMS

Are connected to a secondary blower for air supply. They are placed on the walls including the corners of the spray booth. Some claim to achieve turbulence by crashing a vertical (primary) airflow to the horizontal (secondary) air flow of the nozzles. However, this is an extremely inefficient way to create turbulence. This method slows down both primary and the secondary airflow of the paint booth.

Most systems have user adjustable nozzles for aiming. Adjustable nozzles can be quite cumbersome to work with. There is a minimum of 32 nozzles in a system. If the painter has to adjust these or even fine-tune the nozzles before painting a new part, there will be a great loss of time. Besides these nozzles can become misaligned if a person or object bumps into them. Air flow from a misaligned nozzle can either stir up overspray or interfere with the air flow of the other nozzles.

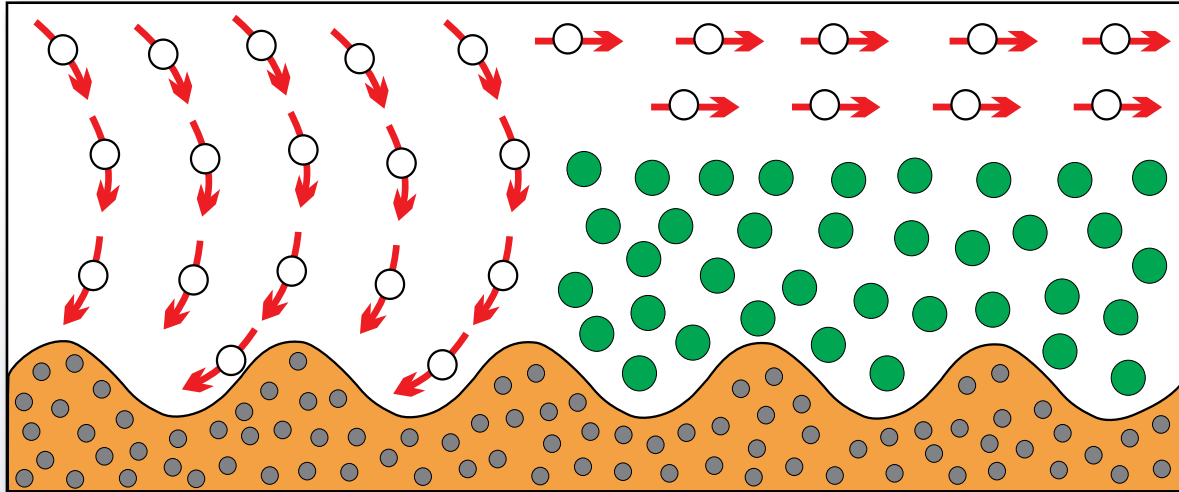
PROS	CONS
<ul style="list-style-type: none"> ✓ Very neat installation, without any obstruction in the paint booth ✓ Adjustable nozzles result in perfect airflow orientation 	<ul style="list-style-type: none"> ✓ Inefficient way to create turbulence since primary and secondary airflows are conflicted ✓ Affects painter's productivity, need to adjust nozzle according to the shape of the painted surface ✓ Nozzles can be misaligned or can interfere with airflow of other nozzles





IST SYSTEM ADVANTAGES

The ISTpaint Turbulence Paint Drying System is designed with stationary nozzles that only have to be adjusted once, during installation. It has proven its efficiency on both waterborne and solvent-based coating applications by generating the ideal turbulence and by recirculating the air from the top of the booth which is usually a few degrees over the bottom of the booth. It is practically maintenance free and it delivers its performance over many years.

As the front of the high pressure pulse contacts the painted surface, the air tumbles downwards pulling low relative humidity air right onto the surface of the paint.



OPTIONAL FEATURES

Electric Heater	Pulse Generator
<p>An optional 30 kW/h electric heater is available for non-heated spray booths. It raises the temperature of the booth during bake mode of approximately 50 °F. The addition of heat significantly shortens the flash-off times while reducing the negative effect of high humidity on drying times.</p>	<p>Le générateur d'impulsions est très efficace pour créer des turbulences sans souffler une surpulpérisation sèche sur la surface peinte. Il s'agit d'un ajout à faible coût qui accélère considérablement les temps de séchage de la surface peinte, en particulier dans les angles morts.</p>
	

Electrical Requirement

The blower is activated from a manual motor starter available in all voltages. The standard system comes with a 208V/230V 3 phase motor starter, but other voltages and single phase configurations are available as options.

