

CHOISING YOUR CLEANING PROCESS

Today, it is more and more difficult for any company wishing to integrate into industrial production lines, an optimal cleaning process, to do according to the highest standards available. Changes in the regulations (REACH, VOC FGAZ, etc ...), new technologies (products and processes) and economic constraints more and heavier make the difficult exercise for non-qualified contractor.

Under such an approach, Inventec offers through its teams of technical experts and sales representatives to help you find the best possible cleaning solution that takes into account all the basic criteria which are:

- THE TECHNIQUE
- THE ECONOMY
- THE LEGAL FRAMEWORK

ECONOMICAL CRITERIA

	+	-
VAPOR PHASE	<ul style="list-style-type: none"> Product Consumption : Closed Machine Energy Short cycle : time savings Recyclability 	<ul style="list-style-type: none"> Product cost at the implementation of the machine (initial loading) Regulatory constrains COV, FGas II...
AQUEOUS	<ul style="list-style-type: none"> Low product cost Low machine cost Low product consumption : dilution 	<ul style="list-style-type: none"> Energy Consumables: DI water.... wastewater treatment : if no vacuum evaporation Long cycle : drying + hot air Saturation
VACUUM	<ul style="list-style-type: none"> Low product cost Low product consumption Short cycle : time savings Low saturation : continuous distillation 	<ul style="list-style-type: none"> Machine cost Machine maintenance

TECHNICAL CRITERIA

	+	-
VAPOR PHASE	<ul style="list-style-type: none"> Simple implementation Level of cleaning for organic pollutants Finishing 	<ul style="list-style-type: none"> Mineral pollutants Low solvency power of the pure HFE : need of a co-solvent product Plastic compatibility
AQUEOUS	<ul style="list-style-type: none"> significant number of parts cleaned per cycle Amplitude of cleaning : organic pollutants and minerals Finishing Compatibility with plastics 	<ul style="list-style-type: none"> Complex product selection Consumables management Maintenance of operating parameters of the process Compatibility with metals (battery) Process monitoring
VACUUM	<ul style="list-style-type: none"> Simple implementation Constant quality level of cleaning : continuous distillation 	<ul style="list-style-type: none"> Cleaning restricted : co-distillation, cleaning of only full oil Mineral Pollutants Additives oils disrupting the process : acidity, corrosion Non-Volatile Residues (40ppm to 400ppm)

Warning: these criteria must be evaluated with our experts, they depend on the type of part, material and pollutant to clean.





METHODOLOGY OF EVALUATION

		VAPOR PHASE	LESSIVE	VACUUM
Regulatory Evaluation *	GENERAL	REACH		
	SPECIAL REGULATIONS BY PROCESS, PRODUCT , INSTALLATION			
	ICPE CLASSIFIED INSTALLATION	N° 2564	N° 2563	N° 2564
	EMISSIONS	COV	-	COV
	DIRECTIVES	FGAZ	648	FGAZ
	OTHERS REGULATIONS	-	Water discharge	-

** More restrictive local laws may be in force*

Technical Evaluation	TECHNICAL REQUIREMENTS	Level of cleanliness: distribution of particulate, NVR...
	EVALUATION OF POLLUTANTS	Natures of pollutants regarding the products and processes
	EVALUATION OF SUBSTRATES	Geometry, room size and material compatibility
	PERFORMANCE OF TESTS	Validation of technical requirement on representative pieces: feasibility
	IMPLEMENTATION OF INSTALLATIONS	Startup of process : Industrialization + monitoring of baths by analysis

Economic Evaluation	Machine investment: Amortization
	Consumables: cleaner, filters, resins, rinsing water ... (according to the process considered)
	Saturation of product : depends on the pollutants
	Production rate: Cycle time
	Energy : Electricity, water
	Treatment and/or destruction of cleaners

Our role:

SUPPORT and DEFINITION of your specifications,
EVALUATION and VALIDATION according to your own
 application and cleaning process