



**ALPINE METAL TECH**  
A COMPANY OF MONTANA TECH COMPONENTS AG

# AMT ECO CLEAN

Paint System Cleaning Equipment





Alpine Metal Tech offers a new extension unit to the paint technology for automatic paint filter flushing and cleaning without human interaction.

# AMT ECO CLEAN

Cleaning extension unit for water-based paint systems

The AMT Eco Clean is a fully automated paint filter flushing unit which detects irregularities in the paint lines and interacts with cleaning cycles before any blockages of the paint filter occurs.

An integrated paint flow control unit reacts on filter pollutions and flushes the filter automatically as soon as the ongoing marking job is finished. The smart cleaning procedure reduces the waste of consumables and human interaction to a minimum level.

The polluted filter content is directed into a closed waste container which avoids paint contamination of the surrounding area and enables an eco-friendly transport and disposal of the drained chemicals.

The clever design of the AMT Eco Clean is selectable as an option for all Alpine Metal Tech water-based paint systems but can also be integrated as an add-on to existing water-based paint systems.

## YOUR ADVANTAGES

### » Predictive maintenance

By detecting any deviating flow rate in the paint system, AMT Eco Clean is processing without human interaction.

The operator is immediately notified by the system in case of major contamination to force a maintenance interaction if needed.

### » Eco-friendly

Environmentally friendly and clean collection, transport and disposal of chemicals due to closed draining system to chemical waste containers which prevents paint contamination of the surrounding area. The filter can be emptied automatically before a manual filter exchange.

### » Cost savings

Due to the intelligent flushing process the waste of consumables as also manpower for maintenance interaction is reduced to a minimum level.

Filter flushing cycles during a maintenance stop can be activated by pressing a button only instead of manually switching different ball valves in the correct order. This can prevent incorrect operation in manual maintenance.

# INSTALLATION SITUATION

## Comparison

In this comparison, two images of filters are considered.

The left image shows a manually maintained filter unit, with an unlikely paint contamination in the surrounding area. The right image shows that the filter unit and its surrounding area looks unpolluted and cleaned up.

The difference in between this two systems is that the left picture is manually maintained by human interaction whereas the filter unit in the right picture is equipped by the fully automated AMT Eco Clean flushing system. Due to its paint system integrated flushing function the unnecessary contamination of the environment during filter maintenance is prevented. Often, during manual maintenance on the paint system, human intervention can also lead to malposition of ball valves, which can cause a malfunction of the marking system. AMT Eco Clean switches the valves in the paint and flushing circuit fully automatically, which means that malposition of ball valves due to manual incorrect operation can be ruled out.

In addition AMT Eco Clean is able to keep the paint system long-term stable as it checks the paint flow rate continuously and starts a cleaning cycle whenever needed without unforeseen stops of production.



Contamination of surrounding during manual filter maintenance after a period of 6 months



AMT Eco Clean after a period of 6 months



# FUNCTION

The intelligent AMT Eco Clean system monitors the paint system 24 hours a day. Through this continuous check, the unit reacts to irregularities in the paint system, whether contamination, poorly prepared paint or foreign substance, etc.

If any obscuring to the paint flow is detected, the system starts flushing the filter unit automatically. When the flushing begins, the paint circulation is stopped and the filter unit is flushed from both flow directions with hot water and air alternately.

If the clogging could not be removed, the flushing cycle restarts after 10 minutes flow system observation. If the system could not be cleaned after five flushing repetitions, a warning message will appear to the operator ("Paint flow not OK").

For manual maintenance, buttons/keys are placed on the control panel or the HMI to simplify the handling of the paint system, which allows to clean and empty the filter cup before an exchange of the filter insert.



- ① Paint cabinet
- ② Water heater
- ③ Eco Clean cabinet
- ④ Electricity terminal box
- ⑤ Collection container
- ⑥ Toolless closure

# TECHNICAL DATA

Dimensions AMT Eco Clean	height	920 mm
	width	720 mm
	depth	250 mm
	installation floor level	+1300 mm
Dimensions mounting frame with base (option)	height	2100 mm
	width	14 000 mm
	depth	600 mm
Drain container steel barrel	installation floor level	+ 0 mm
	diameter	585 mm
	height	884 mm
Drain container IBC container	volume	200 l
	length	1200 mm
	width	1000 mm
Medium	height	1160 mm
	volume	1000 l
	water pressure	min. 3 bar
Cleaning cycle	air pressure	min. 4 bar
	duration of flushing cycle	max. 60 seconds
Savings	flushing interval	approx. 2 cycles / week
	consumables	up to 30% savings during filter maintenance (compared to manual cleaning)
Diagnostic data	man power	up to 90% savings for filter maintenance (compared to manual cleaning)
	maintenance break	no production break for filter cleaning interval needed as the flushing cycle is fully automated
Diagnostic data	current paint flow rate	
	paint temperature	
	total paint flow rate	
	number of cleaning cycles	
	maintenance notifications	

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