



## INTRODUCING A PROGRAMMABLE PAINTING ROBOT **QLAYERS: A BETTER WAY OF COATING INDUSTRIAL TANKS**

The Qlayers 10Q robot is a game-changer for large tank coating projects. Asset owners will appreciate the innovative technology, which reduces tank downtime. Coating contractors will discover this cutting-edge technology enables them to stay competitive in a changing market plagued with labor shortages.

# 10Q PAINT ROBOT

## PRECISION ENGINEERED PAINT CRAWLER

### High Speed Automated Coatings

- ▶ Up to 50% less paint consumption compared to manual painting
- ▶ Patented spray shielding system that prevents overspray
- ▶ Package includes:
  - ▶ 10Q Painting Robot
  - ▶ Trailer Package to contain pumps and controls
  - ▶ Graco Plural Sprayer
  - ▶ Ventilation unit for robotic paint head
  - ▶ Robotic painting head with gun
  - ▶ Maximum of 150ft of hose from the trailer to the robot
  - ▶ Fall arrest

### Dimensions

86" W x 73" H x 215" L | 1,000 lbs



| PART NUMBER | DESCRIPTION  |
|-------------|--|
| RUQL10Q     | 10Q Coating Robot (Trailer + Crawler + Paint System) |



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## BENEFITS



### PRECISION

Delivers finely-tuned alignment of paint carriage, delivering precise feathering between rows



### ENVIRONMENTALLY FRIENDLY

Eliminates overspray & release of chemicals into the environment



### REDUCTION IN PAINT WASTE

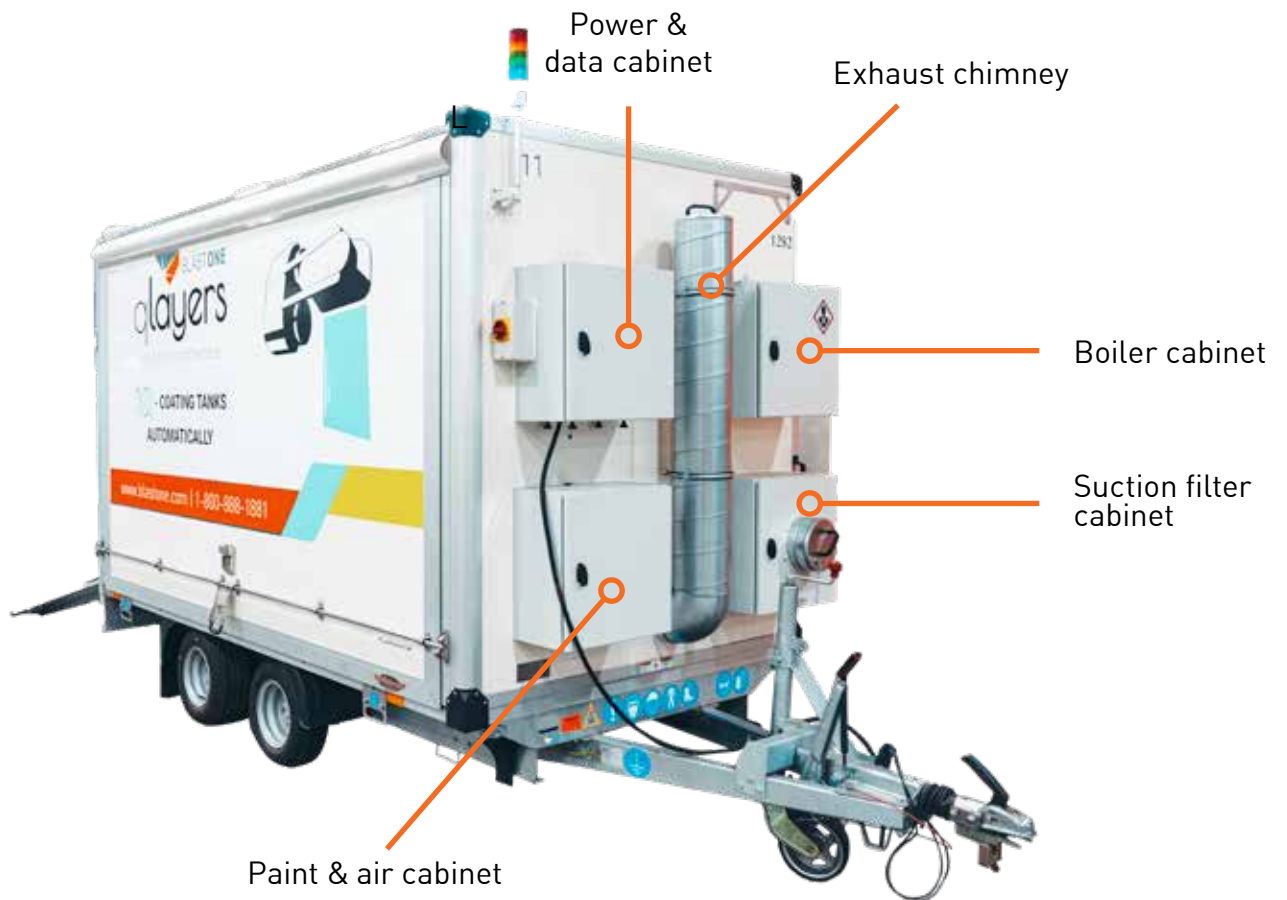
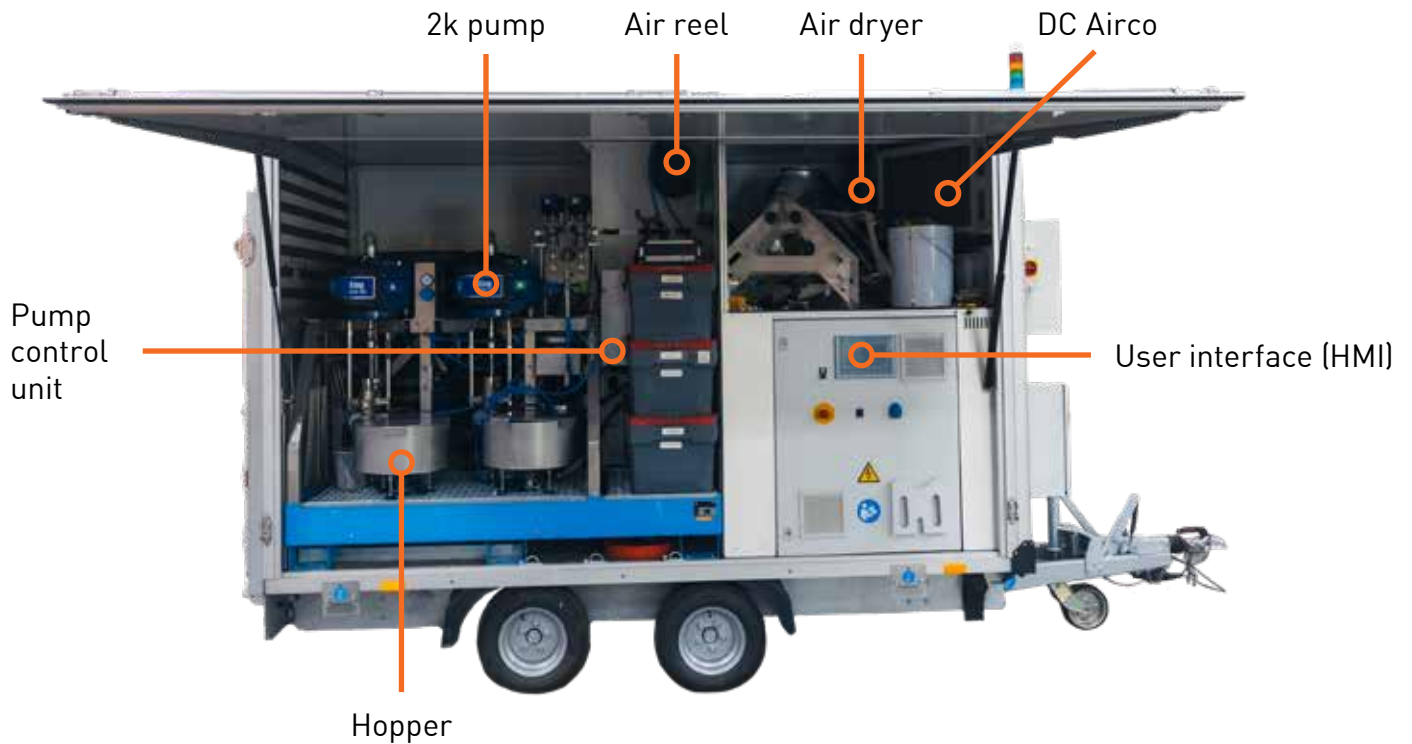
Up to 50% less paint consumption leads up to a 40% coating cost savings



### SAFETY

Reduce working hours at dangerous height by up to 85%

# 10Q PRODUCT DIAGRAM



# TECHNICAL SPECIFICATIONS

## SPEED

**Coating speed:** 2150 ft<sup>2</sup>/hr (200 m<sup>2</sup>/hr) for 6 hours in a shift of 8 hours

**Crawler speed:** 0-1.15 ft/s (0-0.35 m/s)

## COATING COVERAGE

**Coverage:** Up to 80%

## CONTROL REPORT

**Reporting:** Environmental parameters & layer thickness projection on the tank

## HOOD

**Overspray:** Less than 1% paint outside the spray shielding system (hood)

**Clearance:** Clearance of hood from wall is 1-1.2 inches (20-30mm)

## TANK LIMITATIONS

**Substrate thickness:** Structurally sound steel substrate with a minimum thickness of .24 inches (6mm)

**Max height:** Max height of tank 98ft (30m)

**Diameter:** Minimum tank diameter 65ft (20m) | Smaller diameters will be evaluated on a case by case basis

**Setup:** Open space of at least 1076 ft<sup>2</sup> (100 m<sup>2</sup>) for equipment next to the tank

## OPERATORS' REQUIREMENT

**Training:** 10q training is required for each operator

**Certification:** Safety certificates required by the terminal

## LAYERS & PAINT

**Layers:** Min 60 µm (2.4 mils) dry per layer - max 900 µm (35.4 mils) dry per layer

**Paints:** 1k, 2k, and 3k protective coatings (Please follow all manufacturer instructions)

## ATOMIZATION SYSTEM

**Atomization unit:** The system uses an airless atomization unit consisting of 2 high pressure pumps. A plural component pump then mixes the product with high precision by electronically regulated dosing valves.

## COATING METHOD

**Pathway:** Vertical lanes with spray head on the left or right position of the crawler. Overlap of the lanes can easily be set.

## ENVIRONMENTAL CONDITIONS

**Precipitation:** No rain

**Wind:** Wind max 13-18mph (4 Bft, 20-28 km/hr)

**Temperature:** Minimum 32°F (0°C) and maximum 104°F (40°C)

**Paint temperature:** Paint material to be supplied to the machine at room temperature 70°F (21°C)

## MAINTENANCE

**Maintenance:** Daily and weekly maintenance to be done by the client | Monthly and yearly maintenance to be done by BlastOne

## CERTIFICATION

**Certification:** CE certified | Pump, suction system and paint system are EX certified



# CASE STUDY: 16 DAY COATING PROJECT CUT DOWN TO JUST 6 DAYS

## BACKGROUND

The meticulous task of tank maintenance has traditionally been executed by paint crews delicately stretching from cherry pickers or gondolas, spraying, brushing, or rolling on anticorrosive coatings. Depending on the tank's size and the specifications of the coating, these projects can stretch for up to a month, requiring workers to function at dangerous heights for extended durations.

## SOLUTION

Located in Texas, USA, the Shell Deer Park facility processes a staggering 275,000 bbl/d. Operating round the clock, it thrives on the expertise of its dedicated employees. Amidst this industrial setting, one tank posed a unique challenge: Tank A331. Its location, adjacent to a bustling highway and auto dealership, ruled out the traditional spray paint option.

The solution? A profitable alliance between us, Shell, and Partner Industrial, which brought the groundbreaking 10Q robot to the forefront.

## RESULTS

The integration of the 10Q robot delivered staggering results:

- **Exponential Efficiency:** What would have typically taken 16 days was condensed to a mere 6-day operation. That's a 10-day reduction, redefining project timelines.
- **Accelerated Application:** The robot averaged 1937 ft<sup>2</sup>/hr (180 m<sup>2</sup>/hr) – tripling the coverage rates attainable through customary methods.
- **Safety Increase:** The times workers spent at precarious heights plummeted by an estimated 75%, enhancing the project's safety profile.
- **Precision:** Thanks to the 10Q's patented spray shielding hood, the tank received an immaculate finish without the usual overspray concerns.
- **Weather Adaptable:** When the weather turned windy, typical operations might have stalled. But our 10Q robot persevered, bringing even more efficiencies to the table.

## PROJECT SCOPE

**Terminal:** Shell Deer Park

**Location:** Texas, USA

**Object ID:** TK A331

**Tank height:** 55ft (17m)

**Tank diameter:** 197ft (60m)

**Coating contractor:** Partner Industrial

**Total surface coated:** 12,293 ft<sup>2</sup> (3,747 m<sup>2</sup>)

**Type of coatings used:** Interseal® 670HS (primer), Interthane® 990 (topcoat)

# CASE STUDY: CHEVRON'S QUICKEST TANK TURNAROUND

## BACKGROUND

On this particular site, the painting process was traditionally labor-intensive.

Conventional methods demanded the use of paint rollers, augmented by a 2K protective coating to shield the tank against corrosion. This approach was not just painstaking, but fraught with challenges. Gondolas moved laboriously around the tank, while workers took precarious positions at towering heights to complete the painting. The inherent risks and complexities were obvious.

Recognizing the pressing need for an alternative, the solution emerged in the form of Qlayers' 10Q robot.



## SOLUTION

The objective was clear—coat the tank swiftly after its high-pressure water jet cleaning, eliminating the need for exhaustive tank maintenance. While a UHP robot, not a Qlayers product, tackled surface preparation, its pace was notably slower compared to the swift 10Q robot assigned to the coating task. A strategic decision was made: first, let the surface preparation span over two days and then usher in the 10Q robot to dominate the coating landscape. All signs pointed to an estimated project duration of five days for the coating endeavors.

## PROJECT SCOPE

**Terminal:** Chevron Singapore Pte Ltd

**Location:** Singapore

**Object ID:** TK T553

**Tank height:** 54ft (16.5m)

**Tank diameter:** 141ft (43m)

**Coating contractor:** Fast Weld

**Total surface coated:** 32,119 ft<sup>2</sup> (2,984 m<sup>2</sup>)

**Type of coatings used:** Interseal<sup>®</sup> 670HS (primer), Interthane<sup>®</sup> 990 (topcoat)

## RESULTS

Living up to its reputation, the 10Q robot delivered precisely as anticipated. The results showcased remarkable consistency in thickness, effortlessly aligning with the set specifications.

Admittedly, the project had its challenges. Surface preparation and inspection threw a few curveballs, and unpredictable weather conditions added to the complexity. Yet, through it all, Qlayers ensured the coating operation met the benchmarks set in agreement with both the asset owner and the contractor. The impressive figures spoke for themselves:

**2,195** ft<sup>2</sup>/hr

Remarkable coating speed

**6.88** mils

Primer average wet layer thickness

**6.88** mils

Topcoat average wet layer thickness



## PRICING LIST

### FOR PURCHASE

**\$420,000 - \$470,000** Depending on configuration (heat, power, accessories).

Does not include suspension/ rigging system, air compressor, generator, pre-heat for coating.

Requires 145 cfm.

Includes:

- Trailer package to contain pumps and controls
- Graco plural sprayer – mixing at the pump for 2 pack coatings
  - Can be used with single pack
- Ventilation unit for the robotic paint head
- Robotic painting head with gun
- Max 150' hose from the trailer to the robot
- Fall arrest

Mandatory training – allow \$27,500 minimum. Customer supplies coating for training.

### FOR RENT

Rent **\$45,000/month** with 1 month minimum

Includes:

- Equipment supplied as above (customer supplies rigging systems, air compressor, generator, pre-heat for coating)

Additional Costs:

- Plus running fee \$0.90 per square foot of coating, per layer of coating
- Mandatory training \$12,500 plus \$2,500 per man day.



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