

Vomat Filtration Systems

Overview



VOMAT
FINE FILTRATION SYSTEMS

Human Technology
for man, environment
and machines



Strong technologies to extend your know-how and for saving your technological leadership.

Innovation, the key to success!



Dr. Manfred Storr
Managing director

When Carl Christian Held started to produce machine oils and greases in 1887, he laid the foundation of a medium-sized company that established itself as a specialist for industrial lubricants over many decades. Since 1973 oelheld is headed by Dr. Manfred Storr.

Innovative Fluid Technology and consistent product development as well as quality management are the keys of the success of our products.

To meet the constantly increasing quality requirements of the industry and to guarantee the customer – wherever possible – certain process safety, oelheld decided to offer also products around our lubricants and

coolants. Here we are presenting as a partner of VOMAT GmbH their clever and smart filtration systems.

Especially the most demanding grinding processes need a sophisticated filtration system that affects the process flow advantageously.

This first step means that oelheld has more and more developed to a system provider that sees its responsibility in the solution of complex processing tasks and thus offers its customers solutions out of one source.



Why VOMAT Filtration Systems? - Economical Advantages -

- No blockage of the cartridges when water, sludgeway or hydraulic oils are getting into the filtration systems
- Prevention of break downs via Remote Control via the internet prevents breakdowns and production stops
- Filtered particles > 3µm
- Usable with oils up to 15 cSt. @ 104°F
- No back flushing with compressed air
- One (1) year warranty on the filter cartridges
- Automatic standby mode when no filtration and cooling is needed
- Sludge Sedimentator (~ 5% oil contaminated)
- Very low volume of grinding fluid needed
- No contamination of the filtered sludge due to filter media compared to pre-coated filter systems
- Superb temperature management guarantees highest precision (up to 0.2 K = 0.2°C = 0,36°F between 15°C/ 59°F and 35°C/ 95°F)
- Low running costs (on air, filter media and electricity)
- Filtration using minimal floor space - very compact build
- Very low air consumption; 6 - 10 bars (87-145 psi)
- Full flow filtration instead of by pass filtration
- Very low maintenance costs on spare parts
- Easy exchange of the filter cartridges (towering sludge on the sides of the cartridges stays in the unit and is falls back into the dirty tank)

Filtration Systems

	Dimensions (l x w x h in inches)	Filtration Performance Liter / US-Gal	filling Volume US-Gal
FA 120	39.4 x 63 x 47.3	120l. / ~ 30 Gal	ca. 132
FA 180	39.4 x 63 x 47.3	180l. / ~ 45 Gal	ca. 132
FA 240	39.4 x 63 x 47.3	240l. / ~ 60 Gal	ca. 132
FA 300	39.4 x 63 x 47.3	300l. / ~ 75 Gal	ca. 132
FA 360	39.4 x 63 x 47.3	360l. / ~ 90 Gal	ca. 132
FA 420	39.4 x 63 x 47.3	420l. / ~ 105 Gal	ca. 132
FA 480	55.2 x 98.5 x 47.3	480l. / ~ 120 Gal	ca. 317
FA 600	55.2 x 98.5 x 47.3	600l. / ~ 150 Gal	ca. 317
FA 720	55.2 x 98.5 x 47.3	720l. / ~ 180 Gal	ca. 317
FA 840	55.2 x 98.5 x 47.3	840l. / ~ 210 Gal	ca. 317
FA 960	55.2 x 98.5 x 47.3	960l. / ~ 240 Gal	ca. 317

Cooling - integrated into the filtration system (accurate temp. control!)

- The condenser can be assembled into the lid of the filter system or could be hooked up external (inside or outside)
- Optional two condenser (external/ internal) can be installed, one inside and one outside, to help to control and maintain the room temperature in summer and winter time
- Control accuracy: up to +/-0.36° F at an ambient temperature of 59° F - 95° F
- Cooling capacity: from 2.5 to 17 tons standard and more
- External / internal condenser guarantees that room temperature stays all year long

FA	120	180	240	300	360	420	480	600	720
2.5 tons / 9 KW	■								
3.7 tons / 13 KW		■	■	■					
5.7 tons / 20 KW				■	■	■			
10.5 tons / 37 KW							■	■	■

Cooling - external inaccurate temp. control

- Cooling unit as add-on device
- Control accuracy: +/- 1.8° F at an ambient temperature of 59° F - 95° F or +/- 0.5 K at 59° F - 95° F
- Optional available with an internal and external condenser

FA	120	180	240	300	360	420	480	600	720	840	960
2.5 tons/9 KW	■	■									
3.7 tons/13 KW		■	■	■							
5.7 tons/20 KW				■	■	■	■				
10.5 tons/37 KW							■	■	■	■	
17 tons/60 KW										■	■

Cold-water cooling system (optional)

- Individual solutions with external water cooling circuit
- Recommended when replacing 3 compressors or more

Cooling of the axle linear drives of the grinding machine (optional)

- As modular unit attachable with the filter system
- Primarily and secondary circuit controlled by one chiller only!!!



FA 120 - 420

Standard Model FA 120 – 420

- Dimensions: 39.37 x 63 x 47.24 inches (L x W x D) (1000 x 1600 x 1200 mm)
- Filter body with separate clean and dirty oil tanks
- Grade of filtration: 3 - 5 μ m
- Frequency controlled filter-system pump (variable controlled)
- Full flow filtration
- SPS control = programmable logic controller
- Control Display for status indication
- Sludge disposal unit, sludge bag or sedimentator (size: 5 US-Gal)
- 130 US-Gal oil volume
- Variable oil volume ~ 50 US-Gal
- Input voltage 60 Hz, 3 Phase, 480V / +PE
- Connection capabilities:

2 pump slots, 2 machine supply pumps or

1 machine supply pump and 1 circulation pump for external cooling unit

1 Interface Connector connecting the filtration system to the machines

1 internet connection RJ-45

Option: Extension tank - (ZT 1000/1000)

Electrical Data

FA	120	180	240	300	360	420
Filtration pump [KW]	1.5	1.5	1.5	2.2	3.0	3.0
Machine P-max [KW]	1.75	1.75	1.75	2.45	3.25	3.25
Machine Standby [KW]	0.1	0.1	0.1	0.1	0.1	0.1
Electrical power draw [AMPS]	16	16	16	32	32	32

Technical Advantages

- Backflushing filtration system specialized on grinding oils, e.g. for tools such as hard metal, HSS, PKD, CBN
- Filtering Grinding sludge out of grinding oils
- Full flow filtration of the medium – that means consequent separation of clean and dirty oil
- Cleaning of the filter cartridges through time and pressure controlled back flushing
- Clean oil is always available also during backflushing
- No filtration media such as cellulose are necessary
- Reduction of energy costs through minimal energy use and less heat input into the grinding oil
- Easy maintenance and care



FA 480 - 960

Standard Model FA 480 – 960 (Low or high casing)

- Dimensions: 55.12 x 98.43 x 47.24 inches (L x W x D) (1400 x 2500 x 1200 mm)
- Filter body with separate clean and dirty oil tanks
- Grade of filtration: 3 - 5 µm
- Frequency controlled filter-system pump (variable controlled)
- Full flow filtration
- SPS control = programmable logic controller
- Control Display for status indication sludge bag
- Sludge disposal unit (5 or 55 US-Gal sedimentator)
- Oil capacity for filter system about 320 (Low Casing) or 714 US-Gal (high casing)
- Variable oil volume about 160 US-Gal
- Input voltage 60 Hz, 3 Phase, 480V / +PE
- Connection capabilities:

4 pump slots for machine supply pump

1 pump slot for circulation pump

1 Interface Connector connecting the filtration system to the machines

1 Internet interface ERJ-45

Option: Extension tank (ZT 1400/1400)

Electrical Data

FA	480	600	720	840	960
Filtration pump [KW]	7.5	10	10	18.5	26
Machine P-max [KW]	7.5	10.25	10.25	18.75	26.25
Machine Standby [KW]	0.1	0.1	0.1	0.1	0.1
Electrical power draw [AMPS]	32	32	32	32	32

Centralized Filtration System like a FA 1200

Modular expandable to a FA 2400, FA 3600, FA 4800, FA 6000, FA 7200,...etc.

Component options:
Cooling units, disposal units, control systems, etc. are available.



pumps / configuration



Pre-filter - dirty oil return (Standard integrated sieve mesh 2.5 mm)

- The pre-filter catches coarse particles bigger than 2.5 mm
- Cleaning of the pre-filter is easily done without any tools
- Through an acrylic window it is possible to monitor the pre-filter

HSS- Pre-filter Unit (optional)

- For a mixed production of HSS and tungsten carbide
- Needed when different materials are processed on the same machine
- Pre-filtration is essential to achieve continuously fine filtration in two stages
- The pre-filtration is designed for filtering particles bigger than 30 μm

Pumping stations (multiple feed pumps all sizes and pressures)

- Computer control allows each feed pump to act as the main feed pump.

Oil volume extension tanks

Needed for adding on machine supply pumps and to increase the oil volume of the filtration system.

Additional tank ZT 1000/1000

Dimensions: 39.4 x 39.4 x 21.7 inches
Tank capacity: ~ 69 US-Gal
Number of pumps: 3
for FA 120 - FA 420

Additional tank ZT 1400/1400

Dimensions: 55.2 x 55.2 x 21.7 inches
Tank capacity: ~138 US-Gal
Number of pumps: 3
for FA 480 - FA 960

chips recycling



Recycling

- **Disposal unit**

- Standard: sludge filter bag
- Option: Sedimentator (5 US-Gal or 55 US-Gal)
- Newly developed with fully automated recycling treatment
- Sludge contaminated ~ 5% of oil
- Easy sludge disposal handling

Machine interface

- Exchange of data between the machine and the filtration system via a control signal
- A machine control box is required when connecting two or more machines to a filtration system

Internet connection

The VOMAT filtration system can be monitored via internet (prevention control system). Customer has to supply an internet connection.

Machine feed pumps (optional)

Machine feed pumps can be ordered and delivered with the filtration system (correct specifications are required from the machine manufacturer).

High-tech products for machines – worldwide!

oelheld GmbH is not only represented with its own sales offices and production plants in France, Great Britain and the USA, but also has various representatives in most countries.

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