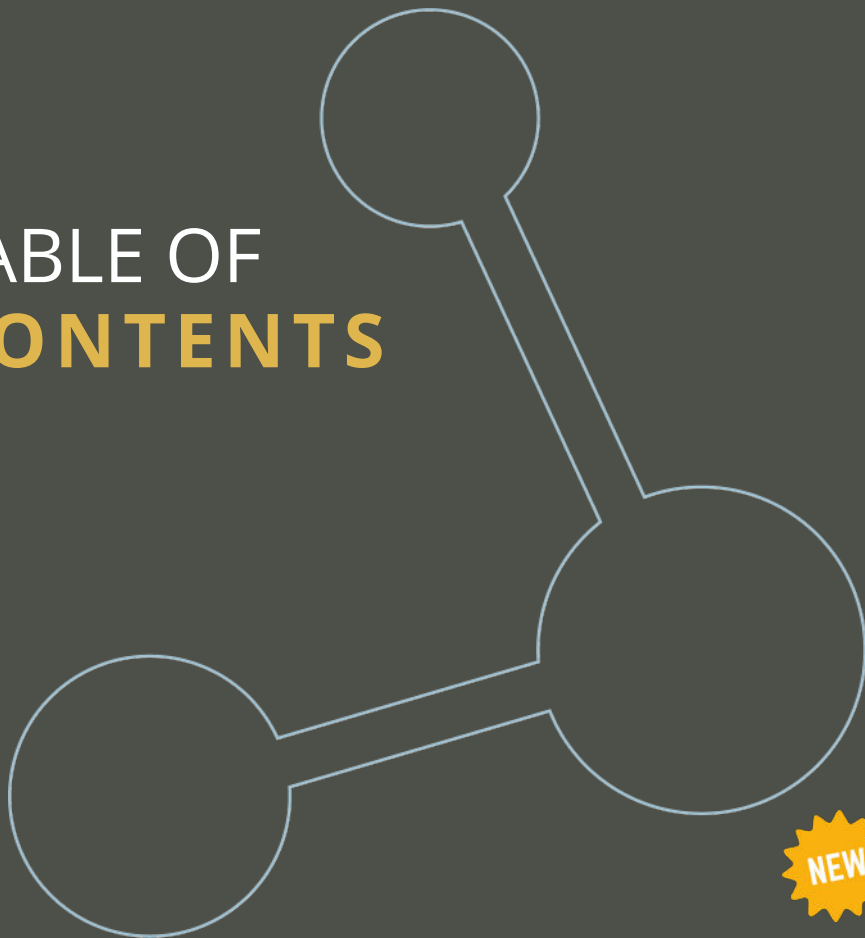


PVD Coat in-house or use a service?

**A GUIDE TO
FINDING THE
BEST OPTION**



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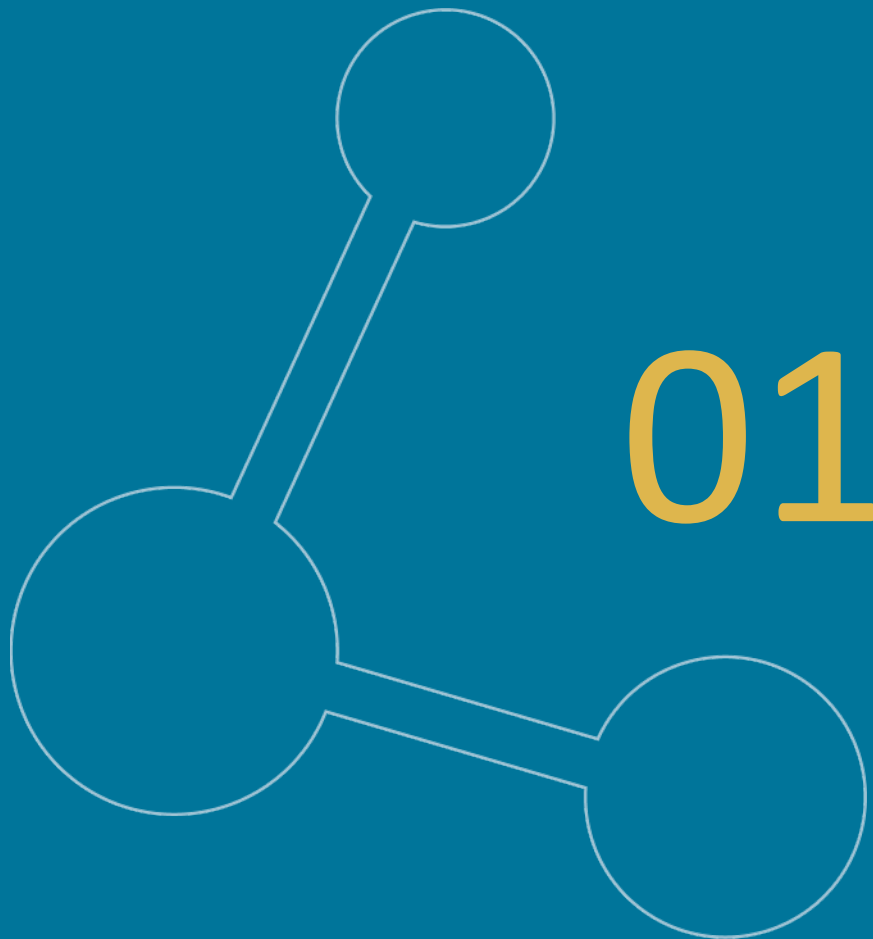
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01

BRIEF INTRODUCTION

to new choices in PVD coating

INTRODUCTION TO PVD COATING*



What is thin-film coating?

Thin-film deposition is often referred to as “PVD coating,” but in fact, PVD (physical vapor deposition) is only one of several processes that are used.

Thin-film coating systems deposit metal coatings to a variety of metal or plastic parts and products. Thin-film coatings are bonded to the substrate at the atomic level.

These coatings are so thin they have no impact on dimensional tolerance and do not mask desired textures in the substrate.

They are fade-resistant, consistent, and outperform other coating technologies.

Chemical Vapor Deposition (CVD) is another process of applying thin-film coatings. DLC is an extremely durable Diamond-Like Carbon coating type that is created via PE-CVD (plasma-enhanced chemical vapor deposition) process.

Regardless of the type of thin-film coating, the process makes parts and products more functional, durable, and beautiful. On the next page, we explain the two options you have for getting your products coated.

* For a detailed introduction, please read our “Beginners’ Guide to PVD Coating.”

"But doesn't the equipment require a huge investment and a huge amount of space?"

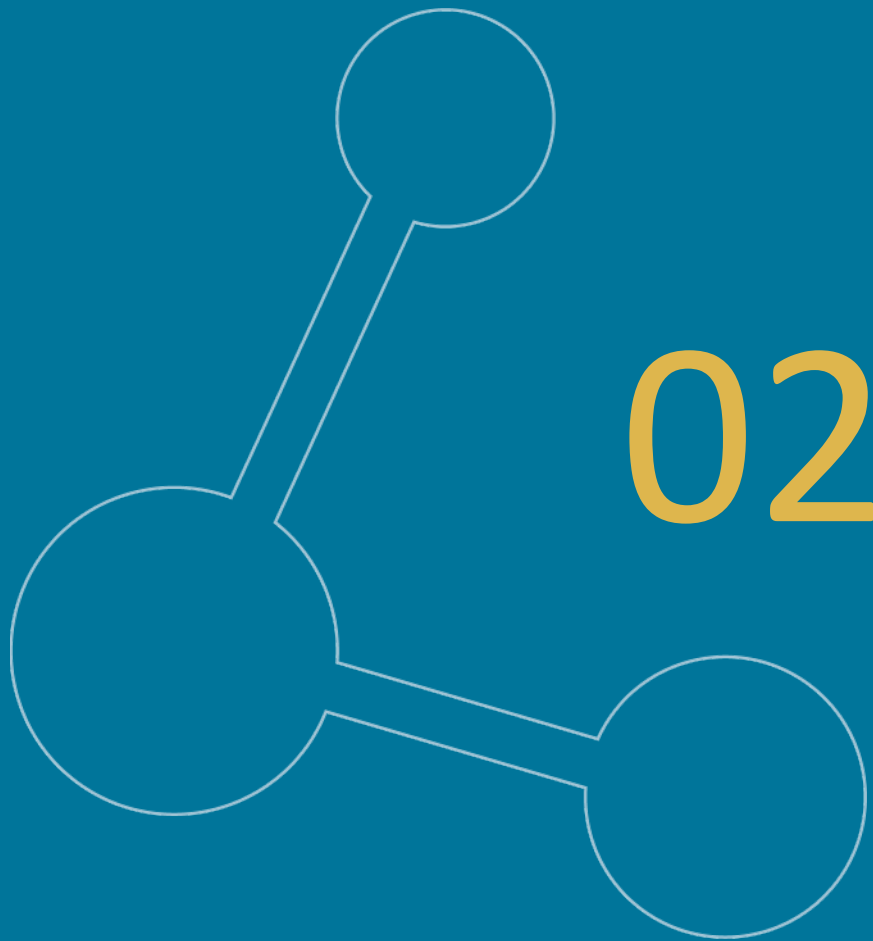
Not any more! A right-sized machine may be the perfect fit.



YOUR 2 OPTIONS

If you want your products to benefit from superior PVD, CVD, and DLC coatings on your products, you can outsource coating to a service provider or invest in coating in-house.

- ✓ **Third-party coating** service providers own coating equipment and will coat your parts and products along with those of their other customers. You must package, send, wait for, and receive products before repackaging for sale.
- ✓ **In-house coating** equipment is integrated into your manufacturing and QC process and requires purchasing a piece of capital equipment. This investment is not always cost-effective, depending on your coating needs.



02 SERVICE PROVIDERS

Pros and cons of using
third-party coating services.

PROS & CONS COATING SERVICES

Many coating service providers offer PVD and CVD coating services for customers manufacturing automotive parts, luxury items, medical devices, building products, sporting goods, firearms, and other parts and products.

Service provider users will manufacture up to the coating stage, then package their items and send them to a provider. The provider coats the items, repackages them, and returns them to the manufacturer. The parts are unpackaged and returned to the manufacturing line, then repackaged for shipment.



Perfect solution for companies who coat very small quantities or don't coat on a regular basis.



No additional manufacturing equipment or training required.



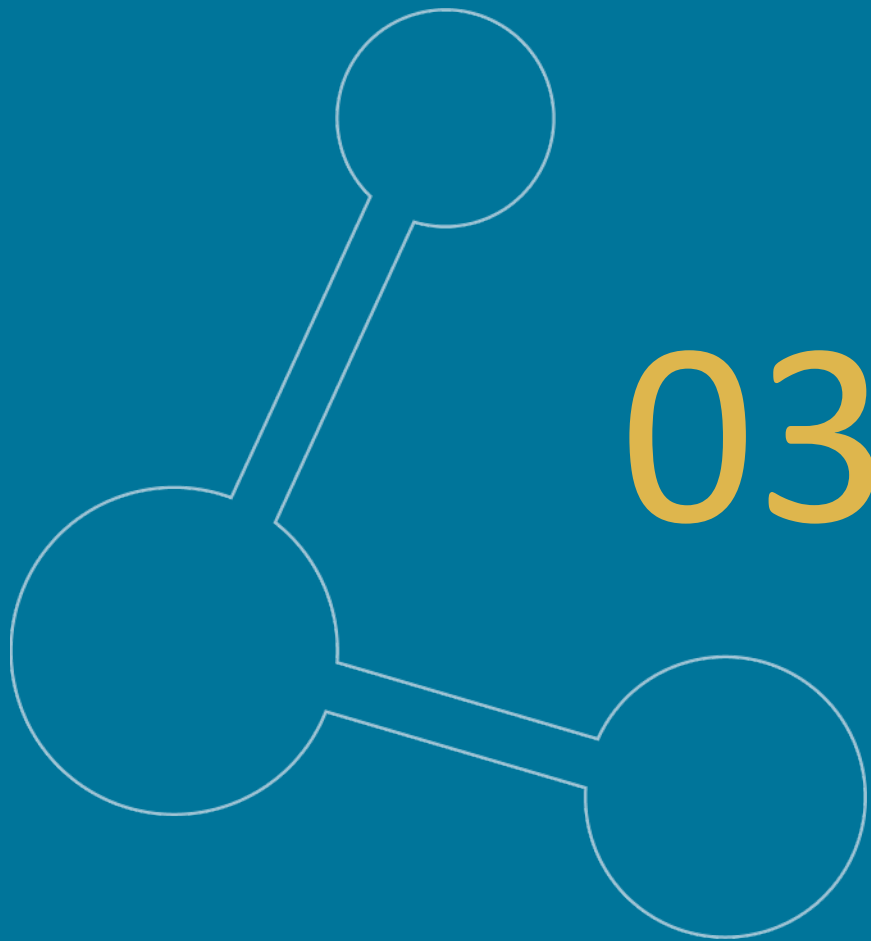
Requires time for packaging items, then receiving and repackaging.



Potential delays and possible QC issues.



Cost per part or per batch is significantly higher than in-house coating.



03

EQUIPMENT PURCHASE

What are the benefits and drawbacks to in-house coating?

PROS & CONS BUYING EQUIPMENT

Manufacturers who coat a quantity of parts on a regular basis often purchase PVD, CVD, and DLC coating equipment to bring in-house.

Depending on company size, coating quantities, and coating types desired, these manufacturers must choose the right machine to fill their exact needs and provide the coating results required. Some coating equipment companies offer a standard color and coating composition chart. A few actually create custom coatings to meet their customers' product specifications.



Perfect solution for companies who coat from small to very large quantities on a regular basis.



Surprisingly low per-part coating costs.



Improve coating consistency and quality.



Eliminate time and cost of packaging, turnaround delays, receiving, and repackaging each item.



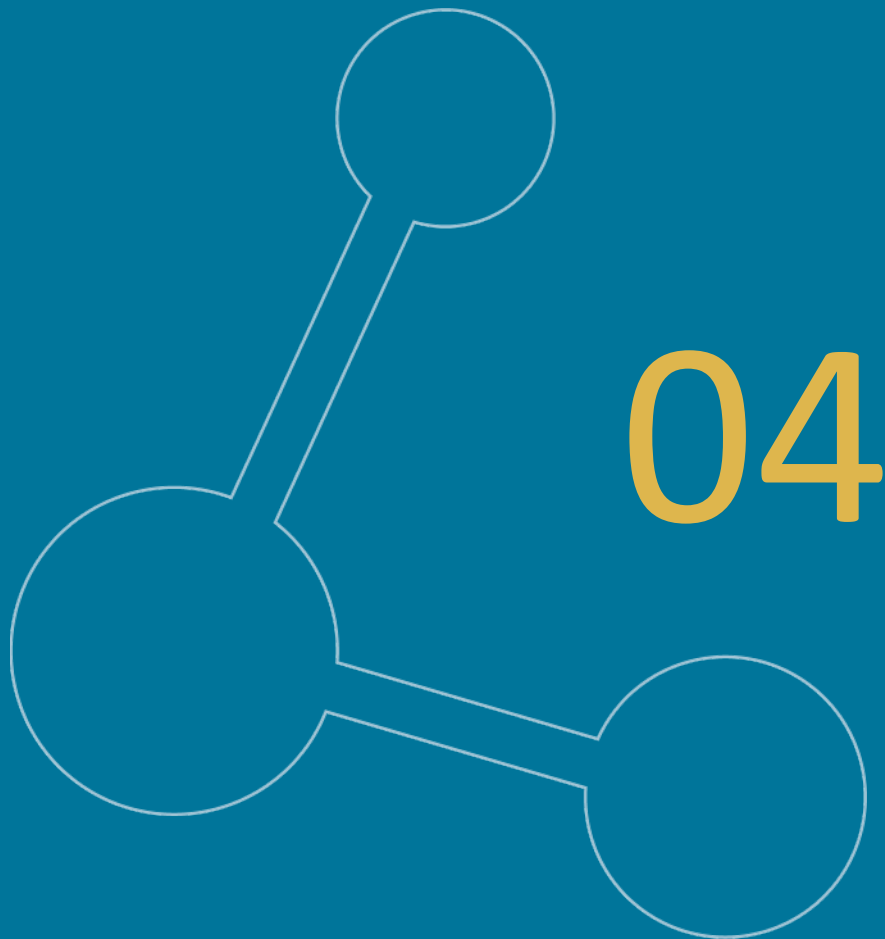
May not be cost-effective for companies coating minimal quantities on an irregular basis.



Some equipment may require changes to manufacturing floor.



Concerns about complex operation and maintenance.



04

WHICH SYSTEM?

I may benefit from in house coating, but which system?

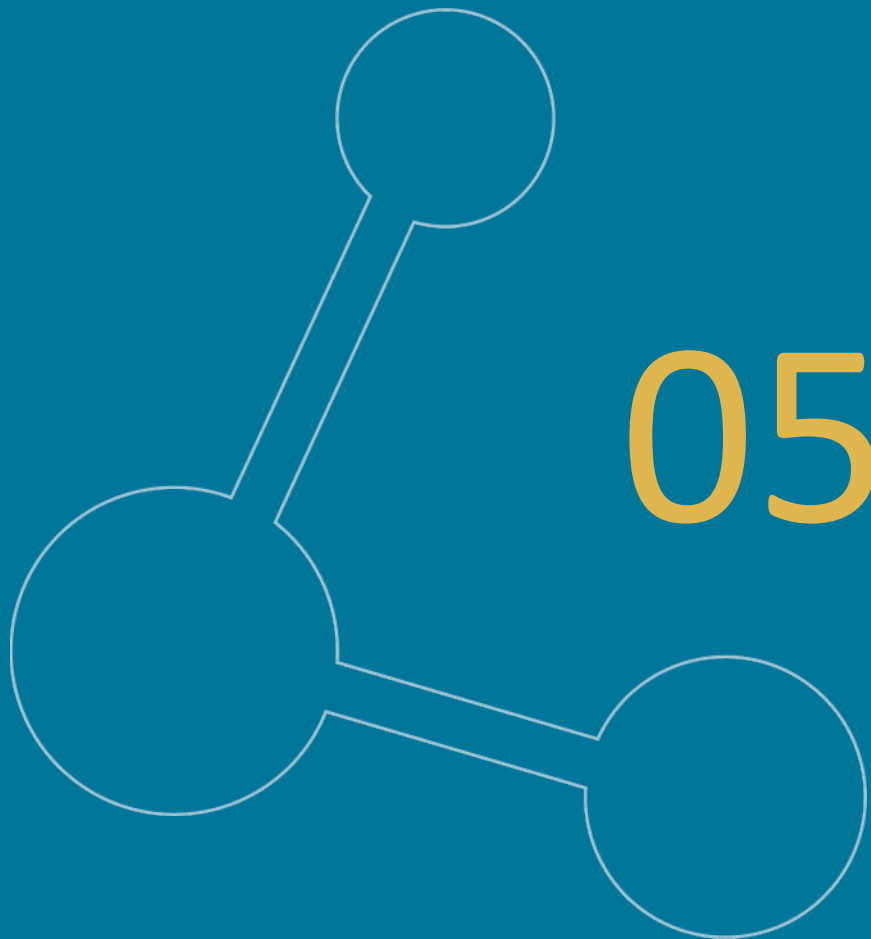


CHOOSING THE RIGHT SYSTEM

Make an informed decision

Questions to ask before you purchase a PVD coating system:

- ▲ Find out what types of coatings your system can produce: If you introduce a new product or color, will it be difficult to use the same machine? Can you use it for PVD as well as DLC coatings?
- ▲ Determine whether your desired system comes with your choice of standard coatings or with the R&D expertise to create custom coatings.
- ▲ Ensure the system is right-sized to meet your needs, don't invest in more (or less!) than you need.
- ▲ Ensure the system footprint is small enough to easily integrate into your facility.
- ▲ How easy is the system to purchase, install, operate, and maintain?
- ▲ Does the company have the resources to support you from coating development to service throughout the life of your system?



05

VAPORTECH SYSTEMS

Right-sized for most
manufacturing operations

VaporTech®

right-sized

PVD COATING SYSTEMS

VaporTech manufactures thin-film deposition systems used to coat products in a variety of industries for both functional and durable-decorative purposes. We offer a state-of-the-art R&D lab and a service department that's been serving our customers for many years over the life of their equipment.

VaporTech systems are “right-sized” for all operation types, sizes, and volumes. Our machines coat products using PVD, CVD, and DLC coatings custom-designed to meet customers’ product specifications. Our equipment has been installed globally for the past 20+ years, providing superior coatings to manufacturers worldwide.



PRODUCT OFFERINGS

VT-500i

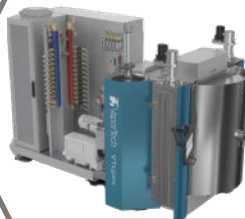
Right-Sized, Easy-to-Use PVD Coating Machine for Smaller Operations.



NEW

VT-1500i

Compact, Price-Competitive, for High Capacity and Specialty Coatings



Cadence systems

Compact, Fast, & Easy to Use Sputtering Machine for Functional Coatings



VT-1000i

Compact, Higher-Capacity Hybrid PVD Coating Machine for Medium-Size Operations

VT-3000i

High-Capacity Coating Machine for Large-Scale Operations



WWW.VAPORTECH.COM



CONTACT VAPORTECH

We invite you to contact us and ask us the questions suggested in this document and any and every other question you may have. You'll always receive a straight answer.

VaporTech designs, builds, and services thin-film deposition systems that deposit PVD and PE-CVD coatings to improve products around the world. We're committed to what we do, because we know that a product's finish communicates its quality in an instant—and impacts how customers view a brand. We understand that a finish that stands the test of time emphasizes a brand's commitment to quality and value.



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QUOTES

"The cycle times for our process in the VT-3000i model are about half the time of our existing system. The chamber can process about 40% more parts in each run due to the taller vacuum chamber and the footprint is about 20% smaller. This difference means the capability to process 280% more parts than our existing system can. Brasstech doesn't take advantage of that full capacity yet, but the capability is there when the company grows to need it."

"

K. Welker

"VaporTech equipment has been our go-to workhorse for production on a daily basis... It can take the daily throughput of production without compromising quality or dependability."

- M. Akkaoui-

"Since installation of the VaporTech coating system, we have successfully reduced customer costs, shortened lead times, improved quality, reduced shipping and handling costs, improved ease of scheduling production runs, and improved customer relations."

R. Reiten

Thank you for reading this guide!



Download our other FREE educational ebook,
A Beginner's Guide to PVD Coatings, today!

For more educational info, please follow
VaporTech on social media:



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