BROWN & HOLMES (*Tamworth*) LTD

Precision Workholding and Machining

Fine Filtration for coolant

& management of Swarf & Chips for Machine Tools

RBM filtration coolant management solutions

RBM International was founded in 1999 by Mr Enrico Battistutta, the range of RBM products were born out of Enrico's vast knowledge of machining and the issues that become associated with mechanical machining and the importance of coolant management. RBM International's wealth of experience has enabled them to work with many leading manufacturers to develop standard and bespoke filtration products to work with a varied range of unconventional materials such as carbon fibre and ceramics, as well as the more typical materials.

As with Brown & Holmes (Tamworth) Ltd, the environment and sustainability is at the forefront of RBM International's design and manufacture, this is demonstrated by the components used from the standard and high pressure pumps which have a longer life cycle to more conventional pumps, which increases product life and "up time" to the fact that RBM do not use the more conventional paper or media filtration leading to ongoing high costs of replacement and service as well as the impact on the environment when disposing of these materials.

The complete range of solutions can be implemented on new machine tools as well as retrofitting to existing machines and can process any type of material.

Solutions include:

- Fine Filtration Systems
- Chip Conveyors
- Refrigerant Temperature Control Systems
- Coolant Management:

Unit F, Apollo Park, Lichfield Road Industrial Estate,Tamworth, Staffordshire, B79 7TA

t: 01827 63591 | e: info@brownandholmes.co.uk | w: brownandholmes.co.uk

IFDR SOLUTIONS: innovative engineering

IFDR fine filtration systems are born to take care of the complete management of the coolant, whose role is essential both for the success of the mechanical processing and for the right maintenance of the machine tool.

They are suitable for any type of machine tool on the market that uses emulsion as a coolant, and tailored according to each customer's needs, with the possibility of being fitted with a wide range of available delivery pumps, with different pressures and flow rates.

IFDR systems are identified by the numerical initials of the considered model, which represent the overall system volume and the Filstar unit.

The IFDR fine filtration systems meet four basic needs of the machine tool:

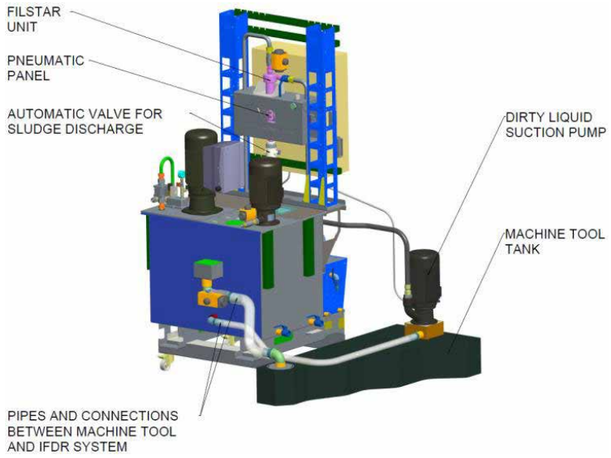
- To clean the coolant from highly abrasive micrometric metal rests that are formed during processing.
- To remove all oily substances that stop on the surface of the coolant.
- To reduce the bacterial contamination of the emulsion, extending its life.
- To relaunch the perfectly clean liquid in the working area to the maximum pressure required by the tool used.

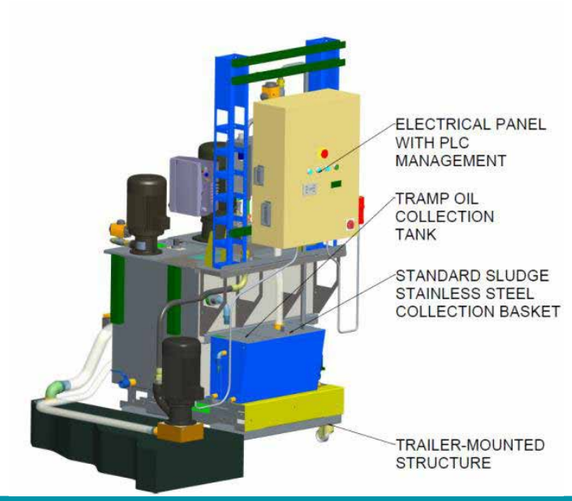
The advantages of IFDR 300/20 fine filtration systems are:

- Patented filtration system below 10 µm.
- Integrated dynamic tramp oil separation system.
- High-pressure coolant towards the spindle.
- Reduction of the total volume of coolant used.
- Reduction of maintenance costs due to the lack of filtering elements.
- The increase in tool life due to the reduction of the polluting granulometry present in the coolant and to pressure and flow rate conditions required by the manufacturer.

Approval to the Machinery Directive and CE certification as a machine.

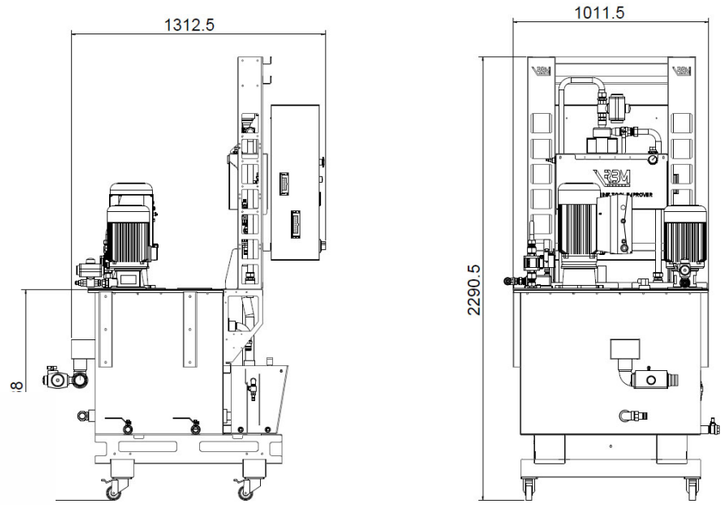
Fine Filtration System IFDR 300/20

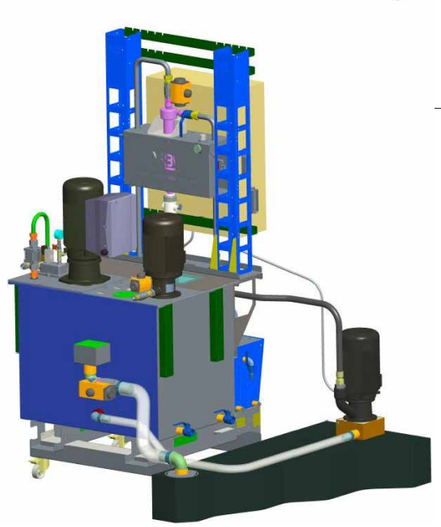




TECHNICAL FEATURES

Overall system volume	300 L
Processing flow rate	40 L/min
Coolant type	Both synthetic and mineral coolant
Filstar unit	KSS20
Nominal factory space requirements (LxWxH)	1012 x 1313 x 2291 mm
Nominal empty weight	380 kg
Automatic sludge recovery	In a special tank
Dynamic separation of the oil	Automatic integrated
Dirty liquid suction pump	Standard
Electrical control panel with machine tool interface	Standard
Working cycle	Continuous 24/7
Guaranteed filtration degree	Below 10 μm
Chiller for temperature control	Optional
Automatic coolant top up	Integrated





The image shows a complete IFDR 300/20 fine filtration system fitted with a delivery pump 20 bar 35 L/min and a delivery pump 70 bar managed by the inverter and the proportional valve, programmed to perform 6 pressure steps at these values: 20, 30, 40, 50, 60, 70 bar with maximum flow rate 33 L/min.

IFDR SOLUTIONS: innovative engineering

IFDR fine filtration systems are born to take care of the complete management of the coolant, whose role is essential both for the success of the mechanical processing and for the right maintenance of the machine tool. They are suitable for any type of machine tool on the market that uses emulsion as a coolant, and tailored according to each customer's needs, with the possibility of being fitted with a wide range of available delivery pumps, with different pressures and flow rates.

IFDR systems are identified by the numerical initials of the considered model, which represent the overall system volume and the Filstar unit.

The IFDR fine filtration systems meet four basic needs of the machine tool:

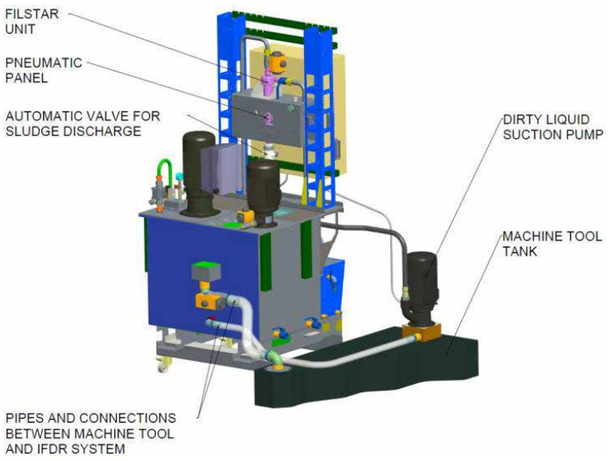
- To clean the coolant from highly abrasive micrometric metal rests that are formed during processing.
- To remove all oily substances that stop on the surface of the coolant.
- To reduce the bacterial contamination of the emulsion, extending its life.
- To relaunch the perfectly clean liquid in the working area to the maximum pressure required by the tool used.

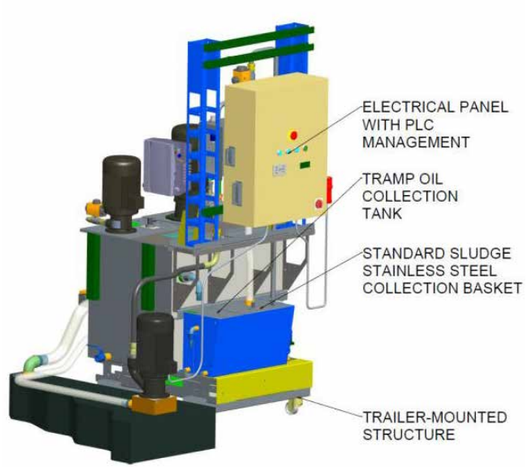
The advantages of IFDR 300/25 fine filtration systems are:

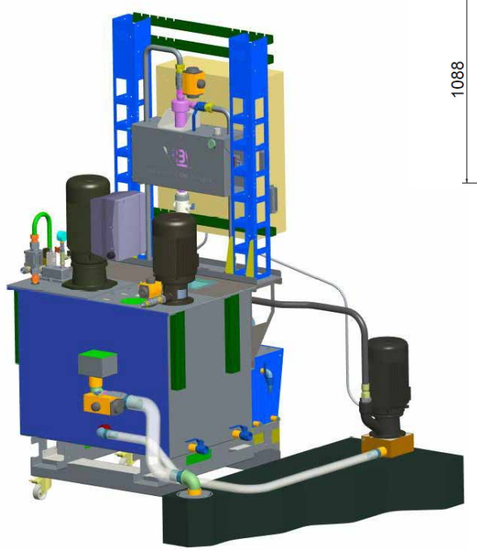
- Patented filtration system below 10 µm.
- Integrated dynamic tramp oil separation system.
- High-pressure coolant towards the spindle.
- Reduction of the total volume of coolant used.
- Reduction of maintenance costs due to the lack of filtering elements.
- The increase in tool life due to the reduction of the polluting granulometry present in the coolant and to pressure and flow rate conditions required by the manufacturer.

Approval to the Machinery Directive and CE certification as a machine.

Fine Filtration System IFDR 300/25

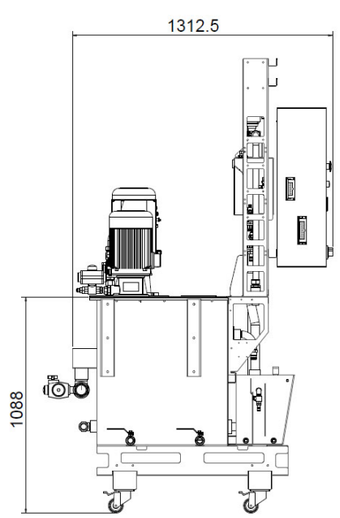


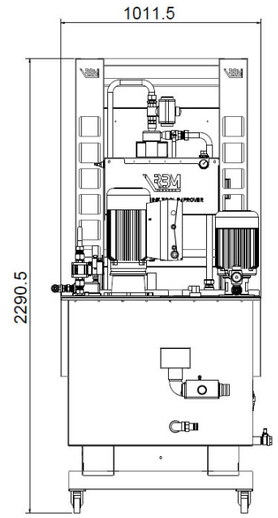




TECHNICAL FEATURES

Overall system volume	300 L
Processing flow rate	80 L/min
Coolant type	Both synthetic and mineral coolant
Filstar unit	KSM25
Nominal factory space requirements (LxWxH)	1012 x 1313 x 2291 mm
Nominal empty weight	386 kg
Automatic sludge recovery	In a special tank
Dynamic separation of the oil	Automatic integrated
Dirty liquid suction pump	Standard
Electrical control panel with machine tool interface	Standard
Working cycle	Continuous 24/7
Guaranteed filtration degree	Below 10 μm
Chiller for temperature control	Optional
Automatic coolant top up	Integrated





The image shows a complete IFDR 300/25 fine filtration system fitted with a delivery pump 20 bar 35 L/min and a delivery pump 70 bar managed by the inverter and the proportional valve, programmed to perform 6 pressure steps at these values: 20, 30, 40, 50, 60, 70 bar with maximum flow rate 40 L/min.

IFDR SOLUTIONS: innovative engineering

IFDR fine filtration systems are born to take care of the complete management of the coolant, whose role is essential both for the success of the mechanical processing and for the right maintenance of the machine tool.

They are suitable for any type of machine tool on the market that uses emulsion as a coolant, and tailored according to each customer's needs, with the possibility of being fitted with a wide range of available delivery pumps, with different pressures and flow rates.

IFDR systems are identified by the numerical initials of the considered model, which represent the overall system volume and the Filstar unit.

The IFDR fine filtration systems meet four basic needs of the machine tool:

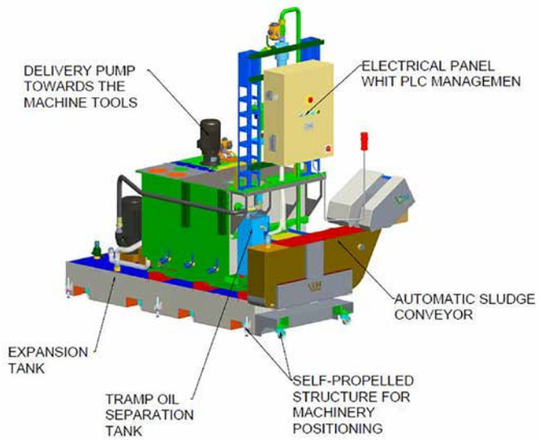
- To clean the coolant from highly abrasive micrometric metal rests that are formed during processing.
- To remove all oily substances that stop on the surface of the coolant.
- To reduce the bacterial contamination of the emulsion, extending its life.
- To relaunch the perfectly clean liquid in the working area to the maximum pressure required by the tool used.

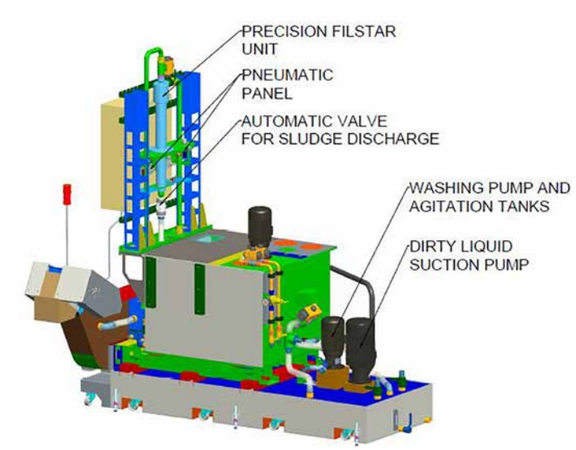
The advantages of IFDR PRECISION fine filtration systems are:

- Patented filtration system below 5 µm.
- Integrated dynamic tramp oil separation system.
- High-pressure coolant towards the spindle.
- Reduction of the total volume of coolant used.
- Reduction of maintenance costs due to the lack of filtering elements.
- The increase in tool life due to the reduction of the polluting granulometry present in the coolant and to pressure and flow rate conditions required by the manufacturer.

Approval to the Machinery Directive and CE certification as a machine.

Fine Filtration System IFDR 500 Precision

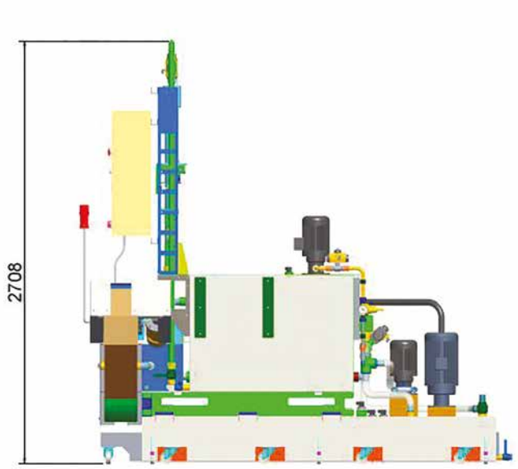


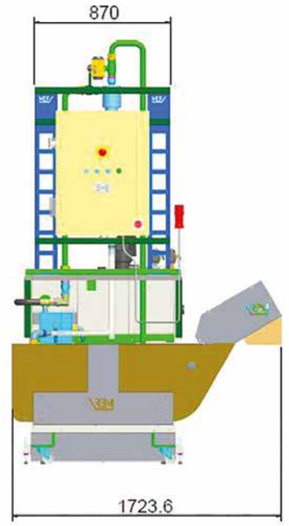


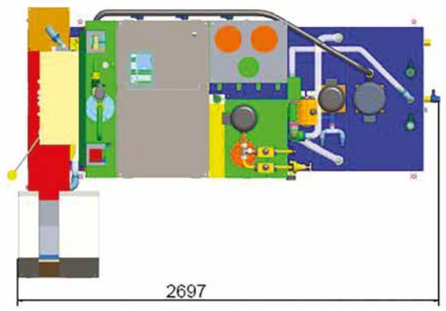
Unit F, Apollo Park, Lichfield Road Industrial Estate,Tamworth, Staffordshire, B79 7TA

TECHNICAL FEATURES

Overall system volume	500 L
Processing flow rate	80 L/min
Coolant type	Both synthetic and mineral coolant
Filstar unit	KXW100
Nominal factory space requirements (LxWxH)	1724 x 2708 x 2697 mm
Nominal empty weight	395 kg
Automatic sludge recovery	In a special tank
Dynamic separation of the oil	Automatic integrated
Dirty liquid suction pump	Standard
Electrical control panel with machine tool interface	Standard
Working cycle	Continuous 24/7
Guaranteed filtration degree	Below 5 μm
Chiller for temperature control	Optional
Automatic coolant top up	Integrated







t: 01827 63591 | e: info@brownandholmes.co.uk | w: brownandholmes.co.uk

IFDR SOLUTIONS: innovative engineering

IFDR fine filtration systems are born to take care of the complete management of the coolant, whose role is essential both for the success of the mechanical processing and for the right maintenance of the machine tool.

They are suitable for any type of machine tool on the market that uses emulsion as a coolant, and tailored according to each customer's needs, with the possibility of being fitted with a wide range of available delivery pumps, with different pressures and flow rates.

IFDR systems are identified by the numerical initials of the considered model, which represent the overall system volume and the Filstar unit.

The IFDR fine filtration systems meet four basic needs of the machine tool:

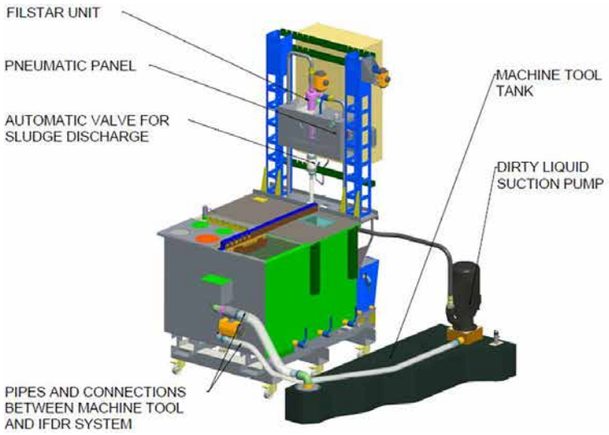
- To clean the coolant from highly abrasive micrometric metal rests that are formed during processing.
- To remove all oily substances that stop on the surface of the coolant.
- To reduce the bacterial contamination of the emulsion, extending its life.
- To relaunch the perfectly clean liquid in the working area to the maximum pressure required by the tool used.

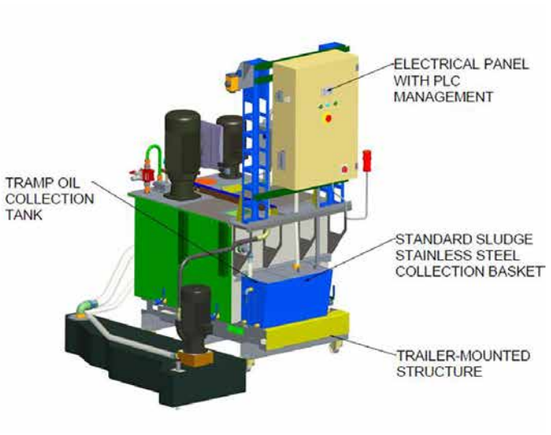
The advantages of IFDR fine filtration systems are:

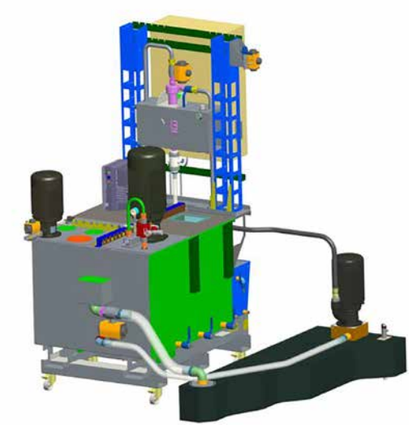
- Patented filtration system below 10 µm.
- Integrated dynamic tramp oil separation system.
- High-pressure coolant towards the spindle.
- Reduction of the total volume of coolant used.
- Reduction of maintenance costs due to the lack of filtering elements.
- The increase in tool life due to the reduction of the polluting granulometry present in the coolant and to pressure and flow rate conditions required by the manufacturer.

Approval to the Machinery Directive and CE certification as a machine.

Fine Filtration System IFDR 500/25

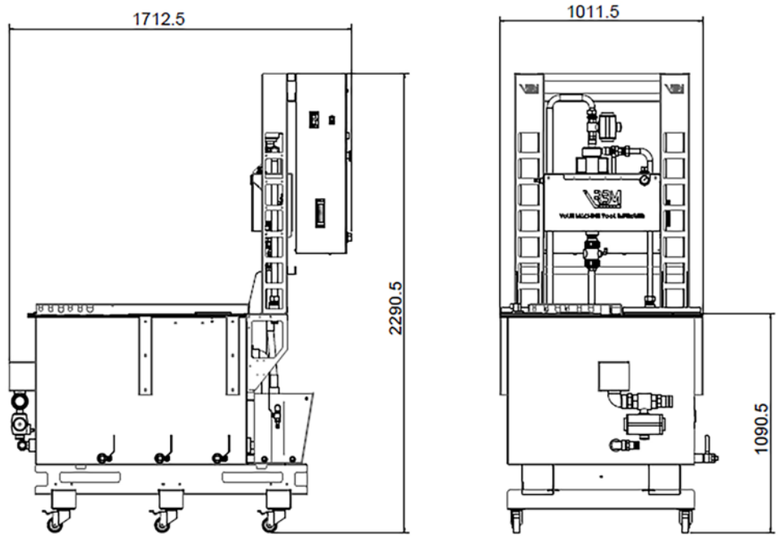






TECHNICAL FEATURES

Overall system volume	500 L
Processing flow rate	80 L/min
Coolant type	Both synthetic and mineral coolant
Filstar unit	KSM25
Nominal factory space requirements (LxWxH)	1012 x 1713 x 2291 mm
Nominal empty weight	480 kg
Automatic sludge recovery	In a special tank
Dynamic separation of the oil	Automatic integrated
Dirty liquid suction pump	Standard
Electrical control panel with machine tool interface	Standard
Working cycle	Continuous 24/7
Guaranteed filtration degree	Below 10 μm
Chiller for temperature control	Optional
Automatic coolant top up	Integrated



The image shows a complete IFDR 500/25 solution fitted with a delivery pump 20 bar 35 L/min and a delivery pump 70 bar managed by the inverter and the proportional valve, programmed to perform 6 pressure steps at these values: 20, 30, 40, 50, 60, 70 bar with maximum flow rate 40 L/min.

IFDR SOLUTIONS: innovative engineering

IFDR fine filtration systems are born to take care of the complete management of the coolant, whose role is essential both for the success of the mechanical processing and for the right maintenance of the machine tool.

They are suitable for any type of machine tool on the market that uses emulsion as a coolant, and tailored according to each customer's needs, with the possibility of being fitted with a wide range of available delivery pumps, with different pressures and flow rates.

IFDR systems are identified by the numerical initials of the considered model, which represent the overall system volume and the Filstar unit.

The IFDR fine filtration systems meet four basic needs of the machine tool:

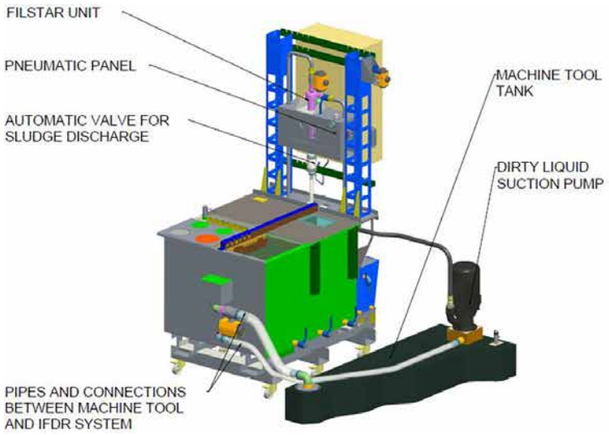
- To clean the coolant from highly abrasive micrometric metal rests that are formed during processing.
- To remove all oily substances that stop on the surface of the coolant.
- To reduce the bacterial contamination of the emulsion, extending its life.
- To relaunch the perfectly clean liquid in the working area to the maximum pressure required by the tool used.

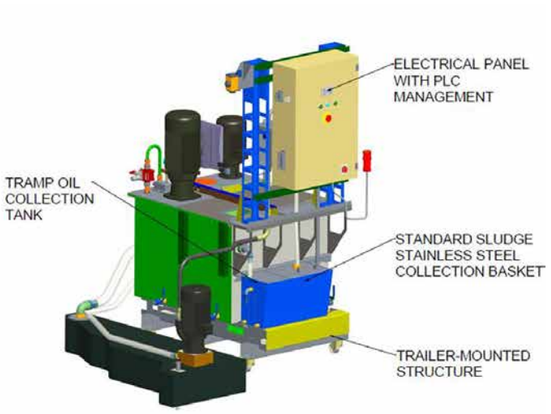
The advantages of IFDR fine filtration systems are:

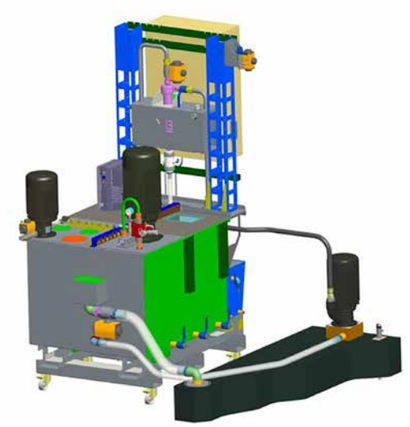
- Patented filtration system below 10 µm.
- Integrated dynamic tramp oil separation system.
- High-pressure coolant towards the spindle.
- Reduction of the total volume of coolant used.
- Reduction of maintenance costs due to the lack of filtering elements.
- The increase in tool life due to the reduction of the polluting granulometry present in the coolant and to pressure and flow rate conditions required by the manufacturer.

Approval to the Machinery Directive and CE certification as a machine.

Fine Filtration System IFDR 500/32

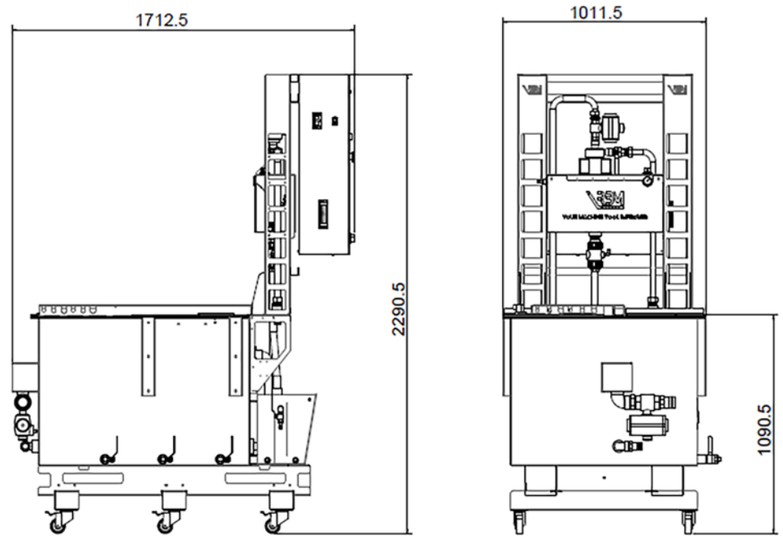






TECHNICAL FEATURES

Overall system volume	500 L
Processing flow rate	120 L/min
Coolant type	Both synthetic and mineral coolant
Filstar unit	KSM32
Nominal factory space requirements (LxWxH)	1012 x 1713 x 2291 mm
Nominal empty weight	508 kg
Automatic sludge recovery	In a special tank
Dynamic separation of the oil	Automatic integrated
Dirty liquid suction pump	Standard
Electrical control panel with machine tool interface	Standard
Working cycle	Continuous 24/7
Guaranteed filtration degree	Below 10 μm
Chiller for temperature control	Optional
Automatic coolant top up	Integrated



The image shows a complete IFDR 500/32 solution fitted with a delivery pump 20 bar 35 L/min and a delivery pump 70 bar managed by the inverter and the proportional valve, programmed to perform 6 pressure steps at these values: 20, 30, 40, 50, 60, 70 bar with maximum flow rate 52 L/min.

IFDR SOLUTIONS: innovative engineering

IFDR fine filtration systems are born to take care of the complete management of the coolant, whose role is essential both for the success of the mechanical processing and for the right maintenance of the machine tool.

They are suitable for any type of machine tool on the market that uses emulsion as a coolant, and tailored according to each customer's needs, with the possibility of being fitted with a wide range of available delivery pumps, with different pressures and flow rates.

IFDR systems are identified by the numerical initials of the considered model, which represent the overall system volume and the Filstar unit.

The IFDR fine filtration systems meet four basic needs of the machine tool:

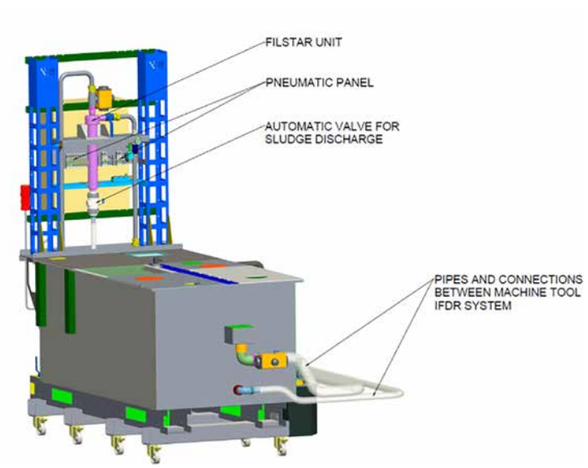
- To clean the coolant from highly abrasive micrometric metal rests that are formed during processing.
- To remove all oily substances that stop on the surface of the coolant.
- To reduce the bacterial contamination of the emulsion, extending its life.
- To relaunch the perfectly clean liquid in the working area to the maximum pressure required by the tool used.

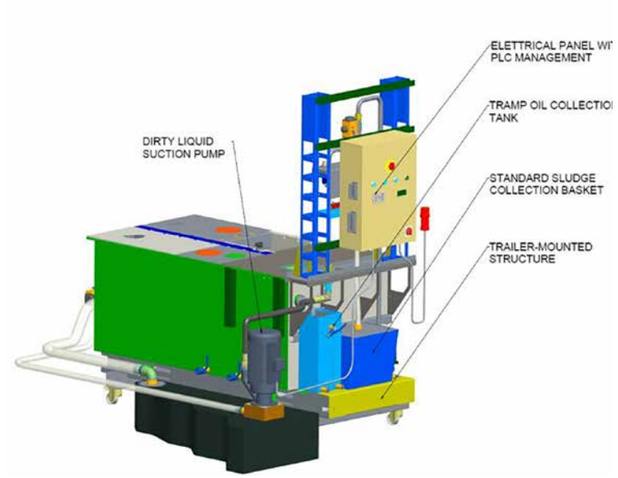
The advantages of IFDR fine filtration systems are:

- Patented filtration system below 10 µm.
- Integrated dynamic tramp oil separation system.
- High-pressure coolant towards the spindle.
- Reduction of the total volume of coolant used.
- Reduction of maintenance costs due to the lack of filtering elements.
- The increase in tool life due to the reduction of the polluting granulometry present in the coolant and to pressure and flow rate conditions required by the manufacturer.

Approval to the Machinery Directive and CE certification as a machine.

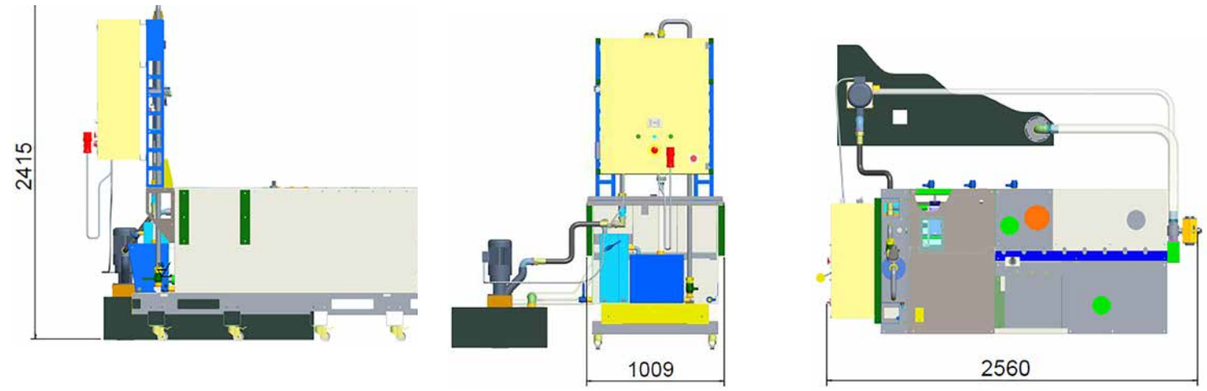
Fine Filtration System IFDR 800/25

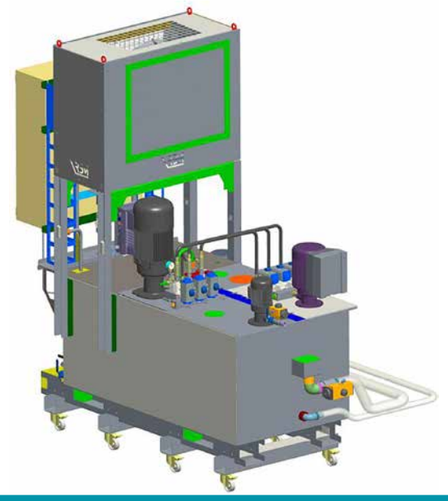




TECHNICAL FEATURES

Overall system volume	800 L
Processing flow rate	80 L/min
Coolant type	Both synthetic and mineral coolant
Filstar unit	KSM25
Nominal factory space requirements (LxWxH)	1009 x 2560 x 2415 mm
Nominal empty weight	495 kg
Automatic sludge recovery	In a special tank
Dynamic separation of the oil	Automatic integrated
Dirty liquid suction pump	Standard
Electrical control panel with machine tool interface	Standard
Working cycle	Continuous 24/7
Guaranteed filtration degree	Below 10 μm
Chiller for temperature control	Optional
Automatic coolant top up	Integrated





The image shows a complete IFDR 800/25 fine filtration system fitted with a delivery pump 20 bar 35 L/min and a delivery pump 70 bar managed by the inverter and the proportional valve, programmed to perform 6 pressure steps at these values: 20, 30, 40, 50, 60, 70 bar with maximum flow rate 45 L/min, and chiller for coolant's temperature control. This solution is dedicated to lathes with two spindles and 2/3 turrets, which need high and low pressure on the tools.

IFDR SOLUTIONS: innovative engineering

IFDR fine filtration systems are born to take care of the complete management of the coolant, whose role is essential both for the success of the mechanical processing and for the right maintenance of the machine tool.

They are suitable for any type of machine tool on the market that uses emulsion as a coolant, and tailored according to each customer's needs, with the possibility of being fitted with a wide range of available delivery pumps, with different pressures and flow rates.

IFDR systems are identified by the numerical initials of the considered model, which represent the overall system volume and the Filstar unit.

The IFDR fine filtration systems meet four basic needs of the machine tool:

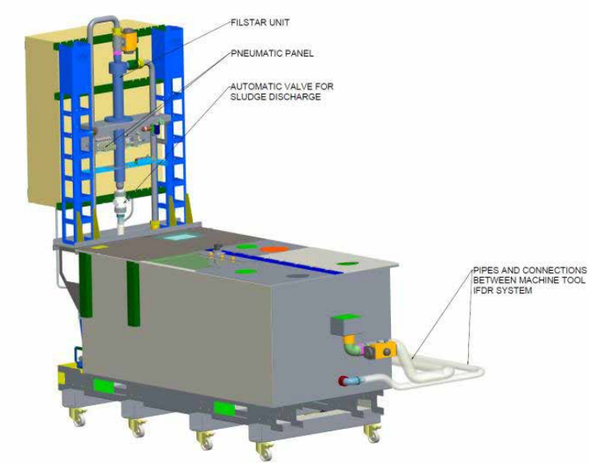
- To clean the coolant from highly abrasive micrometric metal rests that are formed during processing.
- To remove all oily substances that stop on the surface of the coolant.
- To reduce the bacterial contamination of the emulsion, extending its life.
- To relaunch the perfectly clean liquid in the working area to the maximum pressure required by the tool used.

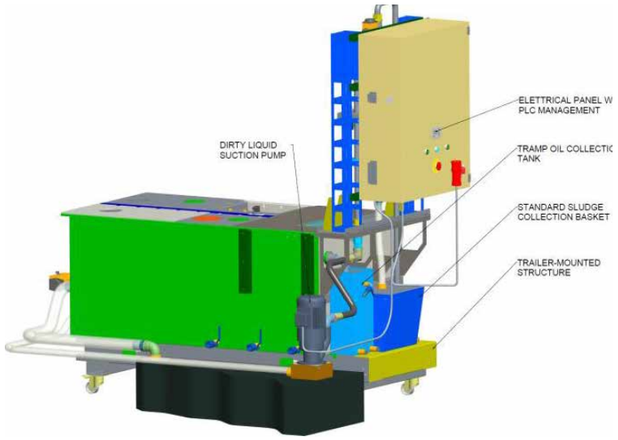
The advantages of IFDR fine filtration systems are:

- Patented filtration system below 10 µm.
- Integrated dynamic tramp oil separation system.
- High-pressure coolant towards the spindle.
- Reduction of the total volume of coolant used.
- Reduction of maintenance costs due to the lack of filtering elements.
- The increase in tool life due to the reduction of the polluting granulometry present in the coolant and to pressure and flow rate conditions required by the manufacturer.

Approval to the Machinery Directive and CE certification as a machine.

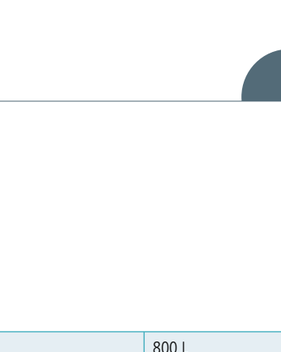
Fine Filtration System IFDR 800/32

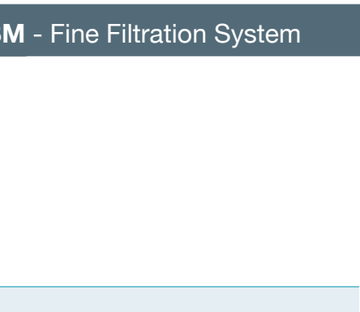


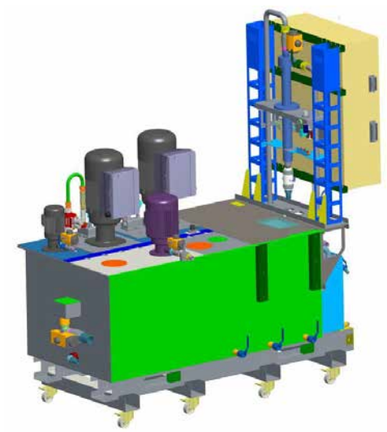


TECHNICAL FEATURES

Overall system volume	800 L
Processing flow rate	120 L/min
Coolant type	Both synthetic and mineral coolant
Filstar unit	KM32
Nominal factory space requirements (LxWxH)	1009 x 2560 x 2415 mm
Nominal empty weight	500 kg
Automatic sludge recovery	In a special tank
Dynamic separation of the oil	Automatic integrated
Dirty liquid suction pump	Standard
Electrical control panel with machine tool interface	Standard
Working cycle	Continuous 24/7
Guaranteed filtration degree	Below 10 µm
Chiller for temperature control	Optional
Automatic coolant top up	Integrated



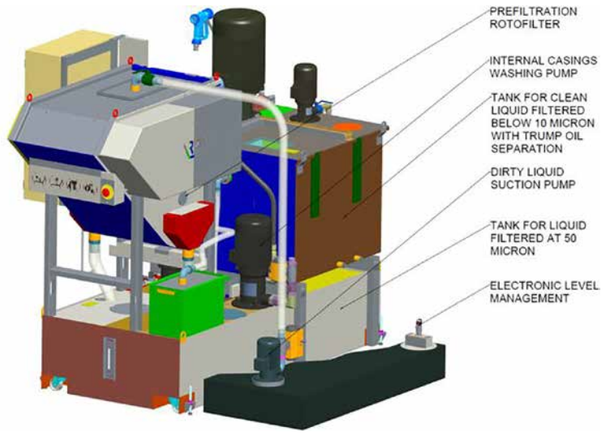


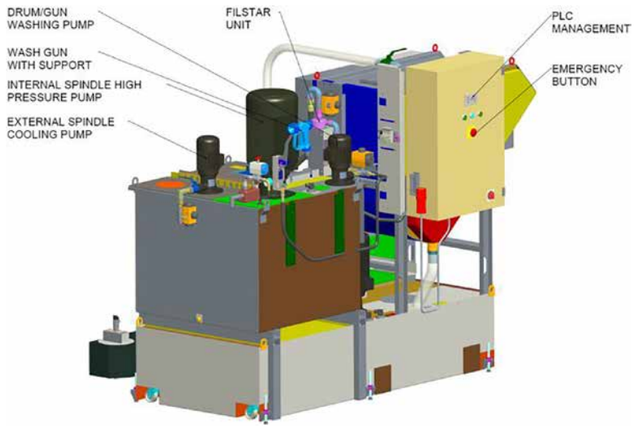


The image shows a complete IFDR 800/32 fine filtration system fitted with DUPLEX system, which guarantees a flow rate from 8 to 85 L/min in the first version and from 18 to 120 L/min in the second one.

The flow rate regulation is carried out in a completely automatic way according to the tool used for each pressure step available. In this model these values are available: 20, 30, 40, 50, 60, 70 bar. Moreover, a delivery pump 20 bar 35 L/min and a pump for machine tool wash gun have been assembled for the external cooling of the spindle.

Fine Filtration System Core 800 Maxi with IFDR technology





Advantages of CORE 800 MAXI

The CORE fine filtration system has been designed to provide a solution to problematic situations that are frequently found on machine tools. Moreover, it can be installed on new machines fitted with tanks and conveyors with unsuitable features for specific work.

In particular, it offers answers to the following problems:

- Presence of small chips in the tank with frequent pump clogging.
- Presence of floating oils, which prevent proper oxygenation, on the coolant surface.
- Need for less than 10 µm filtration degree for coolant to be sent to the machine tool spindle.

The CORE 800 MAXI fine filtration system integrates three widely tested technologies in the RBM's constructive tradition, and precisely:

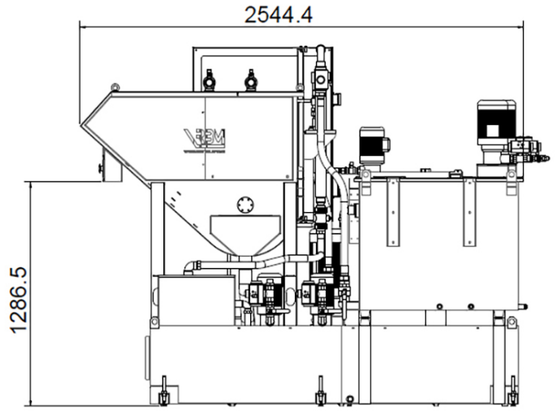
- The technology of our rotofilters with stainless steel drum and **prefiltration at 50 µm.**
- The FILSTAR technology – **no filter elements to be replaced and disposed of** – to guarantee **fine filtration below 10 µm.**
- IFDR technology to guarantee the **dynamic separation of the oil** and the correct oxygenation of the coolant.

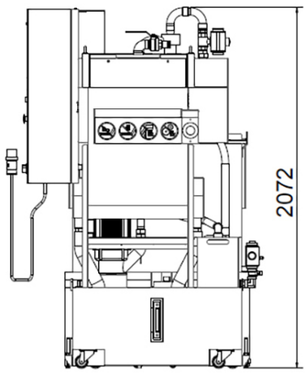
The simplicity of assembly and functional management managed by an integrated PLC make this solution extremely various and applicable to any machine tool.

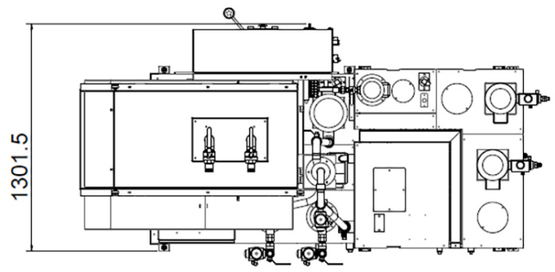
Approval to the Machinery Directive and CE certification as a machine.

TECHNICAL FEATURES

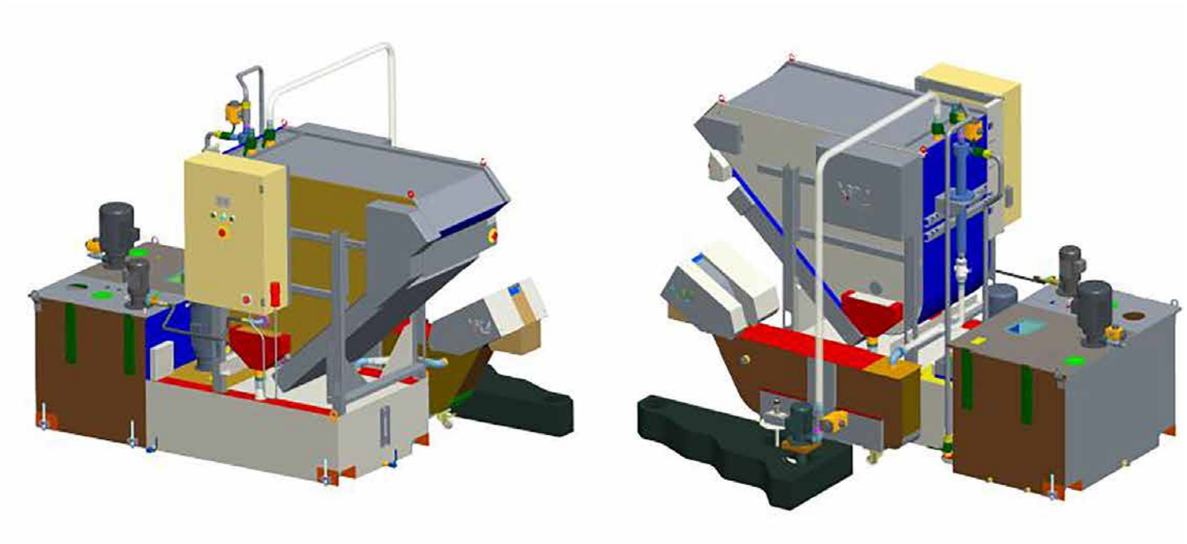
Overall system volume	950 L
Processing flow rate 50 μm	From 250 to 350 L/min
Processing flow rate 10 μm	120 L/min
Coolant type	Both synthetic and mineral coolant
Filstar unit	KM32
Clean coolant volume	500 L
Nominal factory space requirements (LxWxH)	2545 x 1302 x 2072 mm
Nominal empty weight	1.086 kg
Automatic sludge recovery	In a special tank
Dynamic separation of the oil	Automatic integrated
Dirty liquid suction pump	Standard
Electrical control panel with machine tool interface	Standard
Working cycle	Continuous 24/7
Guaranteed filtration degree	Below 50 μm for 100% of the coolant
Guaranteed filtration degree	Below 10 μm for delivery pumps
Chiller for temperature control	Optional
Automatic coolant top up	Integrated







Fine Filtration System Core 1000 with IFDR technology



Advantages of CORE 1000

The CORE fine filtration system has been designed to provide a solution to problematic situations that are frequently found on machine tools. Moreover, it can be installed on new machines fitted with tanks and conveyors with unsuitable features for specific work.

In particular, it offers answers to the following problems:

- Presence of small chips in the tank with frequent pump clogging.
- Presence of floating oils, which prevent proper oxygenation, on the coolant surface.
- Need for less than 10 µm filtration degree for coolant to be sent to the machine tool spindle.

The CORE 1000 fine filtration system integrates three widely tested technologies in the RBM's constructive tradition, and precisely:

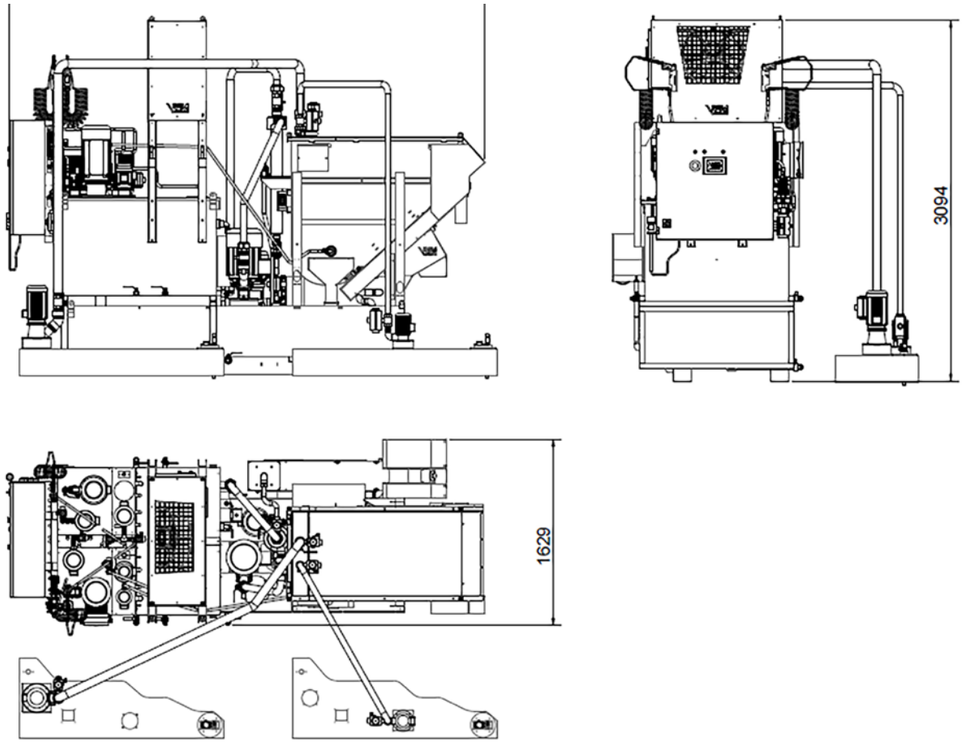
- The technology of our rotofilters with stainless steel drum and prefiltration at 50 µm.
- The FILSTAR technology – no filter elements to be replaced and disposed of – to guarantee fine filtration below 10 µm.
- IFDR technology to guarantee the dynamic separation of the oil and the correct oxygenation of the coolant.

The simplicity of assembly and functional management managed by an integrated PLC make this solution extremely various and applicable to any machine tool.

Approval to the Machinery Directive and CE certification as a machine.

TECHNICAL FEATURES

Overall system volume	1.800 L
Processing flow rate 50 μm	350 L/min
Processing flow rate 10 μm	240 L/min
Coolant type Both synthetic and mineral coolant	Both synthetic and mineral coolant
Filstar unit	KML40
Clean coolant volume	1.000 L
Nominal factory space requirements (LxWxH)	4154 x 1629 x 3094 mm
Nominal empty weight	2.517 kg
Automatic sludge recovery	In a special tank
Dynamic separation of the oil	Automatic integrated
Dirty liquid suction pump	Standard
Electrical control panel with machine tool interface	Standard
Working cycle	Continuous 24/7
Guaranteed filtration degree	Below 50 μm for 100% of the coolant
Guaranteed filtration degree	Below 10 μm for delivery pumps
Chiller for temperature control	Optional
Automatic coolant top up	Integrated

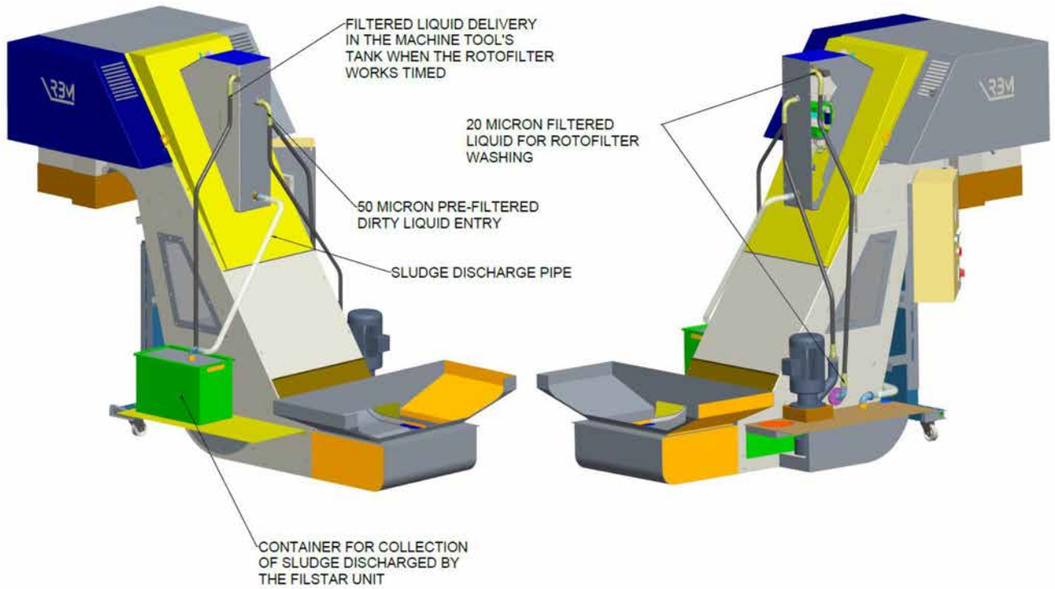


A-I Conveyor with ROTOFILTER and additional fine filtration unit ROTOSTAR

When there are dispersed powders smaller than 50 µm, where the sole action of the A-I conveyor with rotofilter is no longer sufficient, the rotostar solution can be implemented on the conveyor.

The advantages of rotostar are:

- 100% adaptability on every A-I rotofilter.
- 100% reduction of chips larger than 20 µm dispersed in the tank.



The rotostar solution allows to further reduce the filtration of the rotofilter and is suitable for particularly dusty materials. It is suitable for machine tools that are combined with the A-I rotofilter and that occasionally process materials that tend to make small chips, and there are dispersed powders smaller than 50 µm.

When the dispersed powders smaller than 50 µm are not held by the filtering drum, they are dispersed in the coolant. These would then be relaunched by the pumps in the work area, creating an abrasive mixture of coolant and powders that can damage both the machining and the tool.

Unit F, Apollo Park, Lichfield Road Industrial Estate,Tamworth, Staffordshire, B79 7TA

The rotostar generates a flow of coolant filtered at 20 µm that is used in two different directions:

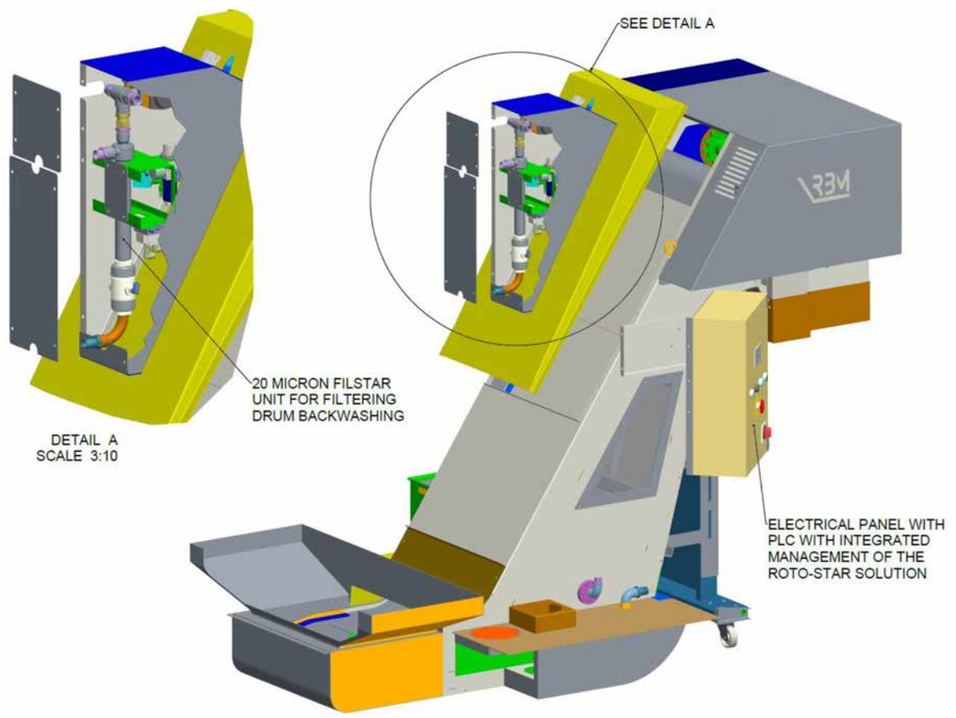
- One for cleaning the drum from the inside (backwashing).
- One directly in the tank of the machine tool, continuously filtering all the coolant present in the tank.

The sludge filtered by the rotostar is automatically discharged into a special collection container.

The rotostar is available in two different versions:

- Filstar KSS20i unit, with filtration flow rate of 40 L/min.
- Filstar KSM25i unit, with filtration flow rate of 80 L/min.

The choice between the two versions is the responsibility of RBM in relation to the size of the rotofilter and the overall flow rate of coolant required by the machine tool.



t: 01827 63591 | e: info@brownandholmes.co.uk | w: brownandholmes.co.uk

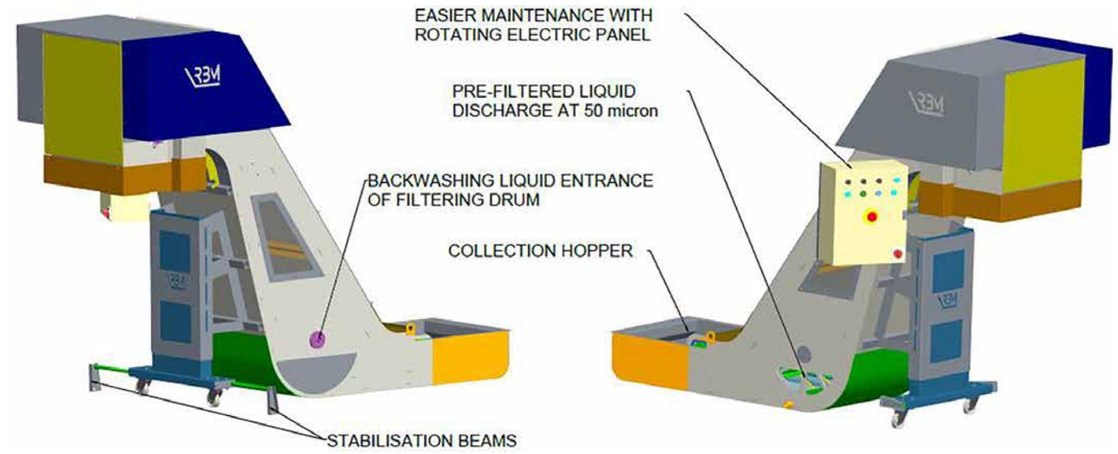
A-I Conveyor with ROTOFILTER

The A-I conveyor with rotofilter (rotofilter) is the evolution of the A-I conveyor, characterized by the addition of a 50 µm prefiltration drum. It is produced in two models: Z31 and Z44, depending on its filtration flow rate.

The choice of the most suitable drum to guarantee the required filtration flow rate is the responsibility of RBM in relation to the overall flow rate of the pumps installed on the machine tool and the dimensions of the tank.

The advantages of rotofilters are:

- 100% adaptability on every machine tool.
- 100% elimination of the problem of choosing the type of conveyor in advance based on the material processed, i.e., the conveyor has a hinged belt and a dredging belt at the same time, simply by reversing the direction of travel.
- 100% reduction of chips larger than 50 µm dispersed in the tank.

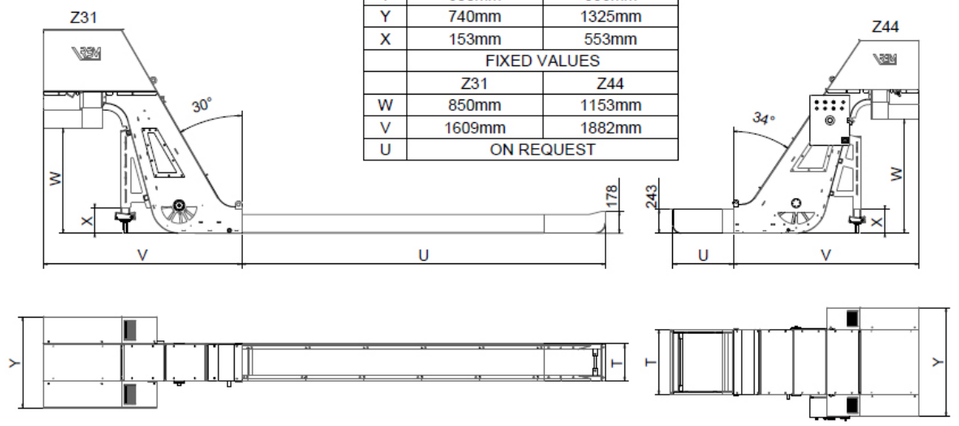


TECHNICAL FEATURES

- Reversible operation (abbreviation A-I). This allows to have both a hinged conveyor and a dredging conveyor available on the same machine, simply reversing the direction of travel.
  If there are bulky chips, long string chips or coils, it can operate in the forward direction (A).
  If there are short chips that tend to float or form powders that are dispersed in the liquid (such as light alloys or cast iron), it can work in the reverse direction backward (I).
- 50 µm prefiltration drum made of stainless steel, for long life of the filter elements. It has side seals that prevent the liquid from flowing out without being filtered.

- Metal carpet with both inside and outside double scraping blades. They also remove the material held by the filter drum and transfer it to the conveyor head in order to be discharged into the collection box.
- Drum backwash spraying machine. It is powered by a pump that is usually assembled on IFDR fine filtration systems when they are combined with the conveyor, and works with coolant filtered below 10 µm.
- The rotostar solution can be implemented on the rotofilter. It allows to further reduce the filtration of the rotofilter and guarantees the liquid filtered under 20 µm for the backwashing of the drum.
- Both width and length of the rotofilter can be customised in relation to the machine tool which it is combined with.
- Rollover control beams inserted in the support foot to be extracted when maintenance work that requires the removal of the rotofilter from the machine tool tank is carried out.

	FROM	TO
T	300mm	885mm
Y	740mm	1325mm
X	153mm	553mm
	FIXED VALUES	
	Z31	Z44
W	850mm	1153mm
V	1609mm	1882mm
U	ON REQUEST	



The dimensions T, Y, and X can assume the following values (mm) to adapt the conveyor to the tank of the machine tool.

T	300	345	390	435	480	525	570	615	660	705	750	795	840	885
Y	740	785	830	875	920	965	1010	1055	1100	1145	1190	1235	1280	1325
X	153	[…]	553											

Dimension W assumes the following fixed values: Z31 → 850 mm and Z44 →1153 mm.

Dimension V assumes the following fixed values depending on the W dimension: W: Z31 → 1609 mm and Z44 → 1882 mm.

Dimension U can be customised in relation to the machine tool, which the rotofilter is combined with.

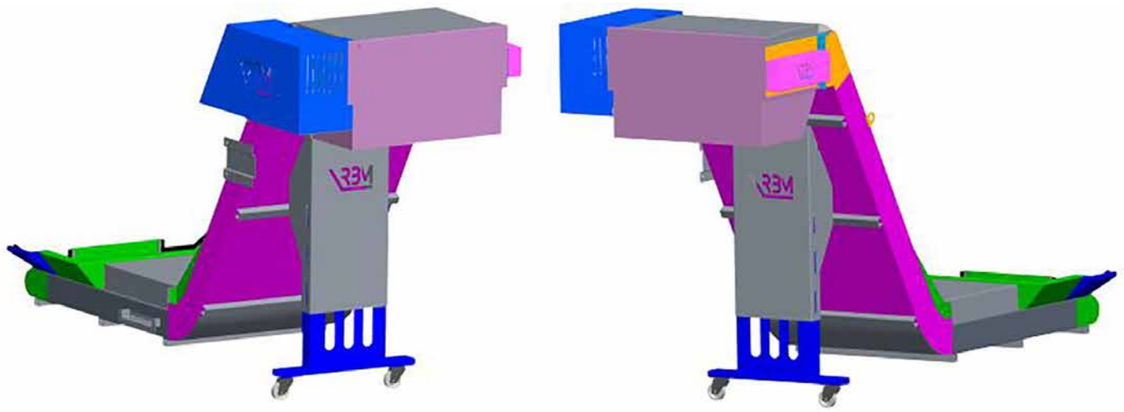
A-I Conveyor

A-I conveyors represent the evolution of the standard ones towards a single conveyor for all types of chips.

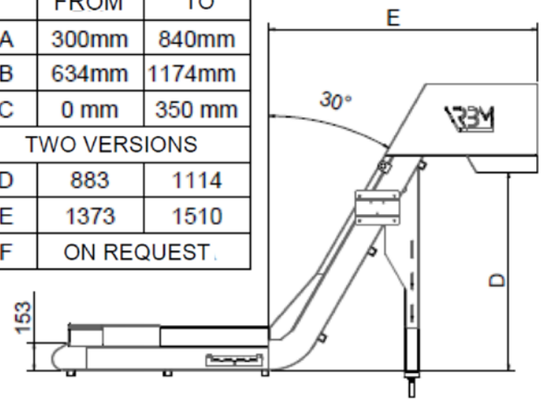
They are the first and fundamental barrier to contamination of the coolant. They offer a solution to the need to handle chips of different size and nature of material on the same machine tool. Used together with the IFDR fine filtration systems, they allow to achieve reliable performance regarding the management of any type of chip with minimal operating costs.

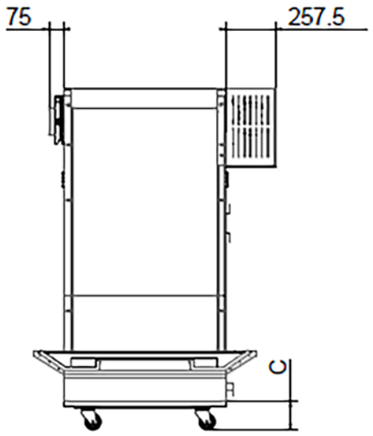
The advantages of A-I conveyors are:

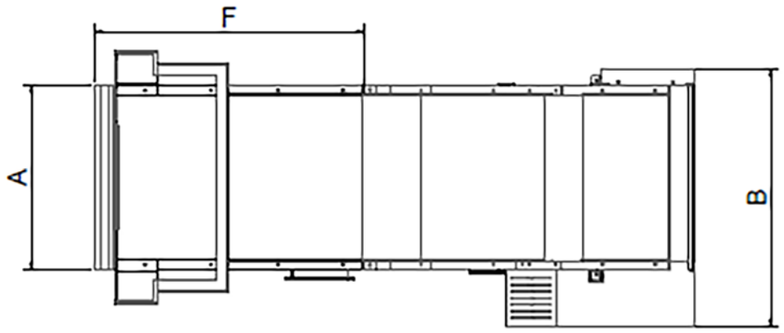
- 100% adaptability on each machine tool.
- 100% elimination of the problem of choosing the type of conveyor in advance based on the material processed, i.e., the conveyor has a hinged belt and a dredging belt at the same time, simply by reversing the direction of travel.
- Substantial reduction of small sized chips dispersed in the tank.



	FROM	TO
A	300mm	840mm
B	634mm	1174mm
C	0 mm	350 mm
TWO VERSIONS		
D	883	1114
E	1373	1510
F	ON REQUEST	







The dimensions A, B, and C can assume the following values (mm) to adapt the conveyor to the tank of the machine tool.

A	300	345	390	435	480	525	570	615	660	705	750	795	840
B	634	679	724	769	814	859	904	949	994	1039	1084	1129	1174
C	0	[…]	350										

Dimension D can assume the following values to adapt the conveyor to the chip collection box.
D= 883 – 1114 mm.

Dimension E assumes the following values in relation to the chosen dimension D.
E= 1373 – 1510 mm.

Dimension F can be customised in relation to the machine tool, which the conveyor is combined with.

Chiller for coolant temperature control

The chiller for coolant's temperature control can be matched to all RBM fine filtration systems, both CORE and IFDR models. It has been designed to work in a workshop environment, and its advantages are:

- Reduced volume of gas used: about 40% less than our previous versions.
- Modular compressor managed by the inverter, with an average consumption reduced by 35% compared to our previous versions.
- Cooling fan managed by the inverter to optimize the performance of the evaporator.
- Increased evaporator for a more efficient air-gas exchange, even in particularly hot environments such as industrial buildings.
- New concept liquid-gas exchanger, sized for a continuous work with high efficiency of heat exchange.

Very high energy saving and thermal efficiency among the best in the market are due to these features. Furthermore, the chiller is suitable for critical environments with high temperatures such as those that occur on machine tools, which use high-pressure pumps during mechanical processing.

Unit F, Apollo Park, Lichfield Road Industrial Estate,Tamworth, Staffordshire, B79 7TA

t: 01827 63591 | e: info@brownandholmes.co.uk | w: brownandholmes.co.uk

RAIN Independent automatic coolant top-up

The need to restore the correct level of coolant in the machine tool tank is one of the first necessities for working on unmanned shifts.

A specific solution has been developed to meet this need. Its characteristics follow:

- 24 V DC electricity supply, which allows connecting directly to the electrical panel of any machine tool where this voltage is normally present.
- The pneumatic power supply is derived from the one that normally powers the machine tool.
- Internal PLC to manage the top-up thresholds, which can be managed directly by the operator, modifying the required parameters.
- Maximum top-up time, always manageable by the operator, to prevent an electrical fault from causing the coolant in the tanks to overflow for excess topping up.
- Pneumatic valve to open the coolant inflow normally closed. That is, if there is no compressed air or power supply, the top-up will remain closed.
- Level transducer with a complete reading of the coolant present in the tank, without floats or sensors to be regulated, and insensitive to the presence of dirt in the tank.
- Compact containment box easily anchored to the machine tool. As it is closed, only the operator can perform the modification of the operating parameters.
- As an option, it is possible to manage an alarm threshold towards the machine tool to stop the working process in case of anomalies in the coolant tank.

The technology used to read the coolant level and about the components employed derives from the consolidated experience of filtration and high-pressure systems produced by RBM.

BROWN & HOLMES (*Tamworth*) LTD

Precision Workholding and Machining

Brown & Holmes (Tamworth) LTD

Unit F, Apollo Park,
Lichfield Road Industrial Estate
Tamworth
Staffordshire B79 7TA

Tel: 01827 63591

Fax: 01827 54322

email:info@brownandholmes.co.uk

website:brownandholmes.co.uk

Connect with Brown and Holmes:

TWITTER: twitter.com/brownandholmes
LINKEDIN: linkedin.com/company/brown-&-holmes-tamworth-ltd