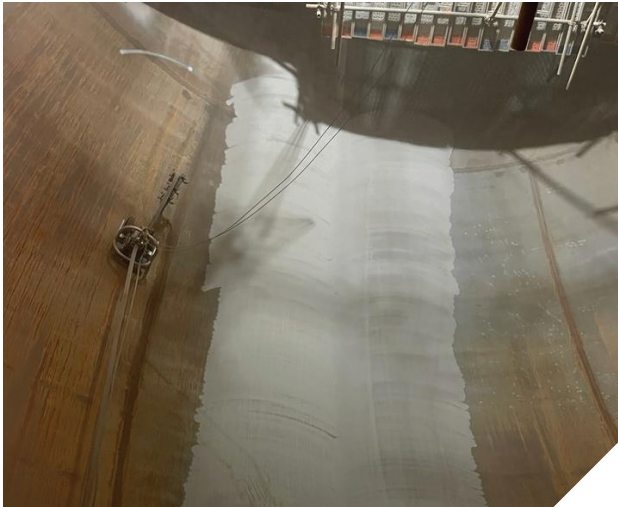




vertidrive

UHP AND ABRASIVE BLASTING ROBOTS

CASE STUDIES



PROJECT: 2 Tank Internals (1660 m² / 17, 868 ft²)

COATING REMOVED: New Steel

CUSTOMER: Alphatech Sdn Bhd

LOCATION: Banting, Selangor, Malaysia

DATE: April 5, 2023

SETUP: VertiDrive M7 with 2 SnakeBite #6 nozzles, 6.5 Blast Pot with TeraValve, Air Prep, Blue Wizard Extractor Fan using GMA SpeedBlast Garnet

RESULTS: 322 ft²/hr (30 m²/hr).
Consumption rate of 4.4 lbs/ft² (20 kg/m²)

PREVIOUS RESULTS BEFORE VERTIDRIVE:

24 hour operation - 2 shifts of 4 blasters each. Using the VertiDrive they only needed 1 blaster for 3 hours (per tank) to compensate for the 10% upper sphere radius the VertiDrive was unable to navigate

COMMENTS: Had 3 weeks time constraint on two tanks and therefore wanted an alternative to scaffolding costs: assembly/disassembly time and rental fees.



PROJECT: 180ft Diameter Tank

COATING REMOVED: New Steel

CUSTOMER: Brock

LOCATION: Salt Lake City, UT, USA

DATE: November 11, 2021

SETUP: VertiDrive M7 with 2 #8 Ultra Nozzles, AmphiBlast with GMA NewSteel Garnet, plus 2 additional manual blasters

RESULTS: 600 ft²/hr (55.7 m²/hr) Verti+Blasters.
400 ft²/hr (37 m²/hr) VertiDrive only

PREVIOUS RESULTS BEFORE VERTIDRIVE:

400 ft²/hr - 4 blasters. Blasters were accomplishing less than 100 ft²/hr (standard is 150 ft²/hr). Reduced labor by one and VertiDrive itself blasted 2X both remaining laborers combined

COMMENTS: The VertiDrive also blasted the roof. Customer liked the performance and kept the machine on site to use on another tank.



PROJECT: 120ft New Fuel Storage Tank External

COATING REMOVED: New Steel

CUSTOMER: Civmec

LOCATION: BCSBP Kwinana, WA, Australia

DATE: October 16, 2020

SETUP: VertiDrive M7 with 2 x #7 Hyper nozzles running at 110 psi at the nozzle using GMA SpeedBlast

RESULTS: 600 ft²/hour (55.7 m²/hr) to NACE 3 finish and 3 mil profile, reduced laborers from 3 down to 1 (66% reduction!)

PREVIOUS RESULTS BEFORE VERTIDRIVE:

Required 2 blasters and 1 spotter





PROJECT: 225ft Diameter Fuel Tank Floor

COATING REMOVED: New Steel

CUSTOMER: Moore Painting

LOCATION: Tank Farm - Patoka, IL, USA

DATE: October 16, 2020

SETUP: VertiDrive M7 with 2 Ultra #8 nozzles, using GMA GX2 Garnet

RESULTS: 400 ft²/hr at 3.7 lbs/ft² (37 m²/hr at 0.16 kg/m²)



PROJECT: 10 Million Gallon (8 Million Liters) Tank

COATING REMOVED: New Steel

CUSTOMER: T W Woods Construction Pty Ltd

LOCATION: Tomago NSW, Australia

DATE: May 18, 2023

SETUP: VertiDrive M7 with 3 SnakeBite nozzles (2-#7 / 1-#6) with a MegaBlaster using GMA NewSteel Garnet

RESULTS: 592-699 ft²/hr (55-65 m²/hr)

PREVIOUS RESULTS BEFORE VERTIDRIVE:

387ft²/hr (36m²/hr) with two blasters

COMMENTS: *We were skeptical at first, but seeing how fast the unit can go really amazed us. Also remarkably quieter with the SnakeBite nozzles.*



PROJECT: 100 ft Sphere

COATING REMOVED: Millscale

CUSTOMER: Brand

LOCATION: El Segundo, CA, USA

DATE: April 19, 2023

SETUP: VertiDrive M7 with UHP

RESULTS: Entire sphere completed with UHP. No scaffolding costs.

PREVIOUS RESULTS BEFORE VERTIDRIVE:

Required scaffolding and blasters





PROJECT: Fuel Storage Tank External
COATING REMOVED: 6-10 mils
CUSTOMER: Quincy Industrial Painting
LOCATION: Iowa, USA
DATE: May 12, 2022

SETUP: VertiDrive M7 with 2 x #7 UltraTuff nozzles with a 6 ton bulk pot

RESULTS: 270 ft²/hour (25 m²/hr) with a NACE 2.5 finish, while reducing labor by 50%

PREVIOUS RESULTS BEFORE VERTIDRIVE:
4 men (3 blasters plus spotter) down 50% to 2 (1 operator and 1 blaster doing touch ups) with the VertiDrive.



PROJECT: RAN Navy Vessel
COATING REMOVED: 7 mils (177 microns) of top coat only - International Intershield 300
CUSTOMER: Eptec
LOCATION: Henderson Naval Shipyard, WA, Australia
DATE: October 23, 2021

SETUP: VertiDrive M7 with 2 #7 SnakeBite nozzles, AmphiBlast with 1600 Air Dryer plus 2 manual nozzles on man lifts using GMA PremiumBlast

RESULTS: 366 ft²/hr (34 m²/hr) removing the top coat only, reduced blasters from 4 to 2. Reduced manlift equipment requirements

PREVIOUS RESULTS BEFORE VERTIDRIVE:
4 blasters with an additional spotter

COMMENTS: Pressure dialed down to 90psi at the nozzle to ensure blasting operation did not remove the mid coat.



THE MOST EFFECTIVE SOLUTION FOR CLEANING STEEP STEEL SURFACES



PROJECT: 50ft Diameter Jet Fuel Tank
COATING REMOVED: 12-15 mils epoxy urethane
CUSTOMER: Graham Industrial Coatings
LOCATION: Eielson Air Force Base - Fairbanks North Star, AK, USA
DATE: June 8, 2021
SETUP: VertiDrive M7 with 2 #8 UltraTuff nozzles, using AmphiBlast and coal slag abrasive

RESULTS: 260 ft²/hr (24 m²/hr)

PREVIOUS RESULTS BEFORE VERTIDRIVE:
 Foreman stated they average 95 ft²/hr (8.8 m²/hr) for the tank right next to this one

COMMENTS: Blasted to SP10. Used manual hand cut-ins.



PROJECT: Spherical Tank
COATING REMOVED: 12-15 mils epoxy urethane
CUSTOMER: Brock
LOCATION: Bayway TX, USA
DATE: December 7, 2022
SETUP: M7 VertiDrive with 2 #8 Hyper nozzles, using 6 ton Bulk AmphiBlast at 104 psi with nickel slag

RESULTS: 260 ft²/hr (24 m²/hr)

PREVIOUS RESULTS BEFORE VERTIDRIVE:
 4 blasters with an additional spotter

COMMENTS: The customer did not make all the adjustments we advised, however they still had success. They used Emerald Blast and standard hoses. They had some compressor failures which did result in production limitations.



PROJECT: Water tank
COATING REMOVED: 15 mils epoxy
CUSTOMER: Graham Industrial Coatings
LOCATION: Eielson Air Force Base - Fairbanks North Star, AK, USA
DATE: October 25, 2022
SETUP: VertiDrive M7 with 2 #8 UltraTuff nozzles, using 8 ton bulk pot with Green Diamond Slag

RESULTS: 300 ft²/hr (27.8 m²/hr)

COMMENTS: Under tight timeline and needed quick turn-around. Renting the VertiDrive was the ideal solution.





PROJECT: Crude Oil Storage Tank
COATING REMOVED: Epoxy 12-20 mils
CUSTOMER: Glindemann Industrial Coatings
LOCATION: Queensland, AU
DATE: 2020

SETUP: VertiDrive M7, 20,000 psi pump @ 14.22 gal/min flow (approx 1400 bar @ 6 lpm)

RESULTS: WJ2 Clean, 62.5% reduction in workforce required (from 8 to 3), Completed project 4 days earlier than schedule (14 vs 18 days)

PREVIOUS RESULTS BEFORE VERTIDRIVE:

Required 8 workers

COMMENTS: The VertiDrive M7 was used for 75 hours in total at an astonishing average production rate of 840 ft² (78 m²) per hour.



PROJECT: Floating Crude Oil Tank Roof
COATING REMOVED: 3-layer Epoxy 12-20 mils
CUSTOMER: Persy Steel Protection
LOCATION: Rotterdam, Netherlands
DATE: March 2017

SETUP: VertiDrive M4 UHP with Vacuum System, 36,000 psi @ 8.5 gal/min (2500 bar @32 lpm), vacuum capacity 1,100 m³/hr at 650 cfm

RESULTS: Average production rate of 3,200-4,300 ft² (300-400 m²) per 8-hour shift

COMMENTS: Waste water treated and disposed of responsibly.



PROJECT: Ship Hull
COATING REMOVED: Epoxy 15-20 mils
CUSTOMER: GMD Shipyard
LOCATION: Brooklyn, NY, USA
DATE: January 26, 2021

SETUP: 2 M7 VertiDrives each with 2 #8 Hyper nozzles, 2 MegaBlast Pots using GMA GX2 Garnet

RESULTS: 333 ft²/hr (31 m²/hr)
 2000 ft² (185 m²) in 6 hrs of blasting

PREVIOUS RESULTS BEFORE VERTIDRIVE:

GMD were using UHP but the maintenance of the pumps cost too much and so they switched to abrasive

COMMENTS: GMD had a timeline and needed a fast turn-around. They were blasting to an SP10 when specs allowed for an SP6. Thus over-blasting hindered even more impressive results.





PROJECT: Water Tank
COATING REMOVED: Epoxy 15-20 mils
CUSTOMER: Moore Painting
LOCATION: Eureka, CA, USA
DATE: August 17, 2022
SETUP: M7 VertiDrive with 2 #8 nozzles using GMA GX2 Garnet

RESULTS: 280 ft²/hr (26 m²/hr) and finished entire tank shell in 3 days. 40% faster!

PREVIOUS RESULTS BEFORE VERTIDRIVE:
 Previously required 5 days of blasting to complete



PROJECT: 180ft Diameter Diesel Storage Tank Floor
COATING REMOVED: Epoxy 15-20 mils
CUSTOMER: BP
LOCATION: Bulwer Island, QLD, Australia
DATE: January 15, 2020
SETUP: M7 VertiDrive with 2 #8 UltraTuff nozzles, using 8 ton bulk pot with GMA PremiumBlast at 92 psi

RESULTS: 290 ft²/hr (27 m²/hr) and NACE 3 finish with 3 mil profile



PROJECT: 180ft Diameter Tank Floor
COATING REMOVED: Epoxy 16-20 mils
CUSTOMER: Lakehead
LOCATION: Husky Refinery, Superior, WI, USA
DATE: October 1, 2021
SETUP: M7 VertiDrive with 3 Hyper #7 nozzles, using Bulk AmphiBlast (dry) with GMA GX2 Garnet

RESULTS: 320 ft²/hr (30 m²/hr). Total 3 laborers

PREVIOUS RESULTS BEFORE VERTIDRIVE:
 Normally require 5-6 laborers

COMMENTS: So happy with the performance they bought the machine. Manually blasted 3ft up walls.





PROJECT: Ship Hull
COATING REMOVED: 30 mils silicone
CUSTOMER: NKOM
LOCATION: Doha, Qatar
DATE: April 22, 2022
SETUP: M7 VertiDrive with 2 #8 SnakeBite nozzles, using coal slag at 90psi

RESULTS: 200 ft²/hr (18.5 m²/hr)

PREVIOUS RESULTS BEFORE VERTIDRIVE: 70 ft²/hr (6.5 m²/hr) manual blasting. Two blasters = 140 ft²/hr (13 m²/hr)

COMMENTS: Had big compressors, but had constricting 2.0" bull hoses and pusher lines resulting in the low pressure. Customer purchased 2 VertiDrives.



PROJECT: Water Tank
COATING REMOVED: Epoxy 15-25 mils
CUSTOMER: Capital Coatings
LOCATION: Escondido, CA, USA
DATE: April 24, 2023
SETUP: 2 M7 VertiDrives each with 2 #7 nozzles, using GMA GX2 Garnet

RESULTS: 240 ft²/hr (22.3 m²/hr)



PROJECT: Naval Vessel
COATING REMOVED: 21.5 mils [550 microns] of marine coating
CUSTOMER: Eptec
LOCATION: Garden Island Dockyard, Sydney Australia
DATE: October 8, 2020
SETUP: VertiDrive M4 Ultra High pressure robot with an NLB 300hp 40,000psi @10gpm pump

RESULTS: 280 ft²/hr (26 m²/hr) leaving a dry WJ1 surface free of contaminants and ready for painting

PREVIOUS RESULTS BEFORE VERTIDRIVE: 100 ft²/hr (9.2 m²/hr) per manual lance, doing the work of nearly 3 manual lances





PROJECT: 100ft Diameter Tank Internal
COATING REMOVED: 500-1000 mils [½ to 1 inch] of rubber coating
CUSTOMER: BHP
LOCATION: Olympic Dam, Australia
DATE: June 5, 2020
SETUP: 2 x 300hp Ultra High Pressure pumps coupled to 2 x VertiDrive M7 with 6 inch spinning cutting heads

RESULTS: 150 ft²/hr (14 m²/hr) and minimizing any men on man lifts inside the small tank

PREVIOUS RESULTS BEFORE VERTIDRIVE: 100 ft²/hr (9.2 m²/hr) - 2 blasters on man lifts

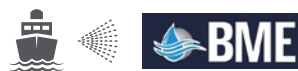


PROJECT: Glen Sannox Ferry Boat
COATING REMOVED: 39 mils four-layer Jotun Epoxy
CUSTOMER: BME Services
LOCATION: Aberdeen, Scotland, UK
DATE: 2020
SETUP: VertiDrive M7 UHP, 36,250 psi pump @ 6.8 gal/minute flow (2500 bar @ 26 lpm), 4 total workers

RESULTS: Completed in 8 days. Average of 1345.5 ft²/day (125 m²/day). 500% faster!

PREVIOUS RESULTS BEFORE VERTIDRIVE: 269 ft²/day (25 m²/day)

COMMENTS: Glen Sannox ferry boat had dimensions of 1102 ft x 183 ft (102.4 x 17 m) and a total area of 21,527.8 ft² (2,000 m²)



PROJECT: Storage Tank Inner Walls
COATING REMOVED: Heavy rust
CUSTOMER: Buchen International
LOCATION: Antwerp, BE, USA
DATE: June 1, 2023
SETUP: VertiDrive V400 UHP Vacuum Blasting

RESULTS: Average of 484 ft²/hr (45 m²/hr) @ 2800 bar (40,610psi) 12 gal/min (46 lpm)

PREVIOUS RESULTS BEFORE VERTIDRIVE: 64 ft²/hr (6 m²/hr)

COMMENTS: 750% increase! Project completed 4 days ahead of schedule.





PROJECT: 6 (19ft diameter x 1640ft long) Penstocks

COATING REMOVED: Pressure Washed Only

CUSTOMER: Snowy Hydro

LOCATION: New South Wales, Australia

DATE: June 5, 2020

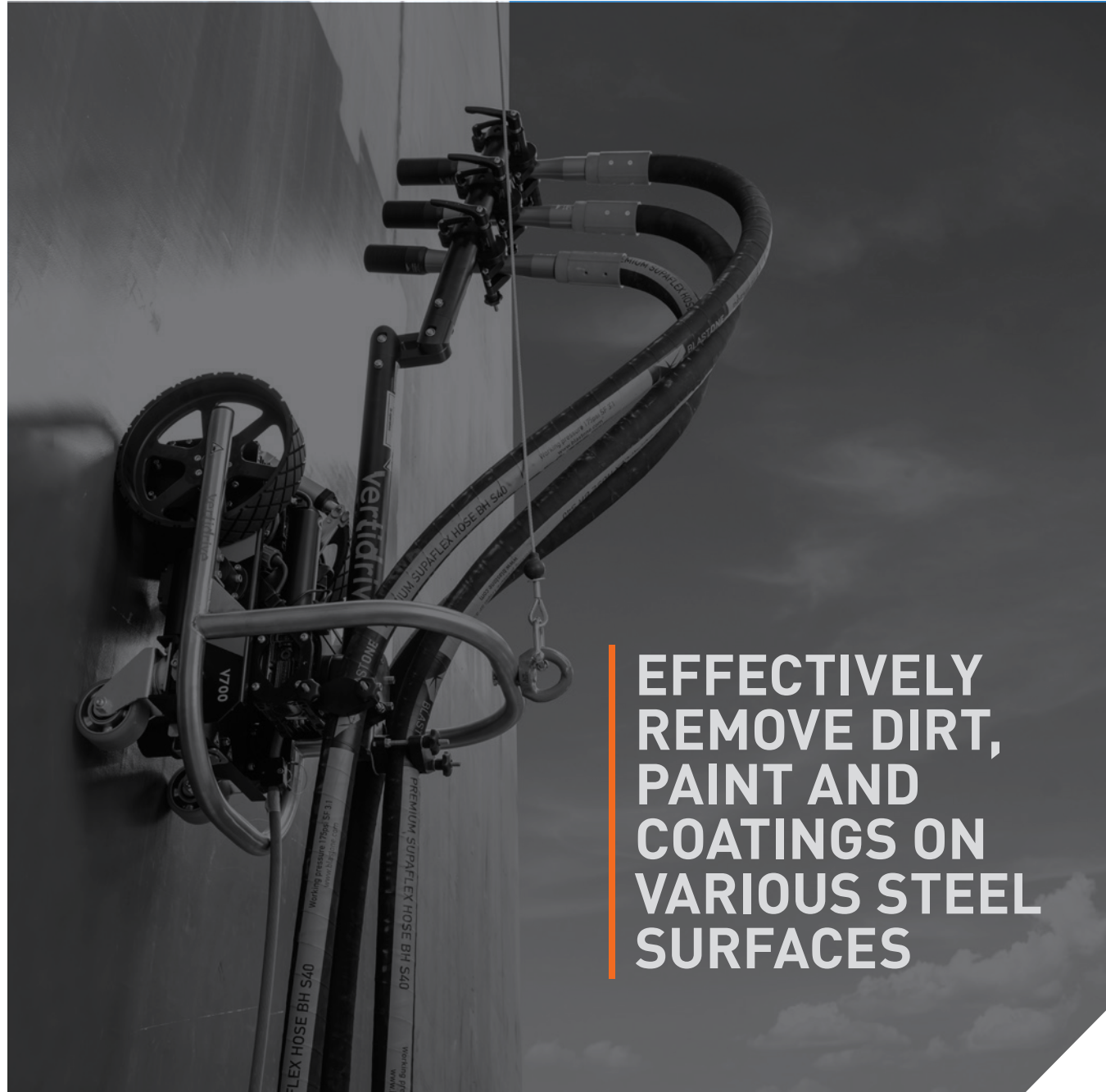
SETUP: 2 x VertiDrive M7 with pressure washing arms.

RESULTS: 10,764 ft² (1,000 m²) per day.

PREVIOUS RESULTS BEFORE VERTIDRIVE:

4-5 personnel working by hand to match productivity.

COMMENTS: *As the tops of the pipes were about 20 feet off the ground covered in slippery organic growth, the VertiDrive eliminated this hazardous condition while also out-performing human blasters.*



**EFFECTIVELY
REMOVE DIRT,
PAINT AND
COATINGS ON
VARIOUS STEEL
SURFACES**



7 BENEFITS THAT DRIVE YOUR OUTPUT TO ITS HIGHEST LEVEL



INCREASES PRODUCTIVITY

Accommodates up to three #8 blast nozzles



IMPROVES SAFETY

Reduces blasters exposure to heights, and dangerous pressures



SIMPLE TO OPERATE

Manual joystick or automated advancing capabilities



3-IN-1 VERSATILITY

Robots with multiple capabilities: abrasive, UHP, pressure washing



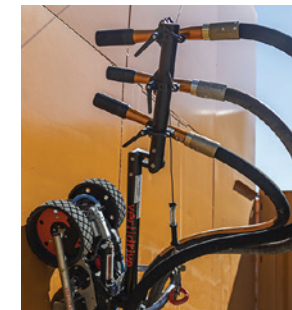
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Timed swing arm delivers consistent profile



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The metered consistency of the blast reduces abrasive waste



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Rent the equipment, own the success.



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