

# Focus on Plasma Cutting



The Farr Gold Series® dust and fume collector combines enhanced performance with ease of service while cleaning the work environment of harmful dust and fumes.

## THE CHALLENGE

Capturing dust and fumes generated during plasma cutting presents a unique challenge. With plasma cutting, floor space is typically at a premium. Combining guidelines found in the ACGIH “Industrial Ventilation: A Manual of Recommended Practice for Design” with our in-field experience and state-of-the-art filtration, Camfil APC will correctly size a cost- and space-saving filtration system that is reliable, durable and easy to maintain. **Let Camfil APC's expertise in this application help you to put in a safe dust collection system.**

## RECOMMENDED OPTIONS (SPECIFIC TO CUTTING):

- Fire detector with fan shutoff and alarm
- Sprinkler system
- Spark arrestor
- Clean Sweep vacuum



Video: The Spirit of Camfil APC

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## THE 31 ADVANTAGES OF DRY FILTRATION

### Employee Safety and Health

1. Overall facility air quality is improved.
2. General health of all employees is improved.
3. Slip and fall hazards caused by water on the floor from table leakage, and/or handling parts in and out of the table, are eliminated.

### OSHA/NFPA Compliance

4. When cutting stainless steel, HEPA filtration is required to meet OSHA regulations for hexavalent chromium.
5. Aluminum in water tables produces hydrogen gas and is an extreme explosion hazard. Air bubblers in a water table are no longer a valid option as explosive hazard is still present and possible. The potential for explosive hydrogen gas produced by interaction with water during the cut process is eliminated with dry filtration systems.
6. Cutting table manufacturers do not recommend cutting aluminum in water.

### Capture Efficiency

7. Downdraft tables with properly engineered dust collection systems capture more smoke than water tables.

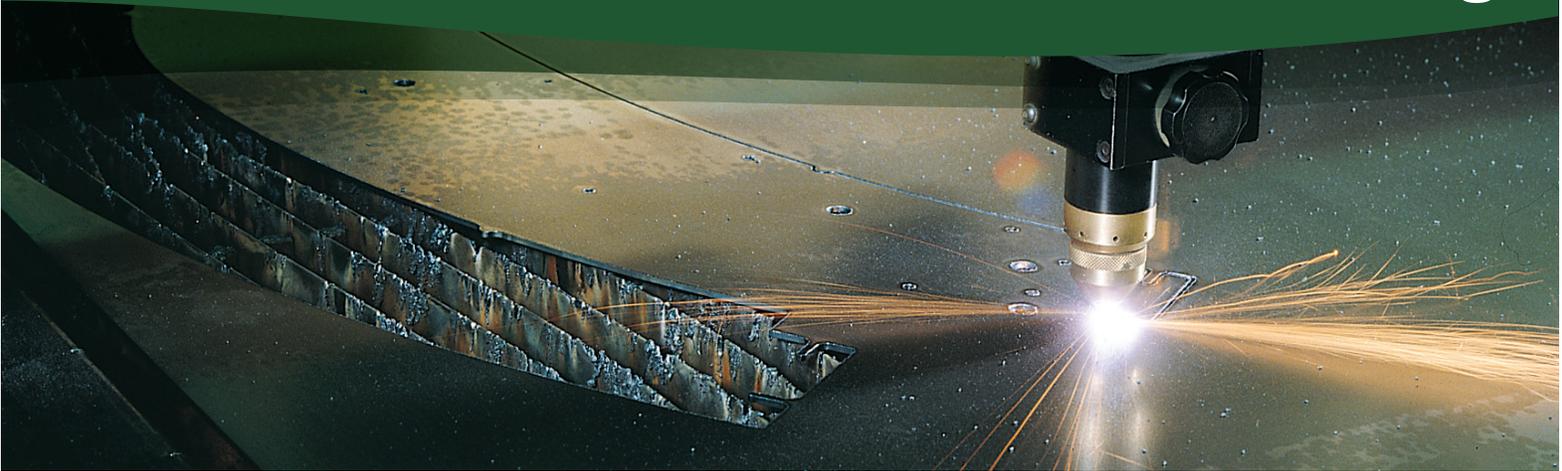
### Cutting Quality / Consumable Life / Productivity / Cutting Speed

8. Cut quality is better on a dry table as it eliminates the potential for water to hamper the arc quality or arc stability in the cut.
9. Turbulence in water agitation will almost always affect bottom edge quality, perpendicularity of cut, and concentricity of holes.
10. Excess dross is created if the space between the plate and the water is not held to exact specifications. If the space is too close, it creates a back pressure that negatively affects cut quality. If the space is too far away, it doesn't capture as much smoke.
11. Dross that is quenched in the water is much harder to remove.
12. The combination of moisture and electricity together can reduce consumable life.
13. Cutting in a dry system is faster than cutting under water – about 10 to 15 percent faster on average.
14. When beveling, water tables have to be physically larger to allow for side wall cutting head clearance. Bevel cutting can be done to the edge of the plate with dry systems without increasing table size.
15. Part marking cannot be done under water.

### Coping with Water

16. Dirty water smells. Resident bacteria and algae are a sanitation issue.
17. In some cases, water can become a breeding ground for mosquitoes and other insects.
18. Chemical stabilizers are required to keep the water as clean as possible.
19. Small part retrieval is difficult with water tables.
20. Employees must reach into dirty water to retrieve small parts. In smaller tables, or large jobs with a lot of thick cutting, the water can reach a temperature that can scald or burn.

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## THE 31 ADVANTAGES OF DRY FILTRATION (continued)

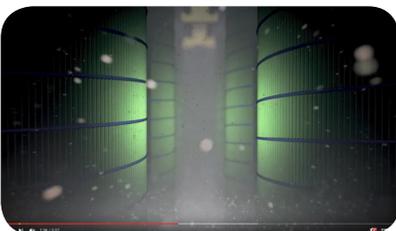
21. Dirty/oily water must be disposed of properly. When cutting stainless steel, it contains hex chrome and is considered a hazardous waste. Water must be siphoned into barrels and allowed to evaporate for disposal, a time-consuming process.
22. Wet sludge in the bottom of the table is also a hazardous waste that must be cleaned out periodically by draining the tank and shoveling out the sludge.
23. Most recyclers will not take wet material. The metal dust has to be dry, which adds equipment cost and processing time.
24. In colder climates, water can freeze overnight or over a weekend, possibly causing a fill line or drain to freeze and rupture.
25. Water sitting in the table and steam generated by cutting add humidity to the factory and may impair the reliability of torch heads and other equipment.
26. Water must be constantly added to offset evaporation.

### Corrosion

27. Water causes mild steel on gantry, rails and gear rack to rust.
28. The table itself will eventually rust and become immovable in one piece without falling apart.
29. Corrosion of mild steel parts will be accelerated.
30. Rust inhibitors need to be added to reduce (but not eliminate) rusting of parts.

### Maintenance

31. Manufacturers of wet tables recommend that the gantry, rails and gear rack be wiped dry daily to prevent rust.



Got dust or fumes in your workplace? Hold on because you're about to take a virtual ride and fly through a Farr Gold Series industrial dust collector. See how it works and how it can help you clean up your factory.



HEMIPLEAT® FILTERS WILL IMPROVE THE PERFORMANCE OF ANY CARTRIDGE DUST COLLECTOR. **GUARANTEED.**



Power up your dust collector with HemiPleat. With lower pressure drop HemiPleat filters, you can pull more air with less energy, thus capturing pollutants better. Filtration efficiencies exceed 99.99% at 0.5 micron particle by weight.

**Flame retardant filters should always be used in this application.**



### Gold Cone Technology

The patented Gold Cone filter has allowed many facilities to reduce the number of filters they have to use and change. The innovative cone of filter media expands the usable area of the filter, reducing the required number of filters by at least a third. The design also promotes long filter life with low pressure drop.

### Performance Guaranteed

Our units come with startup and on-site operator and maintenance training. Each dust collector is designed for zoned, non-zoned and central systems, utilizing multiple plasma heads or acetylene torches. We offer dust testing and compliance with NFPA fire and explosion industry guidelines.

Camfil APC

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