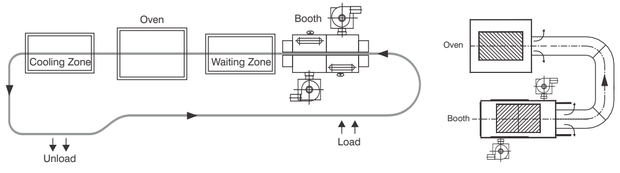
Powder Batch plant

Optimization of energy, time, space, and finishing :

Powder coating quality and efficiency can be optimized only if all the elements of complete powder coating process give optimized performance. Powder coating plants can be basically divided into conveyorised plants and batch plants. Batch plants are based on the premise that both the coating as well as curing process is optimized on the batch size.

Besides the pretreatment, batch plant consists of applicators, recovery booth, curing oven and the material handling system.



- **Applicator:** Depending on the production volume as well as the article geometry, the applicator and its accessories are selected. In case of automatic plants, accessories like recycling system or only sieving machine can also be integrated.
- **Recovery Booth :** Based on article geometry and batch size, article entry direction and number of coating cutouts are decided.
- **Curing Oven :** Optimization of energy through good quality insulation and uniform distribution of hot air flow give quality and efficiency. The air changes per minute are optimized for energy saving.
- **Material handling :**

Type 261 upto 80 kg per trolley

Type 262 upto 250 kg per trolley

A batch plant material handling system comprise of over-head track and lose trolley or ground trolley. Track and trolley is used for lighter articles which are hung on jigs in big numbers. Ground trolley is used for heavy components. In both cases, a complete loop of either the overhead track or the ground rails can be designed depending on space constrains.

Success in powder coating management is to have complete batch plant **' under one roof '**.

Oven Selection

Generally electric fired ovens are selected for small batch size i.e. less heat load. For bigger batch size, oil fired or gas fired ovens are recommended. Heat exchanger gives advantage of indirect heating resulting in cleaner process and better curing quality.

Oven (Diesel or Gas)

Technical Specifications :

Type	Internal Dim. (mtrs.)			HE	Blower	Motor	Temp	Material	Fuel	Batch Load
	W	D	H	K Cal/hr	CMH	HP	°C			kg
Ojas 10	1.0	2.0	1.5	45000	10,000	5	200	MS	Diesel or Gas	500
Ojas 15	1.5	3.0	2.0	45000	10,000	5	200	MS	Diesel or Gas	350
Ojas 20	2.0	2.5	2.0	45000	10,000	5	200	MS	Diesel or Gas	500
Ojas 25	2.5	4.0	2.5	65000	12,000	6	200	MS	Diesel or Gas	700

Oven (Electric)

Type	Internal Dim. (mtrs.)			Heat	Blower	Motor	Temp	Material	Batch Load
	W	D	H	Load (KW)	CMH	HP	°C		kg
Ojas E 20	2.0	2.0	2.0	12	6,000	3	200	MS	200
Ojas E 25	2.5	2.0	2.5	36	10,000	5	200	MS	300
Ojas E 30	2.5	5.0	2.5	65	10,000	5	200	MS	400

HE : Heat Exchanger Ojas (D) 10 : Diesel fired Ojas (G) 10 : Gas fired Ojas (E) 20 : Electric

Automatic Equipments

Improvements in technology for enhancing production, minimizing losses and improving quality has been Statfield's tradition. In the volumetric growth of all the industries, automation is one of the key aspect.

Reciprocator - EMR 8

The applicator reciprocates vertically, along with the auto gun, to cover the entire height of the article.

Based on the drive, reciprocators can be classified as:

- Electromechanical reciprocator - it is driven by timer belt pulley and electrical motor.
- Pneumatic reciprocator - it is driven by apneumatic cylinder.

Oscillator

The pneumatic cylinder driven oscillator moves the gun in an angular span. The coating span can be varied by adjusting the cylinder stroke.

Features :

- Time & Energy Saving
- Eliminates labour up to 95%
- Human error reduced to a great extend
- Audio – Visual alarms for errors / faults.
- Consistent coating quality – no room for human fatigue
- Can work in hazardous conditions.

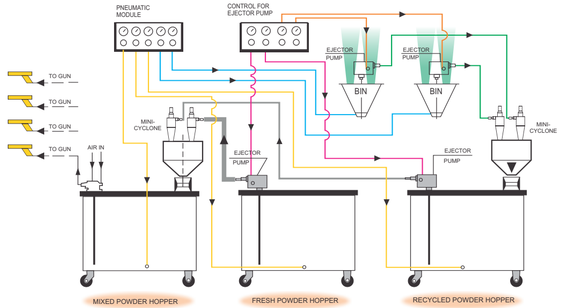
Touch Screen HMI Features:

- User friendly operation.
- Variable speed across the height within one stroke.
- PLC for speed and stroke selection.
- Sturdy compact construction.
- Smooth jerk free movement
- Touch sensitive human machine interface
- On – Screen data display
- Maintenance schedule can be defined by user
- Enhanced security controls

Auto Spray Gun

The SH17-A powder coating gun gives all the advantages of SH17, with a higher output voltage of 100 Kv, resulting in higher transfer efficiency. The number of guns are mounted either horizontally or vertically as per article geometry.

Powder Management System PERFORMANCE... QUALITY... PROFITABILITY



Automatic Proportionate mixing of fresh and recovered powder

System : The powder collected in the recovery bins of Multicyclone is fed to recycled powder hopper through a sieve. The fresh powder is stored in a separate fresh powder hopper. Powder from both these hoppers is fed to the second sifter assembly through ejector pump and minicyclone. Both powders mixed and collected in the mixed powder hopper. This hopper will feed powder to the applicators. As recovered and fresh powder is sieved again, total coating quality is improved.

Proportionate Mixing : The mixing of powder can be done proportionately either manually or automatically. In the manual system, each ejector pump will have separate powder control, which can be set manually to the desired mixing ratio. In the automatic system, the operator is required to feed only desired mixing ratio say 80 : 20 or 70 : 30.

Due to continuous powder loop formation manual handling is avoided and consistent powder supply is achieved with improvement in quality.

Note : 1) Features explained in general, customer has to refer quotation for scope of supply. 2) Right to change any technical specification without notice reserved.

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statfield equipments

Perfecting the SCIENCE of POWDER MANAGEMENT

Aspire MORE... Achieve MAXIMum

Philosophy

Statfield Equipments Pvt. Ltd., has been proudly wearing the crown of **"Pioneer"** for the last 30 years. The Intech Group has had the privilege of introducing electrostatic powder and liquid painting to India. From thereon, Statfield has given 'ever-updated' advanced models to the market with the twin Philosophy of **Innovation** and **Customer satisfaction.**

With expertise gained over 3 decades, Statfield has innovated various elements of the powder coating process to achieve customer satisfaction through the Science of Powder Management. Be it the high transfer efficiency of the Shalaka Series Guns or the High Recovery Efficiency of the Multi Cyclones. Statfield has been continuously upgrading this Powder Management Science.

Over the years, Statfield has added automatic applicators, recycling system and post filter to tie up all loose ends in Powder Management. To give justice to **In**tech's **In**novative **Tech**nologies, Statfield has and will keep on perfecting the Science of Powder Management.

MAINTENANCE NO BREAKDOWN

Shalaka 17

The new age powder coating gun based on concept of low energy generation. It gives enriched charging while making it safer for use. The unique external path leads to uniform powder flow. All moulded parts of modern polymer makes the gun lightweight, well balanced.

Features :

- Touch Trigger : fatigue free operation and safe as the gun triggers only if operator is earthed.
- Now you can spray metallic powder without changing Nozzle.
- Reduced spares consumption

Technical Specifications :

Spray Gun	**: Shalaka - 17**
I / p Voltage	: 60 V AC (+/-10%)
I / p Frequency	: 20 Khz (+/-10%)
I / p Current	: 60 mA
O / p Voltage	: 90 Kv, DC
Polarity	: (-ve) std. (+ve) opt.
Wt. of Gun	: 570 gm with Nozzle
L. of Gun	: 390 mm w / o Nozzle

Recycling System

The recycling system helps in optimum utilization of powder. Powder is recycled automatically back to the gun through the sieving machine.

Sieving Machine

Sifter

This high sieving rate machine can accommodate powder flow from three Multi Cyclones. The sieves are available in variety of sizes catering to different powders. Sufficient dampening provides noiseless operation.

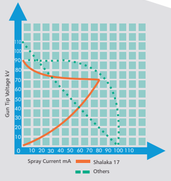
Standard mesh	60
Optional mesh	80, 100

Mini Cyclone

Mini Cyclone feeds powder to the sieve and then to the hopper. During the process, fines get separated and delivered back to the powder booth to avoid air pollution.

Fold Back Characteristics

- Voltage & current reduces as the gun goes nearer to the article.
- Voltage & Current become 'Zero' when gun touches article / person.
- Easy coating in Faraday - cage prone areas.
- **Powder flow stops as the gun touches the article.**



External Powder Path

Easy & quick colour change is the unique advantage of external powder path. Maintenance is very low and easy, providing maximum benefit of time and labour saving.

30 MONTHS WARRANTY

Ejector Pump

This high volume capacity pump sucks powder from the multi cyclone recovery bins delivering it to the sieve chamber through the mini cyclone.

Capacity	1 Kg/min.

Hopper

Carbon Steel Powder containers with provision for fluidization are used as reservoir to supply powder to spray applicators.

Standard sizes			
20 kg	40 kg	80 kg	120 kg

Recovery Booth

The carbon steel powder coated spray chamber with the multi-cyclone recovery gives almost 100 % powder utilization. It is maintenance free and has a very long life. The powder booth is easy to clean, resulting in a quick colour change and is safe to operate. No powder spillage out of the booth and maximum recovery through the multi-cyclone results in pollution control.

Changing pattern was never so easy.... Just move the cap!

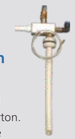
Cap at fully inserted position gives broader beam

Movement of the cap outside

Cap at extreme position gives smaller beam

Control Block

Powder pump has uniform powder output due to unique design. High volume powder suction with lesser consumption of air, adds to the life of the ventury & reduces the stray bounce back problems.



Direct Suction Attachment

Powder can be used directly from the carton. No need of separate container.

Hopper

Good quality stainless steel hopper has long life and is easy to clean. On Maxim, additional sieve box is attached to the hopper for built in sieving.

Powder level sensor senses minimum level of powder.

Maxim

Set of Nozzles

Extension Nozzle

Flat Spray Head

Star Spray Head

Plus Spray Head

Optional Accessories

Select Nozzle as per the article geometry.

Optional Accessories

Minicon
For trial production

Hose
Flexible, easy for maneuvering

Powder coating equipments

Technical Specifications :

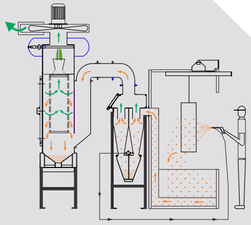
Model Name	Gun Type	Monitor	SS Hopper	Trolley	Nozzle Type	Direct Suction	Powder Level Sensor
Magnum I	Shalaka 17	PP17	12 kg. / 20ltr.	Non-Vibrating	R / A & Flat	N.A.	N.A.
Magnum II	Shalaka 17	PP17	20 kg. / 40ltr.	Non-Vibrating	R / A & Flat	N.A.	N.A.
Magnum (BM)	Shalaka 17	PP17	N.A.	N.A.	R / A & Flat	N.A.	N.A.
Maxim	Shalaka 17	PP 17 [V]	20 kg. / 40ltr.	Vibrating	R / A & Flat	Yes	Yes

R / A : Round & Adjustable

Integration Concept

Booth - when integrated with Equipment and post filter gives

- Automatic mixing of fresh & recovered powder
- Automatic feeding of powder to spray gun
- Automatic on-line sieving
- Prevention of entry of fines in atmosphere



GUARANTEED 98.5 % EFFICIENCY

Moduler Multicyclone

Guaranteed efficiency of 98.5 % with a very long life gives the Multicyclone an edge over other powder recovery systems. The high velocity of powder in the multicyclone reduces powder sticking, so cleaning time is negligible.

Blower (M^3/hr.)	1500	2000	3750	5000

Pollution Free Environment

Post Filter

98.5% efficiency of the Multicyclone helps in maximum utilization of chargeable powder. But to comply with Pollution Control Laws, the 1.5% powder fines are required to be arrested. The post filter arrests this powder and gives out breathable air.

A number of filter cartridges are mounted inside the sealed metallic chamber. The air enters the chamber and the filteration occurs 'outside in'. Periodic purge removes the powder and clean the cartridge. Clean air is given out through the blower outlet.