

APPLICATION SHEET

Profile & pipe · powder coating

A GUN HEAD THAT TURNS
UP TO 75° IN EVERY DIRECTION.

OWL is a smart articulating powder gun whose head turns up to 75° in every direction. It goes inside deep parts and directs the powder straight onto corners, edges and inner surfaces. The motion is in the gun itself, so difficult geometries are coated without a large robot investment.

75°
HEAD MOVEMENT
In every direction, up to ±75°

25%
POWDER SAVING
Proven in the field, in real production

6
OWLS FROM ONE SCREEN
Each with its own settings

CE · ATEX
STANDARDS
World patented

Classic system
Fixed gun

- ✕ One-direction spray
- ✕ Thin coating in inner corners
- ✕ Excess powder consumption
- ✕ Uncontrolled film thickness

Industrial robot
The whole arm moves

- ✕ Limited motion in narrow recesses
- ✕ Slower line, longer booth
- ✕ Programming for every part
- ✕ Touch-up with extra guns
- ✕ High investment

OWL
Motion in the gun itself

- ✓ Head group ±75° in every direction
- ✓ Direct to corners and inner surfaces
- ✓ Live coverage map
- ✓ Smart AI setting recommendations
- ✓ Local correction in a few taps
- ✓ 25% powder savings
- ✓ Low investment

INSPIRED BY THE OWL, MOVING LIKE A WRIST.

OWL is an automatic application gun that combines the owl's focus and tracking with the wrist's multi-directional movement. It focuses, follows and applies exactly where, and as much as, it is needed.



INSPIRATION · OWL

Owl

Focus · Tracking · Control

+

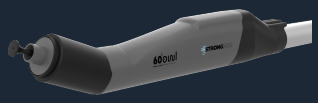


ANATOMY · WRIST

Wrist

Precise multi-directional motion

=



PRODUCT · OWL

OWL

Smart articulating powder gun

What did we take from the owl?

Focus
Targeted dose on the right zone.

Tracking
Motion that follows the geometry.

Control
Zone-by-zone dose control.

The head group turns up to 75° in every direction, like the wrist's flexibility. Smart AI suggests the settings.

PRINCIPLE

Spreading the powder evenly is not enough: difficult zones need more and easy zones less — independently of the operator, and repeatably.



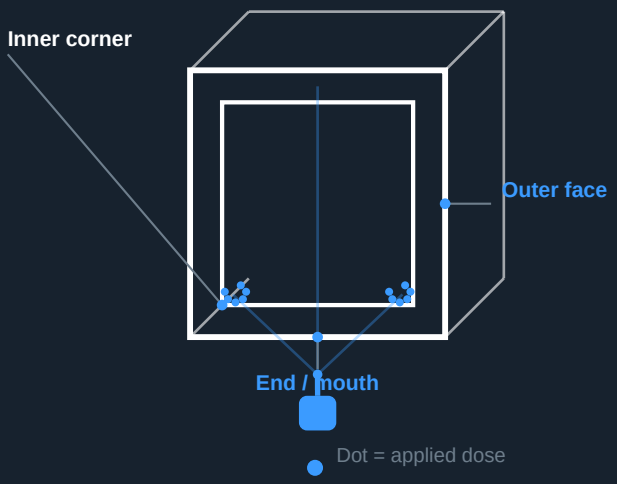


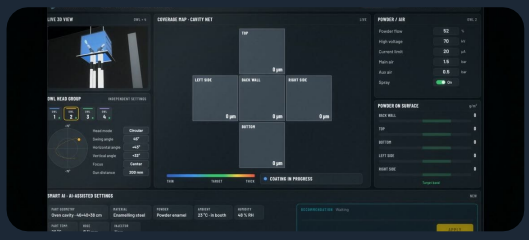
Real footage: OWL heads inside the cavity

ZONE BY ZONE,
WITH A SMART AI RECIPE.

On box profiles and pipes, inner corners and ends are hard to cover, while too much powder is spent on long flat surfaces. OWL applies a measured dose to each zone on a continuous line; Smart AI manages angle, distance, speed and powder amount by recipe.

Profile / pipe zones and targeted dose





Live coverage map: powder reaching each face



Local correction: the right OWL head for the point

Zone	Motion angle	Distance	Speed	Powder amount
Inner corner	50°	170 mm	slow	85%
End / mouth	45°	175 mm	slow	80%
Outer face	15°	250 mm	fast	60%
Weld seam	40°	185 mm	medium	80%
Flat area	10°	260 mm	fast	55%

SMART AI

Smart AI evaluates the part geometry and ambient conditions, and recommends gun distance, head group, kilovolt, microampere and air settings. Recipes are saved and recalled, so every shift and operator gets the same result. Motion profiles: inside tube, spot focus, flat sweep, edge sweep, cycle. (Recipe values are examples.)

25% POWDER SAVING, PROVEN IN THE FIELD.

Field measurements in real production conditions proved a 25% powder saving with OWL. The saving comes from directing the powder straight at corners, edges and inner surfaces and from not overspraying easy zones. The result depends on the part geometry and the existing line; we evaluate it for your project together with a process simulation.

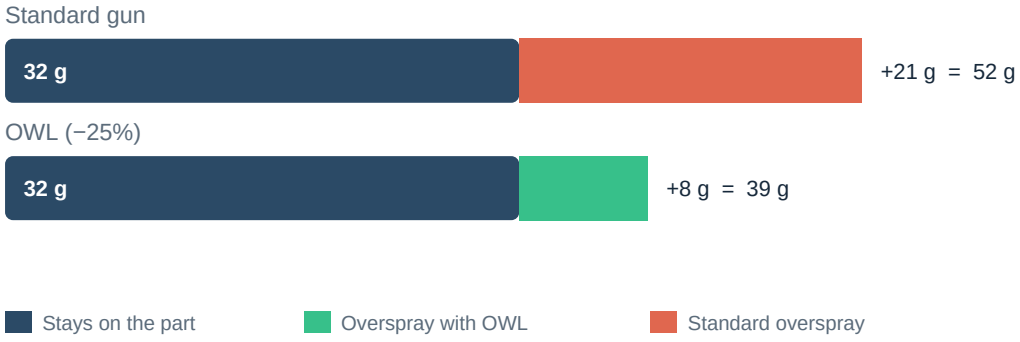
25%
POWDER SAVING
Measured in the field, in real production

−13 g
PER METRE
Example calculation

−62%
OVERSPRAY
From the example

6.6 t
ANNUAL POTENTIAL
500,000 metres/year (example)

Powder sprayed per unit (example calculation)



EXAMPLE ASSUMPTIONS

Coated area	**0.30 m²**
Target film	**70 µm**
Powder density	**1.5 g/cm³**
Deposit per metre	**~32 g**
Standard first-pass efficiency	**60%**
OWL saving (field)	**25%**

HOW IT IS CALCULATED

Standard use = Deposit ÷ first-pass efficiency

Standard: 32 / 0.60 = 52 g

OWL: 52 × 0.75 = 39 g

Difference: 13 g / metre (−25%)

Example only; the real saving depends on the part geometry and the existing line.

ANNUAL PROJECTION (EXAMPLE)

For 500,000 metres a year, a 25% saving means about 6.6 t less powder: a lower reclaim load, less colour-change loss and a smaller environmental footprint.

ON PROFILES & PIPES,
THE OWL DIFFERENCE.

When coating profiles and pipes on a continuous line, coverage at inner corners and ends matters as much as saving on flat surfaces. OWL applies a measured dose to every zone at line speed and delivers both.



Box profile

- **Uniform film**

  Even thickness at inner corners and ends; a measured dose on flat surfaces.

- **Quality at line speed**

  High first-pass quality on a continuous line.

- **Less waste**

  No excess powder on long flat surfaces; overspray falls.

- **Repeatability**

  The same recipe and result for every metre.

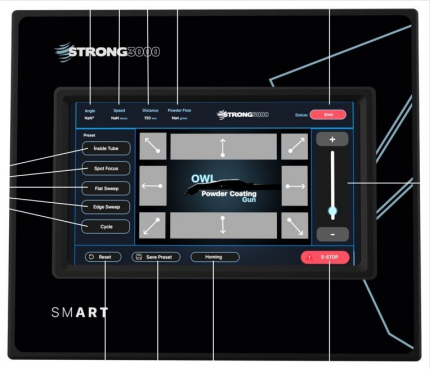
SUMMARY

On a continuous profile and pipe line, OWL + Smart AI improve coverage at inner corners and ends with a zone recipe and cut powder consumption and overspray per metre. The field-proven powder saving is 25%.

TECHNICAL SPECIFICATIONS
& CONFIGURATIONS.

Motion	The head turns up to 75° in every direction
Control	Up to 6 OWLs from one screen, each with its own settings
Motion profiles	Inside tube, spot focus, flat sweep, edge sweep, cycle
Processes	Powder coating and powder enamel; horizontal application and deep-drawn parts
Integration	Smart AI kit · line-optimization version
Interface	Live coverage map, local correction
Standards	CE · ATEX (EN 50177 · EN 50050-2)
Patent	World patented

Values are typical; final values are confirmed per project by STRONG3000 engineering.



OWL control screen: head group, motion profile and settings

Choose your setup

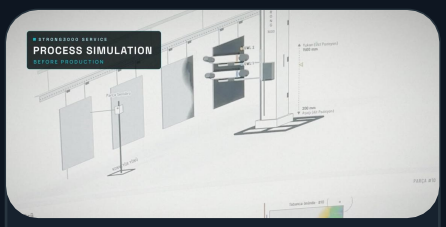
OWL Single Station
Single OWL mounted on your existing booth.

OWL Multi-Station
Up to 6 OWLs from one screen, each with its own settings.

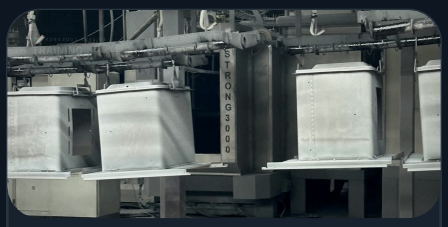
Smart AI Kit
Smart AI offered as a kit: setting recommendations for the part and conditions.

Smart AI Line Optimization
The line-optimization version of Smart AI.

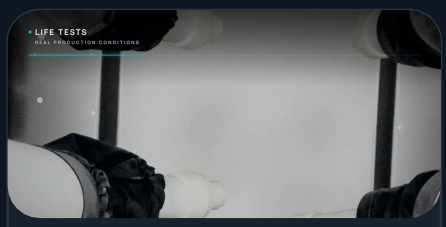
STRONG3000 service



Process simulation
We simulate your process before production.



Training
We train your team before installation.



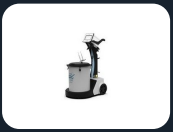
Life tests
Long-term life tests completed under real production conditions.

WITH OWL,
A COMPLETE SYSTEM.

OWL is an automatic gun that works together with Smart AI on series production lines. At low and medium volume the same part can be coated with a manual system. Recommended STRONG3000 equipment for profile and pipe application:

LOW / MEDIUM VOLUME

Manual application



Elite / Elite Plus
Manual powder coating units; kV, µA and air settings.



Smart AI
Suggests settings for the part; guides the operator in manual work.



Manual Powder Coating Gun
Light, ergonomic hand gun.



Manual Powder Booth
Manual application and powder recovery.



Box Oven
Curing in batch production.

SERIES PRODUCTION

Automatic line with OWL



OWL + Smart AI
Recipe-based, zone-by-zone application in difficult areas.



Automatic Powder Coating Gun
Series application in fixed or moving arrays.



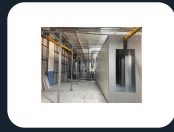
Single / Two-Axis Reciprocator
Automates the gun motion.



PVC Monocyclone Booth
Fast cleaning and powder recovery.



Powder Center
Fast colour change on automatic lines.



Conveyor Oven & Pretreatment
Surface preparation and curing on a continuous line.

PROJECT SUPPORT

Share your line, your part and your production target, and we will define the equipment selection and the booth, oven and conveyor layout together. strong3000.com · info@strong3000.com · WhatsApp +90 537 353 54 19