SAMSYS+

Innovative. Intelligent. Precise.

ENVIROMENT & CLEANING SOLUTIONS

OPTIMIZATION OF THE MACHINING PROCESS

www.samsys.eu

PHILOSOPHY

At SAMSYS, we are committed to manufacturing innovative products of the highest quality. Together with our partners, we provide innovations distinguished by their precision and cost effectiveness. Our approach is based on close cooperation with clients, which has ensured our long-term success as a company.

We live with by the following motto: "Exceeding the customer's requirements and producing top-quality products. Serving satisfied clients of all sizes and in all branches of industry."

QUALITY, INNOVATION & SERVICE = MAXIMUM PRODUCTIVITY

The SAMSYS complete solution consisting of development, design and service combined with the most modern environmental protection and occupational safety guarantee our customers a range of benefits:

- smooth workflows and high productivity
- an image of sustainability with excellent external impact
- personal service provided by experienced specialists
- continuous quality improvement and further development of our products
- training of your employees in the use of our products for maximum efficiency, profitability and sustainability

OUR COMPANY

SAMSYS GmbH - the pioneer in short bar feeders break new ground

For even more sustainability SAMSYS GmbH has expanded its portfolio in the field of clean and environmentally friendly metal machining by adding Green Light Machining products.
Mobile workpiece cleaning devices and stationary extraction systems increase quality, occupational safety and environmental protection at our customers' machining stations.

All Samsys Green Light Machining products have been specially developed for new CNC turning and machining centers. They can be installed on both newly purchased machines and on existing systems - thus increasing profitability in production and delivering a productivity increase of 10 to 15% in practice.

SAMSYS

SAMSYS ENVIRONMENT AND CLEANING SOLUTIONS

CERTIFIED SYSTEM INTEGRATOR OF

UNIVERSAL ROBOTS Certified System Integrator

CERTIFIED PARTNER OF

onrobot

OUR SERVICE PARTNER

Alzeyer Werkzeugmaschinen Service GmbH AWS

Optimising the machining process
Green Light Machining

Serious manufacturers strive to maximise spindle ti me. In other words, the green light on the three-colour signal lamp should be on as much as possible. Green Light Machining stands for process optimisation in machining production. This requires systems that ensure that the process continues uninterrupted (less downtime), the number of spindle hours increases, the quality remains high and constant and productivity increases!

- 10 to 15% productivity gains
- 20% shorter cycle times
- 50% longer tool life
- 85% reduction in chip volume
- 99.97% filtration of harmful oil mist

Oil separators

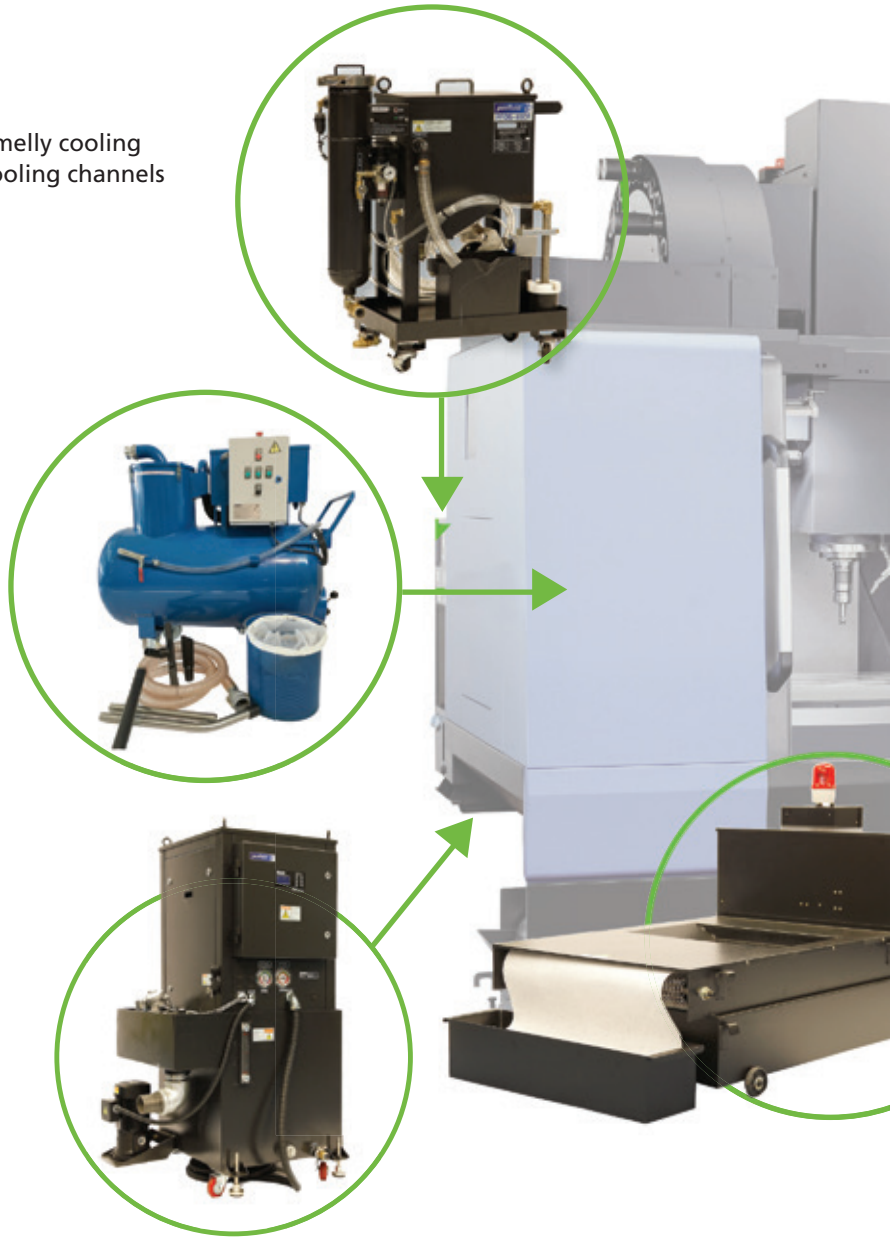
Oil separators prevent staff health problems, smelly cooling water, corrosion on work pieces, clogging of cooling channels and excessive wear on machine parts.

Oil and chip vacuum cleaners

Vacuum chips, oil and coolant so both the CNC sump and the table remain clean at all times.

Cooling systems

Cooling systems provide higher thermal machining stability, which increases repeat accuracy and greatly improves productivity.



Producing 24/7 requires **process optimisation**

Process optimisation ensures that, for both small and medium to large series, the efficiency of your machine tool increases, resulting in an increase in your billable hours and profitability. In practice, the use of process optimisati on systems can result in productivity gains of 10 to 15%, for an investment that can be recouped within a year. Samsys supplies the right equipment to achieve this, which can be installed by reputable machine suppliers, both to new and existing machines (retrofit).

For whom is this interesting?

Process optimisation systems are intended to optimise the machining process on modern CNC lathes and machining centres. The benefits become clearly evident in the case of lengthy unmanned processes.

Oil mist filtration

Oil mist filters provide a healthy working environment and effectively dissipate heat and odours.

High-pressure pumps

High-pressure pumps ensure cooling water at 20-200 bar is aimed directly at the tool tip, so chips break off faster, chip curls no longer interrupt the process, tools last longer and the machining capacity improves greatly.

Extraction tables

Extract particulate matter directly from the source.

Briquetting presses

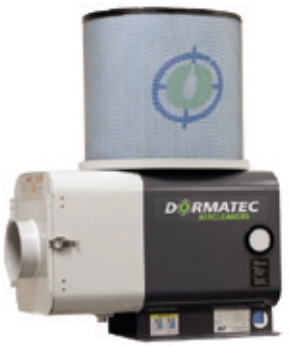
The briquetting press is capable of reducing the volume of your chips by up to 85%. In addition, the environmental and technical aspects of operation and the recovery of cutting oil are significantly improved.

Coolant filtration

Particularly when machining aluminium and cast iron, small particles cause wear of machine parts. Paper band filters ensure continuous cleaning of the coolant.

Healthy working environment
Oil mist filtration

Samsys Air Cleaners ensure effective extraction and filtration of emulsion mist, oil mist, smoke and odours released by lathes, milling machines and machining centres. This ensures a healthy working environment for your employees. The mist filters are equipped with a four stage filtration system that effectively removes harmful emissions, substances and aerosols (99.97%) from the air.



Advantages of oil mist filtration:

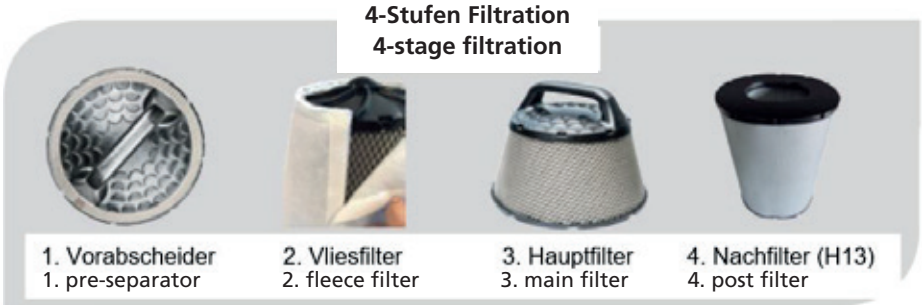
- Prevents health problems
- Minimises cleaning costs
- Enables reuse of emulsion
- Reduces the risk of accidents
- Removes heat from the machine
- Prevents sources of fire
- Removes odour

Features of oil mist filtration

- Low energy consumption
- Reusable elements
- 99.97% efficiency (H13)
- Pressure gauge
- Compact design
- Active carbon

Unit	Motor	Air flow rate	Noise level	Filter effect	Weight
AF-10P	0.2 kW	11 m³/min	65 dB	99.97%	42 kg
AF-20P	0.4 kW	18 m³/min	69 dB	99.97%	47 kg
AF-30P	0.75 kW	29 m³/min	70 dB	99.97%	65 kg
AF-40PL	1.15 kW	40 m³/min	71 dB	99.97%	80 kg

4-Stufen Filtration
4-stage filtration



JACOB systeem

Always insight into the current status
Air cleaner LED module

- The unit is connected to the CNC control so the operator has insight into the current status of the Air Cleaner.
- Advice for periodic cleaning, maintenance or replacement to ensure e ecti ve extracti on.
- Remote control via the app on PC, mobile phone or tablet.
- Connect directly to the app wirelessly via the cloud, mobile phone or tablet.
- Monitoring energy consumption, temperature, filter status and more.

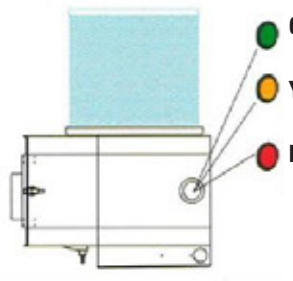
Optional for LED Module:

Advantages

- Low maintenance
- Innovative and cleanable filter element
- Patented HEPA H13 aft er filter
- Filter indicator
- Energy-efficient motors

LED Module indicates filter status

- A sensor in the unit detects the pressure difference due to contamination.
- LED indicator on the side of the unit indicates whether the front and rear fi lters need to be cleaned or replaced.
- Optional: Interface with CNC control of the machine. If the filter is clogged, a message is displayed on the screen.
- Only available on AF/AE series.



Green: normal condition

Yellow: The main Filter is clogged and needs to be cleaned

Red: The post filter is saturated and needs to be replaced.

Healthy and dust-free working environment
Dust and smoke extraction systems

In addition to a fully automated production process, care for the environment and good working conditions are becoming increasingly important for any organisation. Machining and finishing materials such as plastic, metal, wood or stone produce particulate and fine parti culate matt er and other contaminants. There is a growing awareness of the corresponding risks as well as of the cleaning costs and delays caused by this contamination.

- Suitable for all types of contamination;
- No more airborne particulate matter;
- Less sick leave;
- Available in various sizes and configurations
- Extractor and worktop in one compact unit
- Plug & Play; ready to use, operates on 230V
- Also available in self-cleaning versions

Protect your employees

Dust can cause health problems when inhaled. Dust inhalati on can cause a range of diseases from occupati onal asthma to various can-cers, respiratory problems and heart-related diseases. Dust may also be fl ammable. As a possible fi re hazard, this may cause injury to your personnel.

Protect your products

Many finishing processes are infl uenced by atmospheric dust parti cles. Main-taining a clean working environment is essenti al for pro-per spraying, coati ng, etc. Packa-ging in a dusty environment means that process dust is sent to your customers.

Save money

A healthy workforce is always a more producti ve workforce: fewer sick days mean a more e ecti ve business. Save on health costs with a small inves-tment by making a small investment in an extracti on table or wall.

Extract particulate matter directly from the source

Plug & Play 230V

The installation of a mechanical extraction system is often a costly option and is not always possible in practice. There is a simpler solution: the installati on of an extraction table or extraction wall.

Dust from sanding – Filter F

Paint vapours – Filter E

Welding and grinding sparks – Filter D

Cleaning of tools – Filter B

Extraction of large quantities of dust – Filter M

Available filters

- Filter A Non-sparking dust
- Filter F Particulate matter
- Filter B Fine particulate matter
- Filter L HEPA
- Filter E Vapours, small volumes
- Filter J Vapours, large volumes
- Filter C Light sparking
- Filter D Smoke and sparks
- Filter K Dust and heavy sparking
- Filter R Smoke and vapour
- Filter P Welding
- Filter M Dust, very large
- Filter N Stone and similar
- Filter T Sanding and similar
- Filter Q Welding fumes and similar

Increased productivity
High-pressure systems

High-pressure pumps ensure cooling water at 70 bar is aimed directly at the tool tip. This ensures better heat dissipatin directly at the cutting edge, allowing chips to break off more easily. Shorter chip curls are removed faster, but the product quality also increases. Cycle times are reduced and tool wear is drastically reduced. In practice, high-pressure cooling systems can yield productivity gains of between 10% and 15%.

BF series

The Profluid BF high-pressure pump has been specially developed for long turners and can therefore also be equipped with 1-6 output ports for the various axes. These units are used up to an operati ng pressure of 200 bar. In additi on, this high-pressure pump comes with a feed pump, a sub-tank and pressure relief valve. The Profl uid BF series is supplied as standard with a single fi lter unit with a fi neness of 25 microns and is parti cularly suitable for Swiss-type machining (long turners).

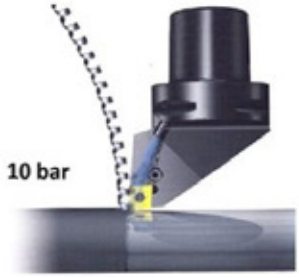
PF series

High-pressure pumps with a double filter version have the advantage that your process does not have to be interrupted when a fi lter is full. You can easily close one filter and open the other one using a valve and then clean the dirty filter without interrupting the system. The Profluid PF70-30DF is supplied as standard with a feed pump, flow check, Delta-P switch, pressure relief valve and two filter bags with a fineness of 25 microns. The Profluid series with double filters is suitable for CNC lathes and milling machines, including vertical and horizontal machi-ning centres and tapping centres.

DF-200
Drum filter DF-200 can also be used with high-pressure systems in combinati on with cooler.

High-pressure pumps (> 70 bar) result in:

- Improved process control
- Longer tool life
- Higher machining capacity
- Better surface quality
- Reduced burr formation



Result 10 bar:

High-pressure systems are available with:

- 20, 30, 70 and 100 bar pumps
- Capacity 10 - 30 litres/minute
- Frequency controllers
- Filters and feed pumps
- Retrofi t kits for existi ng machines
- Integrated cooler

Result 70 bar:

VF series

The Profluid high-pressure pump Variable Flow (VF) is a high-pressure pump with an integrated cooling system. This variable unit includes frequency controller (7 pressure steps), pressure transmitter, cooling unit, sub-tank, duplex filter and feed pump. The Profluid VF series is the ideal solution in workshops with limited space, but where there is a need to improve machining performance! This total soluti on is equipped with a coolant-based cooler PFCC-220 and has the great advantage that a high-pressure pump and cooling system are combined in a very compact installation. The footprint of this installation is only 80x150 cm

MCF-23

Lathes, milling machines and grinding machines with an operating pressure of up to 20 bar must be protected against abrasive particles such as chips and other contaminants. Especially for this use up to 20 bar, Samsys has a Profluid bag filter in its range that can be installed on existing machines and pumps. The Profluid bag filters are fitted with an integrated delta-P meter that signals when the fi ter bag is contaminated. The available filter finenesses are 5, 10, 25 and 50 microns. If you use a duplex set-up, you can change the filter bag without having to switch on the machine.

Reduce the volume of your chips
Briquetting presses

Reduce the volume of your chips by up to 85%!

The briquetting presses can work on metal chips such as steel, cast iron, aluminium, copper, brass, zinc, bronze, but also on polymer and wooden chips. The processing of the metal chips fully complies with the recycling policy of the materials, which improves the operating conditions and the cleaning of the working environment.
The briquetting press is capable of reducing the volume of your chips by up to 85%.

In addition, the environmental and technical aspects of operation and the recovery of cutting oil or cooling emulsion are significantly improved.

1. **Volume benefit**
   The briquetting process provides considerable space savings for the storage of the chips and a significant saving for material processing.

2. **Emulsion recovery**
   During compacti on, the cutting oil present in the chips is recovered and can therefore be reused, resulting in considerable benefi ts for the company.

3. **Economic value**
   Briquetted chips are subject to a lower oxidation. This results in a higher yield of the briquette in the furnaces, which increases the economic value of the material. In addition, by using the briquetti ng press, the briquettes are less contaminated, which increases their value.

4. **Logistics and environment**
   Because the cutti ng oil or cooling emulsion is recovered and can be reused, there is little to no emulsion left in the chips. For environmental reasons, your logistics partner will be more inclined to transport the briquettes.

5. **24/7-Bearbeitung**
   No deployment of staff during evening hours or weekends because the chip trays no longer need to be emptied.

Available in 45, 55 and 65 litres

Customer case

A large box full of chips becomes a small tray of briquettes

In the early hours of the morning, Loek Claessens and Robert Schoonbrood of Nordson Benelux headed from Maastricht to De Goorn in North Holland with a large box full of aluminium chips in the back of the car. The purpose of their long journey: to do a test with a Dormatec briquetting press to see if this could be a solution to their chip problem.

The Problem

Nordson Benelux produces parts for the adhesive and hot melt dosing systems of parent company Nordson. In Maastricht, they mainly produce the glue guns of these systems, which are di erent for each customer. These are produced on three metalworking machines, which process 85 percent aluminium and 15 percent high-grade stainless steel. A year and a half ago, Loek Claessens was told by the company disposing of his scrap that he was actually in violati on of transporti ng the chips because they contained too much cooling emulsion. 'That forced us to look for a solution.'

The solution

In October they discovered a brique tti ng press at Dorma-tec's stand at the METAVAK exhibition in Gorinchem. They were immediately enthusiastic about it and decided to go to the open house a month later for a test. If they liked it, they would do a test run to see how such a brique tti ng press works with a machine that produces chips all day. If this test is successful, Claessens wants to equip all three machines with such a press.

The briquetting press compresses the chips into small compact briquettes. Durinh this process, the cooling emulsion is squeezed out and collected in a reservoir. By means of a pump, the emulsion is fed back into the machine. This has several advantages. The cooling emulsion is no longer discharged with the chips. 'This makes a huge difference,' says Manuel Schippers, sales director at Dormatec. 'One of our customers recovers 145 litres of cooling emulsion per day by using briquetting presses.' Furthermore, a lot less logistics handling is required. Nordson's men arrived in De Goorn with a large box full of chips. They left with a small box of compressed briquettes. This allows for very easy transport of the chips to the scrapyard, which also pays a much bett er price for them. Another advantage is that the container in which the chips are usually stored is no longer needed. The briquettes can easily be stored in a crate and need to be offered for disposal via the scrap yard less frequently. Production at night or at the weekends no longer requires an employee to come back to remove chips to ensure the machine can produce uninterrupted. The test was successful for Nordson Benelux and they now have three briquetting presses in the workplace.





Contaminated cooling water
Oil separators

Samsys Profluid oil separators clean the cooling water of your metalworking machine in approximately 2 hours. These oil separators are very easy to operate and maintenance-friendly. Bacteria, reduced lubricating properties and skin irritations are common complaints that occur in case of improper oil separation.

The oil separators use a coalescence filter to separate oil and cooling water. The porous filter has a highly effective separating capacity without quickly silting up. The oil remains floating on the surface due to the difference in density and is thus easily separated and disposed of.

The Profluid oil separator PFOS-40CF has the following advantages:

- Separati ng oil from cooling water in approx 2 hours
- No more foul-smelling cooling water
- Prevents (and assists in the recovery of) coolant-related health complaints
- Prevents workpiece corrosion
- Less wear on machine parts
- Mobile and easy to move from machine to machine

WATCH NOW

The progress of the process in approximately 2 hours

Liquid Filtration
Paper band filters

An optimal machining process requires the removal of contaminants such as chips, oil and other dirt particles. Conti nuous cleaning of coolant and chip waste causes corrosion on workpieces, clogging of cooling channels and excessive wear on machine parts.

Our band filters give you various options for fluid filtration. Paper band filters (PFA series) have been used for many years in many different applications.

Due to the high degree of filtration, autonomous operation and low operating costs, paper band filters have already been installed in a large number of workshops. The accumulation of contamination on the filter fleece, better known as filter cake', will increase the final filter accuracy.

The paper band filters are mainly used in machine tools for machining aluminium and cast iron. Band filters are also frequently used for grinding and honing in order to obtain an opti mal surface roughness (RA).

In addition to the standard paper band filter, Dormatec also supplies compact band fi lters that require litt le space in terms of floor space. The hydrostatic pressure of the medium on the filter fleece ensures a very efficient filtration. These compact belt filters (DF series) are available up to a capacity of 2000 litres per minute. The DF series is available with any desired tank.

Machine cleaning
Industrial liquid and chip vacuum cleaners

Dormatec's industrial liquid and chip vacuum cleaners are designed to vacuum coolant, chips and oil from the machine sump. They filter the chips and pump the filtered coolant back into the machine sump so it can be reused.

1. **Reduction of cleaning time for CNC machine sumps**
   Thanks to the high sucti on rate of the various liquid and chip vacuum clea-ners (and suction accessories), it has never been easier and quicker to clean the CNC sump and table.
2. **Guaranteed clean CNC machine**
   Vacuums chips and coolant together, so that both the CNC sump and the table remain clean at all times.
3. **Extends coolant life**
   Regular use of a liquid and chip vacuum cleaners ensures both longer use of the coolant in the CNC machine and improved performance.
4. **Bacterial growth control**
   Regular use of the liquid and chip vacuum cleaner reduces bacterial growth.
   This improves machine performance and reduces downtime
5. **Possibility to clean large volumes**
   Simultaneous acti vati on of sucti on and pump functi on possible.

WATCH NOW

Optimal heat transfer
Cooling

The accuracy and dimensional stability of metalworking machines is largely determined by their thermal stability. The ambient temperature of the machine and the heat released by the cutting tool and chips increase the cooling water temperature, which ultimately also heats up the machine.

Cooling systems keep the coolant at a constant temperature, which results in:

- Continuous accuracy
- Optimal heat transfer and dimensional stability
- Reduced evaporation
- Increased productivity

Units are supplied:

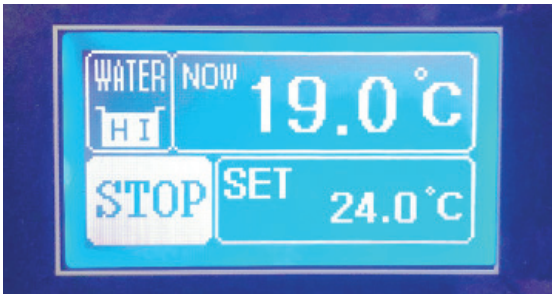
- As standalone unit or plug-in module
- With its own simple controller
- Filled with environmentally friendly refrigerant (R407C)
- Including feed pump

Available as:

- PFCC - Coolant cooler
- PFWC - Water cooler
- PFOC - Oil cooler

Maintain the accuracy of your machines by keeping the cooling water at a constant temperature!

1°C heating of steel results in an expansion of 12µm/mtr!
Source: Tabellenboek mechanische techniek, A.C. Bruinshoofd



CLEAN PARTS, CLEAN AIR.

- ✔ Air driven - no electricity needed
- ✔ Lubricants and scraps can be recycled
- ✔ One-Touch operation
- ✔ MiJET saves money

MiJet 8-ANG-34-35-39 und MiJet 12-ANG-35-70-110

8-ANG-34-35-39
Combination Kit with fine mesh parts basket and dolly

MiJET®, Angled 8" dia. Model with Silvent Low Noise Nozzle, Dolly, and Fine Mesh, Single Handled Parts Basket

Includes Part Numbers: **14-8FL-545, 13-034, 13-035 and 13-039**

13-039:

13-035:

13-034:

12-ANG-35-70-110
Combination Kit with fine mesh parts basket and dolly

MiJET®, Angled 12" dia. Model with Low Noise Nozzle, Dolly, and Fine Mesh, Single Handled Parts Basket

Includes Part Numbers: **15-12SX-20ANG, 13-035, 13-070 and 15-110**

13-070:

13-035:

15-110:

„MiJET protects the environment andthe health of your employees.“
Jo Braun, CEO, Samsys GmbH

MiJET patent pending

MiJet Wash Station 16-08-WSH-SS-LN

16-08-WSH-SS-LN
MiJet Wash Station

8" dia. MiJET® Wash Station - with Solvent Container & Parts Basket
Table with butcher block top and wheels (2 locking), Loc-Line nozzle, flow control, pneumatic fluid pump, fluid filter, and hand-held air nozzle. Enclosed on three sides with retainer hook for easy removal of container for emptying

Dimension:
H 35" / 88,9 cm | L 24,25" / 61,59 cm | T 24,25" / 61,59 cm

14-8FL-545-LN 8" dia. MiJET® - Angled Top with Low Noise Nozzle

15-08-2BB Wash Station for 8" dia. MiJET® model - double cutout

16-028-AS Stainless steel container with integrated fluid spout in lid held open with a pneumatic spring designed to close completely to minimize evaporation when not in use, 5.5 gal (20,8 L)

15-109 Parts Basket, Small, bent handle - 7.25" OD (184mm), Fine Mesh (for 8" model)

16-12-WSH-SS-LN
MiJet Wash Station

12" dia. MiJET® Wash Station - with Solvent Container & Parts Basket Table with butcher block top and wheels (2 locking), Loc-Line nozzle, flow control, pneumatic fluid pump, fluid filter, and hand-held air nozzle. Enclosed on three sides with retainer hook for easy removal of container for emptying.

Dimension:
H 35" /88,9 cm | L 36" / 91,44 cm | T 25,50" / 64,77 cm

14-12SX-20ANG-LN 12" dia. MiJET® - Angled Top with Low Noise Nozzle

15-12-2BB Wash Station for 12" dia. MiJET® model - double cutout

16-029-AS Stainless steel container with integrated fluid spout in lid held open with a pneumatic spring designedto close com pletely to minimize evaporation when not in use, 9.0 gal (40,9 L)

15-107 Parts Basket, Large, bent handle - 10.13" OD (257mm), Fine Mesh (for 12" model)

SAMSYS+
Innovativ. Intelligent. Präzise.

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SAMSYS Optimization of the machining process
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