

Perfect, gentle and green removal of polymer and organic contaminations from metal parts & tools



SYSTEM VACUCLEAN

APPLICATIONS

The main objectives are dies, filters and tools out of the plastics industry

- Synthetic fiber and nonwovens industries
- Blown and cast film production
- Polymer production
- Masterbatch production
- Extrusion
- Injection Moulding
- and others like
Packaging industry (hot melt...)

ADVANTAGES

- Perfect cleaning results even inside assembled dies or parts that are highly complex
- Free from carbon residues
- Easy and safe to operate
- Fully automated cleaning process
- Adjustable and slow heat-up; gentle on the materials
- Precise temperature control with direct measurement at the part
- No risk of overheating or distortion
- Only electricity and water required
- Low operating and maintenance costs
- Environmentally friendly
- Perfect off-gas cleaning by catalytic converter
- No polluted water discharge

TYPICAL COMPONENTS

VACUCLEAN ist especially recommended for

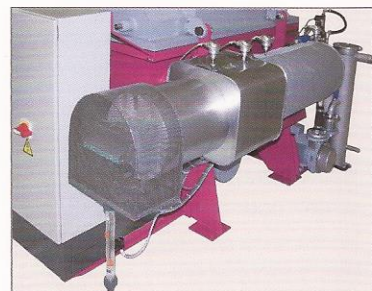
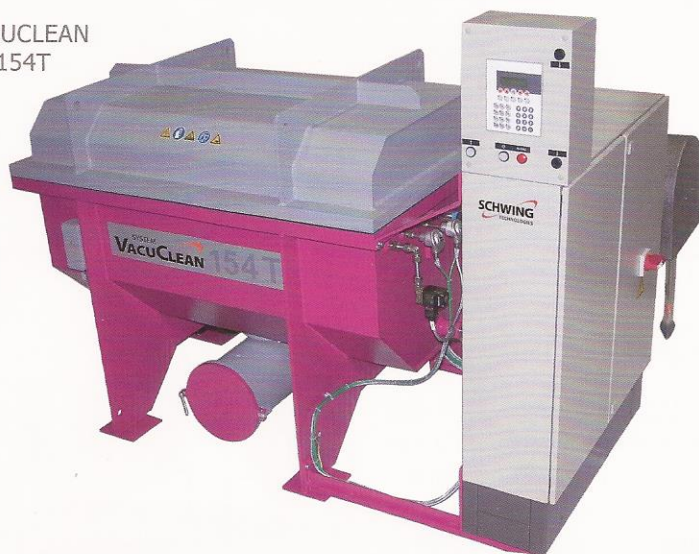
- Spinnerets
- Spin packs
- Nonwoven dies
- Blown film die heads
- Pelletizing dies
- Filter bundles / Filter candles
- Filter stacks / Leaf disks
- Extruder screws, screw elements
- Static mixers

TYPICAL POLYMERS

- Polyolefins: PE, HDPE, PP, PB, EVA, EVOH
- Polyesters: PET, PBT, PC, PTT, PEN
- Polyamides: PA6, PA6.6, PA12, PPA
- Polyacrylates: PAN, PBA, PMA, PMMA
- Polystyrenes: PS, ABS, SB, SBS, SAN
- Biopolymers: PLA, PEA, PVAL, PPOX
- Polyetherketones: PAE, PEK, PEEK
- Polyimides: PI, PBI, PEI, PBO, PMI
- Polyurethanes: PUR, TPA, TPO, TPU
- Special Polymers: LCP, POM, BR, NBR
- Other polymers on request

TOP LOADING SYSTEMS

VACUCLEAN
154T



Catalytic converter
for off-gas cleaning



Cleaning chamber of
VACUCLEAN 254

VACUCLEAN
254XH
(extra high lid)

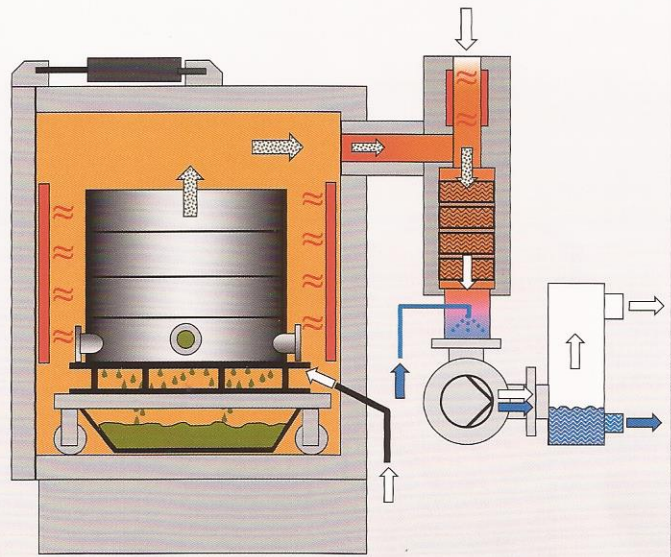


VACUCLEAN
454T



FRONT LOADING SYSTEMS

VACUCLEAN
0810T



Operating principle: VACUCLEAN 1713T

VACUCLEAN
1212T

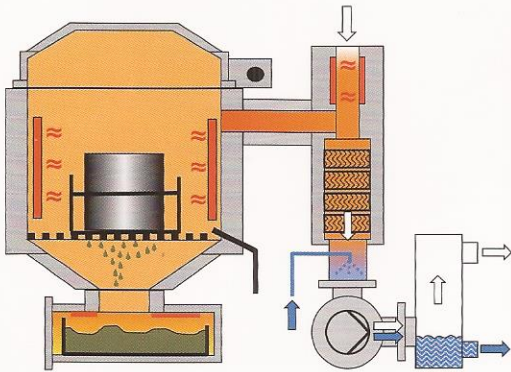


OPERATING PRINCIPLE

SYSTEM
VACUCLEAN

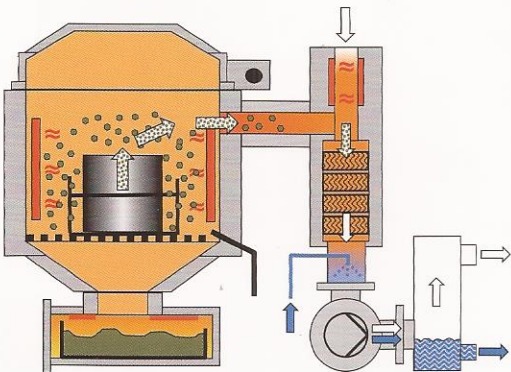
VACUCLEAN gently removes organic contamination from heat resistant metallic parts by melting it off and thermal decomposition under vacuum.

Cleaning time: 8 – 26 h



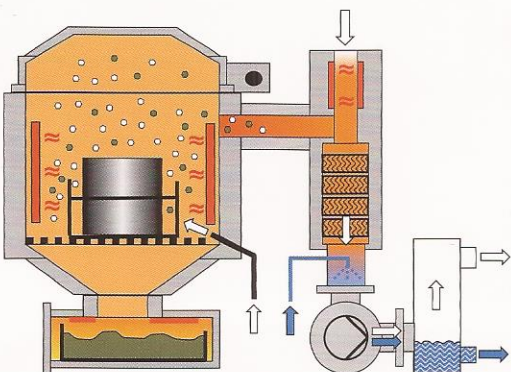
1 HEAT-UP & MELT-OFF

- Gentle heat-up of parts under vacuum
- Adjustable heat-up temperature ramp for uniform heat transfer
- Molten polymer drains into a colder melt collector.



2 PYROLYSIS

- Heat-up starts thermal decomposition process of organic contamination.
- Special control sensors protect from temperature damage to parts such as dies.
- Adjustable process temperatures up to 450 °C (490 °C on request for special applications)
- The whole process runs under condition of vacuum to prevent any exothermal reactions.



3 OXIDATION

- Process controlled and automated change from pyrolysis to oxidation
- Oxidation of remaining crystalline carbon residues under reduced vacuum
- At the end of process the chamber can be opened after adjustable cooling or immediately for unloading procedure.



SCHWING
TECHNOLOGIES

TECHNICAL DATA OF MOSTLY USED SIZES

MODEL	154T	254T	354T	454T	554T	654T	0810T	1212T	1713T
Process chamber									
Width (mm)	1,120	2,180	3,230	4,280	5,340	6,400	800	∅ 1,250	∅ 1,700
Depth (mm)	530	530	530	530	530	530	800	–	–
Height (mm)	430	430	430	430	430	430	1,000	1,250	1,300
Max. component Weight (kg)	750	1,500	2,250	3,000	3,750	4,500	1,500	5,000	10,000
Temperature (°C)	adjustable up to 450								
Total dimensions (mm)									
Width (door open)	–	–	–	–	–	–	2,400	3,380	3,920
Width (door closed)	2,370	3,200	4,100	5,150	6,210	7,260	2,080	2,360	2,900
Depth (door open)	–	–	–	–	–	–	3,900	3,700	4,210
Depth (door closed)	1,740	1,930	1,950	1,950	1,950	1,950	2,270	2,490	3,000
Height (lid open)	2,140	2,140	2,140	2,140	2,140	2,140	2,200	2,930	2,600
Height (lid closed)	1,610	1,610	1,350	1,350	1,350	1,350	–	–	–
Control cabinet									
	integrated	integrated	separate	separate	separate	separate	integrated	integrated	integrated
Electrical supply									
Operating voltage	3 x 400V / 3 x 460V (+6% / -10%)					/ 50 Hz / 60 Hz			
Rated power (kW)	20/25	29/38	42/55	52/68	62/81	71/93	29/38	52/68	62/81
Average consumption (%)	30	30	25	25	25	25	30	25	25
Water supply									
Line pressure (bar)	3 up to 6								
Flow rate (m ³ /h)	0.18	0.18	0.42	0.42	0.42	0.42	0.18	0.42	0.42
Empty weight (kg)	1,430	2,050	2,400	3,000	3,600	4,200	2,500	3,450	4,200

Systems with higher lids and larger melt-off containers available.
Higher cleaning temperature up to 490 °C for special polymers and applications on request.

Exclusions: VACUCLEAN is NOT suitable for removing polymers containing halogens (chloride, fluoride, bromide, iodide), halogenated flame retardants or combinations of e.g. PVC, PVCA, PVDF, PTFE, PCTFE.

The data and illustrations in this brochure refer to the date of printing. SCHWING reserves the right to make any necessary changes at any time and without special notice.

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since 1969**



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