

DREFI

Machinery and Equipment

for spray gun and tool cleaning + solvent recycling and waste water treatment

PRODUCT CATALOG



FIDI 
A DREFI BRAND

Machinery and Equipment

for spray gun and tool cleaning + solvent recycling and waste water treatment

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Machinery and Equipment

for spray gun and tool cleaning + solvent recycling and waste water treatment

SPRAY GUN & TOOL WASHERS



Spray Gun and Tool Washers

Washer Combination LMW 115 AM/AM

- Completely made of high-quality stainless steel
- Bright, broad washing rooms
- Automatic suction

Robust, approved method of pump technology

Air connection with hose for connecting spraying gun or blow-out gun



Timer controlled washing process

Rinsing with clean thinner

Continuous-flow cleaning brush for removal of persistent varnish residues

Automatic and manual cleaning at the same time, up to 5 guns at the same time standard

Housing and washing rooms completely made of STAINLESS STEEL

Cleaning brush for removal of persistent water varnish residues

Special developed cleaning blast pipe

High-pressure gun for cleaning the air passage

Collecting tank made of STAINLESS STEEL

Collecting tank for water varnish cleaner (e.g. FIDI-AquaRemover) circulatory pipeline. Equipped with automatic air pulsation to ensure a perfect coagulation

Filter system (four-part) for coagulation placed in unit. Cleaned water for circulatory pipeline or disposal (according to official regulations)

Washing Devices-Generation LMW / W / PC

FIDI presents a new generation of cabinet washers, which are designed for different demands concerning floor space and use. Units type LMW 115/110/70/50, W 45 and PC 30 completely made of stainless steel. Not only the washing cabin, but also the whole unit is made of functional STAINLESS STEEL.

Bright ergonomic well-conceived washing rooms for the timer controlled automatic washing process and for the manual

cleaning process. Robust method of pump technology, since many years approved, carry the cleaning liquid through a great number of cleaning blast pipes (up to 15 bits) in the automatic washing part, and also through a detergent flushed washing brush.

Each unit has a detergent pipe to rinse with diluent.

Series LMW 115 / 110 / 70 / 50

As standard in all washing units with automatic washing part 2 gravity feed spray guns can be cleaned at the same time.

As standard these units are equipped with a final washing program, to finally clean the guns after the automatic washing (circulation diluent) with clean, clear thinner.

In all units the guns are put in a way that no solvent can get into the air duct. A stretching clip (no metal) which is easy on the guns is used to prevent any damage. Quick and ergonomic change of the cleaning bins (in collecting tank) in the sub-structure of the washer.

Just open the door and change the bins (or refill them).

W 45 AM/ W 45 M and Aqueous Washer LMW 115 (water varnish)

Our washing units for aqueous cleaners are specially designed for this purpose. Special water varnish cleaners are applied like FIDI-RESOLVE. It is important that they contain anti-corrosion additives which are needed to protect the spraying guns.

The water varnish cleaner (e.g. FIDI-RESOLVE) is filled into the sink.

From here the cleaning with the circulation cleaner (automa-

tic and/or manual) is injected. It is important that after each cleaning process rinsing of the guns with clean water and carefully drying follows. The circulation detergent can coagulate after use in the sink. For this reason an air circulation is implemented which supports the process. Afterwards the coagulated liquid is released by the included in the delivery filtersystem. The refined cleaning liquid is lead back into the washing process circulatory pipeline.

Series LMW 45 AM

Is constructed for the "small use". Special firms who rarely have to clean their spray guns, e.g. small cabinet-maker's or companies with little varnishing work.

SATA-APPROVED

Is constructed for the "small use". Special firms who rarely have to clean their spray guns, e.g. small cabinet-maker's or companies with little varnishing work.



Spray Gun and Tool Washers



Installation in zone 1 qualified.
CE compliant according to Atex 2014/34/EU



Installation in zone 1 qualified.
CE compliant according to Atex 2014/34/EU

Trend-setting cabinet washers for solvent (or aqueous cleaners). Washers constructed in an ergonomic way completely made out of STAINLESS STEEL.

LMW 110 AM, final washing INOX

- Completely robust stainless steel units. Both, the washing room which is for the automatic wash cycle and the unit is completely made of STAINLESS STEEL
- Automatic, timer controlled washing room. 2 gravity feed spray guns can be washed at the same time as standard
- Rinsing with clear thinner (final washing) in automatic washing machine
- Automatic washing room with 15 cleaning blast pipes
- Automatic and manual cleaning at the same time
- Manual washing room for devices up to 1100 mm length
- Continuous-flow brush start-up with adjustable output in the circulation process
- Connectable fresh solvent jets for rinsing
- Use of approved, robust, booster pumps
- Shop air for blow out-or spraying gun
- Little cleaning-and solvent wastage
- Powerful automatic suction
- Collecting tank (STAINLESS STEEL) for bin

measurements: (L x W x H) 1.090 x 670 x 1.465 mm
weight: 110 kg
shop air: 6 - 10 bar
diameter suction: 150 mm



Automatic washing room

LMW 110 M, INOX

- Completely robust STAINLESS STEEL units
- Broad manual washing room for devices up to 1100 mm
- Brush start-up with adjustable output in the circulation
- Connectable fresh solvent jet for rinsing
- Use of approved, robust, booster pumps
- Shop air for blow out-or spraying gun
- Little cleaning-and solvent wastage
- Powerful automatic suction
- Collecting tank (stainless steel) for bin

measurements: (L x W x H) 1.090 x 670 x 1.465 mm
weight: 90 kg
shop air: 6 - 10 bar
diameter suction: 150 mm

Manual washing room





Installation in zone 1 qualified.
CE compliant according to Atex 2014/34/EU

Installation in zone 1 qualified.
CE compliant according to Atex 2014/34/EU

**Trend-setting cabinet washers for solvent (or aqueous cleaner).
Washers constructed in an ergonomic way completely made out of STAINLESS STEEL.**

LMW 70 AM, final washing INOX

- Completely robust stainless steel units. Both the washing room which is for the automatic wash cycle and the unit is completely made of STAINLESS STEEL
- Automatic, timer controlled washing room. 2 gravity feed spray guns can be washed at the same time as standard
- Rinsing with clear thinner (final washing) in washing automat
- Automatic washing room with 15 cleaning blast pipes
- Automatic and manual cleaning at the same time
- Manual washing room for devices up to 700 mm length
- Continuous-flow brush start-up with adjustable output
- Connectable fresh solvent jet for rinsing
- Use of approved, robust, booster pumps
- Connectable indraught of fluid clear thinner (e.g. for lacquer thinning)
- Shop air with pressure reducer for blow out-or spraying gun
- Little cleaning-and solvent wastage
- Powerful automatic suction
- Mobile collecting tank (STAINLESS STEEL) for bin

measurements: (L x W x H)
ca. 690 x 670 x 1465 mm (open approx. 2000 mm)
weight: 80 kg
shop air: 6 - 10 bar
diameter suction: 150 mm

LMW 70 M, INOX

- Completely robust stainless steel units.
- Broad manual washing room for devices up to 700 mm
- Brush start-up with adjustable output in the circulation
- Connectable fresh solvent jet for rinsing
- Connectable indraught of fluid clear thinner (e.g. for lacquer thinning)
- Use of approved, robust, booster pumps
- Shop air with pressure reducer for blow out-or spraying gun
- Little cleaning-and solvent wastage
- Powerful automatic suction
- Mobile collecting tank (stainless steel) for bin

measurements: (L x W x H) 690 x 670 x 1465 mm
weight: 60 kg
shop air: 6 - 10 bar
diameter suction: 150 mm

Spray Gun and Tool Washers



Installation in zone 1 qualified.
CE compliant according to
Atex 2014/34/EU



Installation in zone 1 qualified.
CE compliant according to
Atex 2014/34/EU

**Trend-setting cabinet washers for solvent (or aqueous cleaner).
Washers constructed in an ergonomic way completely made out of STAINLESS STEEL.**

LMW 50 AM, final washing INOX

- Completely robust stainless steel units. Both the washing room which is for the automatic wash cycle and the unit is completely made of STAINLESS STEEL
- Automatic, timer controlled washing room. 2 gravity feed spray guns can be washed at the same time as standard
- Rinsing with clear thinner (final washing) in washing automat
- Automatic washing room with 14 cleaning blast pipes
- Automatic and manual cleaning at the same time
- Manual washing room for devices up to 500 mm length
- Brush start-up with adjustable output in the circulation
- Connectable fresh solvent jet for rinsing
- Connectable indraught of fluid clear thinner (e.g. lacquer thinning).
- Use of approved, robust, booster pumps
- Shop air for blow out-or spraying gun
- Little cleaning-and solvent wastage
- Powerful automatic suction
- Mobile collecting tank (STAINLESS STEEL) for bin

measurements: (L x W x H) 500 x 700 x 1.465 mm
weight: 60 kg
shop air: 6 - 10 bar
diameter suction: 120 mm

LMW 50 M, INOX (upon request)

- Completely robust stainless steel units
- Manual washing room for devices up to 600 mm
- Brush start-up with adjustable output in the circulation
- Connectable fresh solvent jet for rinsing
- Connectable indraught of fluid clear thinner (e.g. for lacquer thinning)
- Use of approved, robust, booster pumps
- Shop air for blow out-or spraying gun
- Little cleaning-and solvent wastage
- Powerful automatic suction
- Mobile collecting tank (STAINLESS STEEL) for bin

measurements: (L x W x H) 500 x 700 x 1.465 mm
weight: 50 kg
shop air: 6 - 10 bar
diameter suction: 120 mm

LMW 50 AM - Automatic washing room





Installation in zone 1 qualified.
CE compliant according to Atex 2014/34/EU



Installation in zone 1 qualified.
CE compliant according to Atex 2014/34/EU

Trend-setting cabinet washers for solvent (or aqueous cleaner).

LMW 45 AM

- Completely robust version. The washing room is made of stainless steel. The unit is galvanized
- Automatic, timer controlled washing room. 2 gravity feed spray guns can be washed at the same time as standard
- Automatic washing room with 12 cleaning blast pipes
- Manual or automatic cleaning possible
- Manual washing room for devices up to 500 mm length
- Connectable circulation diluent in washing room for preclearation
- Connectable fresh solvent jet for rinsing
- Use of approved, robust, booster pumps
- Shop air for blow out-or spraying gun
- Little cleaning-and solvent wastage
- Powerful automatic suction
- Collecting tank for bin

measurements: (L x W x H) 500 x 660 x 1.070 mm
weight: 45 kg
shop air: 6 - 10 bar
diameter suction: 120 mm

Preparation Work Table T 110 Air, INOX

Preparation work table for the professional

This table complies with Table 110, in addition it is equipped with suction and a drip-off area for varnish polluted tins. The table is also equipped with 2 pumps which can suck the liquids out of the tank under the table e.g. for diluting the varnish. One pump can be used for waterbased varnish the other for solvent-based varnish.

- Robust stainless steel construction
- Front door made of STAINLESS STEEL
- Constructed in an ergonomic way
- Arrangement of shelving in cabinet base
- Broad work surface

Equipment of:
preparation work table T 110 INOX
measurements:
(L x W x H)
1090 x 670 x 1.465 mm
weight: 55 kg

- Manual connectable suction of solvent vapours
- Drip-off area
- 2 booster pumps (for solvent thinner)

measurements: (L x W x H) 1090 x 670 x 1.465 mm
weight: 62 kg
shop air: 6 - 10 bar
diameter suction: 150 mm

Spray Gun and Tool Washers



Installation in zone 1 qualified.
CE compliant according to
Atex 2014/34/EU

Coagulation Basin



Automatic washing room



**Trend-setting cabinet washers for solvent and aqueous cleaner.
2 ergonomic constructed washers in one unit.
Serienmäßig bis zu 5 Pistolen gleichzeitig reinigen.**

LMW 115 Kombi AM/AM

- Completely robust stainless steel units. Both the washing room which is for the automatic wash cycle (solvent part) and the unit is completely made of stainless steel.
- Washing of up to 4 spraying guns at the same time possible
- Use of approved, robust, booster pumps
- Shop air with pressure reducer for blow out or spraying gun
- Automatic and manual cleaning at the same time (solvent part) and manual cleaning (aqueous part) possible
- Little cleaning-and solvent wastage
- Powerful suction

measurements: (L x W x H) 1090 x 670 x 1465 mm

weight: 109 kg

shop air: 6 - 10 bar

diameter suction: 150 mm

LMW 115 Aqueous-Washing side - Autom. washing room



Solvent-Washing Unit

- Automatic, timer controlled washing room. 2 gravity feed spray guns can be washed at the same time as standard.
- Automatic washing room with 15 cleaning blast pipes
- Automatic and manual cleaning at the same time
- Broad manual washing room
- Brush start-up with adjustable output in the circulation process
- Connectable fresh solvent jet for rinsing
- Adjustable brush output achieved by running a pump
- Automatic suction of solvent vapours
- Collecting tank (stainless steel) for bin

Aqueous-Washing Unit

- Broad manual washing room
- Continuous-flow brush start-up with circulation cleaner for manual cleaning
- Continuous-flow brush start-up with public water flow for rinsing
- Broad manual washing room
- Connectable fresh solvent jets for rinsing
- Coagulation function in basin with connectable support of coagulation process
- Coagulation set four-part

Filter System Coagulation



Installation in zone 1 qualified.
CE compliant according to Atex 2014/34/EU



Coagulation Basin



**Trend-setting cabinet washers for solvent and aqueous cleaner.
2 ergonomic constructed washers in one unit.**

LMW 115 Kombi AM/M

- Completely robust stainless steel units. Both the washing room which is for the automatic wash cycle (solvent part) and the unit is completely made of STAINLESS STEEL
- Washing of up to 4 spraying guns at the same time possible
- Use of approved, robust, booster pumps
- Shop air with pressure reducer for blow out or spraying gun
- Automatic and manual cleaning at the same time (solvent part) and manual cleaning (aqueous part) possible
- Little cleaning-and solvent wastage
- Powerful suction

measurements: (L x W x H) 1090 x 670 x 1465 mm

weight: 109 kg

shop air: 6 - 10 bar

diameter suction: 150 mm

Automatic washing room LMW 115 solvent side



Solvent-Washing Unit

- Automatic, timer controlled washing room. 2 gravity feed spray guns can be washed at the same time as standard
- Automatic washing room with 15 cleaning blast pipes
- Automatic and manual cleaning at the same time
- Broad manual washing room
- Brush start-up with adjustable output in the circulation process
- Connectable fresh solvent jet for rinsing
- Adjustable brush output achieved by running a pump
- Automatic suction of solvent vapours
- Collecting tank (stainless steel) for bin

Aqueous-Washing Unit

- Broad manual washing room
- Continuous-flow brush start-up with circulation cleaner for manual cleaning
- Continuous-flow brush start-up with public water flow for rinsing
- Broad manual washing room
- Connectable fresh solvent jets for rinsing
- Coagulation function in basin with connectable support of coagulation process
- Coagulation set four-part

Spray Gun and Tool Washers



**Trend-setting cabinet washers for aqueous cleaner.
Ergonomic constructed cabinet washer completely made out of STAINLESS STEEL.**

W 45 AM, INOX

- Completely robust STAINLESS STEEL units. Both the washing room which is for the automatic wash cycle and the unit is completely made of STAINLESS STEEL
- Automatic, timer controlled washing room
- Automatic washing room with 12 cleaning blast pipes
- Automatic and manual cleaning at the same time
- Manual washing room for devices up to 500 mm length
- Connectable continuous-flow brush start-up with circulation cleaner for manual cleaning
- Connectable fresh solvent jet for rinsing
- Flow brush start-up with public water flow for rinsing
- Coagulation function in basin with connectable support of coagulation process
- Coagulation set four-part (placed in cabinet base)
- Use of approved, robust, booster pumps
- Shop air for blow out-or spraying gun
- Little cleaning wastage
- Manual connectable powerful automatic suction

measurements: (L x W x H) ca. 500 x 700 x 1465 mm
weight: 60 kg
shop air: 6 - 10 bar
diameter suction: 120 mm

W 45 M, INOX

- Completely robust STAINLESS STEEL units. Both the washing room which is for the automatic wash cycle and the unit is completely made of STAINLESS STEEL
- Manual washing room for devices up to 450 mm length
- Connectable continuous-flow brush start-up with circulation cleaner for manual cleaning
- Connectable fresh solvent jet for rinsing
- Brush start-up with public water flow for final rinsing
- Coagulation function in basin with connectable support of coagulation process
- Coagulation set four-part (placed in cabinet base)
- Use of approved, robust, booster pumps
- Shop air for blow out-or spraying gun
- Little cleaning wastage

measurements: (L x W x H) ca. 500 x 700 x 1.465 mm
weight: 60 kg
shop air: 6 - 10 bar
diameter suction: 150 mm



Installation in zone 1 qualified.
CE compliant according to
Atex 2014/34/EU

Trend-setting express cleaning station specially qualified for intermediate cleaning of paint spray guns with gravity feed system (RPS, PPS). The gun center allows an extremely safe change of colours and quick, economic working. Ergonomic constructed cleaning station completely made out of robust STAINLESS STEEL.

PC 30 AM, INOX

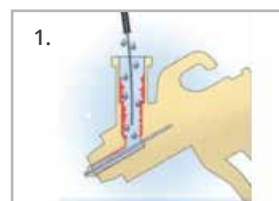
- Completely robust STAINLESS STEEL version
- 2 outputs make it possible to use solvent and aqueous cleaner at the same time
- Hardwearing cleaning brushes for cleaning of the air flap
- Shop air for blow out or spraying gun
- Little wastage of solvent and cleaner. With 2 liters of cleaner approx. 150 guns can be cleaned
- 2 blowout openings prevent spray mist
- Range of use in spray booth or in preparation area
- Safe and quick change of colours in approx. 20 seconds when used in the spray booth
- No suction needed

measurements: (L x W x H) ca. 360 x 240 x 805 mm

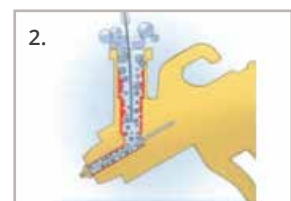
weight: 11 kg

shop air: 6 - 10 bar

Cleaning Principle:



1. The small hose is plugged into the colour channel of the gun.



2. By pressing the key the colour channel is filled with cleaning fluid (solvent or aqueous optional).



3. Next air is fed through another hose into the colour channel of the cleaning fluid. Micro-foam develops, which removes varnish and residues.



4. For cleaning the air cap piece there is a cleaning brush in the gun center. The varnish remains and the cleaner is disposed of and gathered in a blow-out opening.

Accessories for Parts- and Spraying Gun Washers



AQUA REMOVER (especially for water varnish)

Cleaning fluid for manual and automatic cleaning is delivered as concentrate. Mix ratio 1:1 - 1:4 - according to requirements -

Contains anticorrosive additives (so that the guns will not be affected).

Package: 5 liter + 10 liter containers (amounts up to fivefold quantity).

CONTAINER SEALING PLUG



Contains HDPE
With hose feed-through

CONTAINER - bleeds off potential static



Plastic - bleeds off potential static - UN 3H1/Y1.5/150

30 liter (Measurements:
length x width x height approx.
365 x 240 x 450mm)

60 liter (Measurements:
length x width x height approx.
400 x 335 x 630mm)

CONTINUOUS-FLOW BRUSH



Hollow brush handle
and lid

COAGULATION SET (FOUR-PART)



Very robust, big,
stable coagulation set
composed of 2 plastic tubs
(big + small), fine mesh filter,
coarse filter

FLOCS COAGULANT



Coagulant in powder form for
chemical treatment of circulating
washings (water varnish).

Specially for processing of AQUA
REMOVER. Extremely economical!
Wastage 1-2%

FILTER PRESSURE REDUCER



With filter/ moisture separator
1/4" internal screw thread
complete with drain valve,
manometer adjustment range
0-10 bar

FULL VIEW SAFETY GOGGLES



Very robust model with comfort fit, also designed for wearers of glasses and/or protective respirators.

SAFETY GLOVES



Better sense of touch and 50% less fatigue of the hand maximum abrasion resistance in accordance with DIN EN 388, as a result maximum lifetime. Length: 40 cm + 60 cm, Size 10

E-D-HALF-MASK-RESPIRATOR FFA2/P2R, DISPOSABLE EN 140:2002, EN 14387:2004 + A1:2008, CE 0120 CONFORM



Designed for effective protection against dust, solvents and organic vapors or gases.

NORTHSHIELD DISPOSABLE-COVERALL „PAINT PRO“ CAT. III, TYP 5B-6B



Designed for effective protection especially against overspray, splashes of chemical products as well as dusts and particles

SPRAYING GUN MAGNET HOLDER



Extremely strong magnet, universally usable

STAINLESS STEEL screwable



Earthing lug sparkproof

EARTHING LUG sparkproof



In accordance with instruction directive 94/9 EX (ATEX), extremely strong grip, wide span, sharp metal teeth which can grip through colour, rust, grease etc. 5 meter long coiled cable with plastic coating

BLOW-OUT GUN



For blowing off liquids, nozzle tube length approx. 11 cm; unit made of aluminium-pressure casting, completely fitted with connecting nipple. Connection threads 1/4" internal screw thread, operating pressure 1-10 bar, air consumption 120-600 liter /min.

DREFI

Machinery and Equipment
for spray gun and tool cleaning + solvent recycling and waste water treatment

SOLVENT & WATER RECYCLING



Solvent and Water Recycling

Solvent Recycling- and Processing Of Washings (e.g. Water Varnish Processing)

FIDI distilling apparatuses make it possible to recover and recycle solvent and/or aqueous cleaner (washing water) which are used for cleaning and degreasing in the different range of applications.

Since 1990 many thousand machines and industrial plants were delivered to auto body shops, metal- and furniture industry, print processing right up to large scale industry (e.g. varnish manufacturers).

Field Of Application

Mechanic-, electronic-, chemical-, pharmacy industry, as well as paints and coatings industry, resin manufacturing industry, polymer processing industry, leather and furniture industry, graphical industry.

Function Principle

The polluted solvents are heated up in a boiler made out of stainless steel and vaporize. The consistent heating up takes place via a coat of thermal oil (or vapour), which is heated up by one or several heating resistors.

A controlled thermostat and a microprocessor-controlled time controller steer the distillation and condensation. The solvent or water vapour gets through the steam collecting pipe into the radiator block and condenses there. The distillate is collected in a container and can be reused in an instant. The residues (pigments, resins, oils) stay in the boiler (recbag) and can be taken out easily after finishing the distilling process.

Unit Series RS

The unit series RS convinces by decades of experience. With the interaction of geometry and reliability, achieved by optimal use of the components boiler, oil jacket with compensatory system and broad dimensioned long-life heating elements the units set standards.

The units can not be outnumbered by their robustness. All units of the series RS can be equipped or expanded with vacuum systems, which will be called into action when certain solvents are used. Further the series RS can be upgraded with several extras like agitator, automatic loading, automatic draining (only fluid residue) and various process parameter.

Unit Series RSi

The units RSi 600 and RSi 1200, still reaching our high standard, are built in a simpler way. For many ordinary uses this at a reduced rate alternative will do and serve your enterprise to your satisfaction.

Security

Usually FIDI distilling apparatus work with barometric pressure or in vacuo. If the temperature rises caused by the breakdown of the cooling device or the thermostat the process of distilling is interrupted automatically. All units meet European standard e.g. ATEX 95 (directive 94/9EG). All units have the CE marking and meet the standard for zone 1.

The units of the series RS/RSi 12, 25, 60, 120 and 180 liters are further more examined and certified by the TÜV according to explosion control.

Effectiveness

Up to 99 % of the part of solvent, dependent of the degree of pollution, can be regained.

Costs / Amortisation

Low prices and operating costs secure a rapid amortisation. The amortisation periods depend on the costs for the solvents and their disposal. Usually they are located between 5 and 18 month.

Process Control with LCD-Display

For Solvent Recycling- and Processing of Washings

Finally arrived - a world-class innovation

The long used manual timer for time control was replaced by a process control with LCD-display.

Up to now this solution, which is suitable for explosion control potentially explosive area zone 1, was not affordable. This new control is applied to units RS 120 / RS 250 / RSi 600 + DT 250 / DTi 600 as standard. Next to a clear reading of processing times it is possible to fix the maximum process time on the processor.

1. 0 - 5 hrs.
2. 0 - 12 hrs.
3. 0 - 24 hrs.

Additional charge for various manual timers does not apply.

RS120 + RS250 + RSi600 programming



- 1 ON-OFF + Setting of process time
- 2 LCD (Liquid Crystal Display) - explosion proof
- 3 Setting of process temperature

RS120



Up to
99%
recovery

RS250



RSi600



Fixation of process duration



1. By using control knob "1" the duration of the distilling process time is fixed 2. Below on the left for 8 seconds the symbol * is flashing, until the duration of the process time is confirmed 3. To insert a new process time switch the knob on position "OFF" and repeat above mentioned instructions. On the display readable: duration of distillation/service announcement/alarm announcement/hours of operating service.

Solvent and Water Receycling

RS120




LCD-DISPLAY
and micro-
processor

RS250



LCD-DISPLAY
and micro-
processor

Recovery of solvent and washing water
(e.g. of the water varnish processing)

Model	RS120	RS250
Filling capacity	12 - 15 liter	25 - 30 liter
Boiler volume	18 liter	40 liter
Hours of distilling		
Solvent	approx. 3,5 - 4 hrs.	approx. 4 - 5 hrs.
Washing water	approx. 12 hrs.	approx. 13 hrs.
Cool-down period	3 - 7 hrs. (depending on operating temperature)	
Operating temperature	50 - 200 °C -T2- or 50 -180 °C -T3-	
Kind of running	barometric pressure	
Electric supply	230 V - 50 Hz	230 V - 50 Hz
Installed electric capacity	approx. 1,04 kW	approx. 2,10 kW
Vapour condenser	stainless steel Inox AISI 304	
Radiator block	aircooled	
Degree of protection	 II 2G IIA T2 (T3), installation in zone 1 qualified CE-conform - ATEX directive 2014/34/EU	
Measurements in cm (L x W x H)	600 x 600 x 1400 mm	600 x 1000 x 1200 mm
Approx. weight	75 kg	130 kg
Optional:	Vacuum equipment, filling facility, increase of the heat output, sight glass in lid, distillate collecting tank, recbags for easy cleaning	
Reduced price	Version with no explosion-proof (processing of washings)	

RS1200 + Sonderausstattung



Recovery of solvent and washing water
(e.g. of the water varnish processing)

Model	RS600	RS1200	RSi600	RSi1200
Filling capacity	60 liter	120 liter	60 liter	120 liter
Boiler volume	90 liter	160 liter	90 liter	160 liter
Hours of distilling				
Solvent	4 - 6 hrs.	4 - 6 hrs.	5 - 8 hrs.	5 - 8 hrs.
Washing water	approx. 17 hrs.	approx. 17 hrs.	approx. 20 hrs.	approx. 20 hrs.
Cool-down period	3 - 7 hrs. (depending on operating temperature)			
Operating temperature	50 - 200 °C -T2- or 50 -180 °C -T3-			
Kind of running	barometric pressure or vacuum			
Electric supply	400 V - 50 Hz	400 V - 50 Hz	230 V - 50 Hz	400 V - 50 Hz
Installed electric capacity	approx. 4,20 kW	approx. 10,20 kW	approx. 3,10 kW	approx. 6,60 kW
Vapour condenser	stainless steel Inox AISI 304			
Radiator block	aircooled			
Degree of protection	II 2G IIA T2 (T3), installation in zone 1 qualified CE-conform - ATEX directive 2014/34/EU			
Measurements in cm (L x W x H)	800 x 1200 x 1700 mm	1100 x 1500 x 2000 mm	700 x 1100 x 1500 mm	1000 x 1400 x 2000 mm
Approx. weight	320 kg	550 kg	250 kg	400 kg
Optional:	Vacuum equipment, extended microprocessor control, with large LCD-display, fully automatic filling facility, fully automatic distillate forwarding, scraper/agitator system, automatic drain, increase of the heat output, oil heat exchanger system, sight glass in lid, collecting tank (dirt dilution) distillate collecting tank, recbags for easy cleaning		Vacuum equipment, filling facility distillate forwarding, increase of the heat output, sight glass in lid, collecting tank (dirt dilution) distillate collecting tank, recbags for easy cleaning	

Reduced price Version with no explosion-proof (processing of washings)

Accessories for solvent and waste water recycling

LOCK RING



To fixate the rebags at the edge of the boiler, so the bag cannot collapse while filling

THERMAL-OIL for FIDI distilling apparatuses



5 + 20 liter trading unit

NON-STICK AGENT



To make the cleaning easier, we recommend using it also when rebags are used. It minimizes the bonding at bottom and sides of the boiler. Economical in usage.

VACUUM EQUIPMENT TYPE V1



Recommended for solvent with high boiling point or with low ignition temperature. Pneumatic with pressure differential controller for saving compressed air.

CONTAINER



Plastic - bleeds off potential static - UN 3H1/Y1.5/150
30 liter (length x width x height)
365 x 240 x 450mm,
60 liter (length x width x height)
400 x 335 x 630mm

COLLECTING TANK



Material AISI 430/EN 1.4016
Especially for our distiller units.
Different sizes.

CONTAINER SEALING PLUG



Contains of HDPE
With hose feed-through

CONTAINER industrial line, stainless



Different equipment:
- Filling
- Drain
- Recirculation
- Agitator
- Level controlling
- Safety levels

FULL VIEW SAFETY GOGGLES



Very robust model with comfort fit, also designed for wearers of glasses and/or protective respirators.

SAFETY GLOVES



Better sense of touch and 50% less fatigue of the hand maximum abrasion resistance in accordance with DIN EN 388, as a result maximum lifetime. Length: 40 cm + 60 cm, Size 10

E-D-HALF-MASK-RESPIRATOR FFA2/P2R, DISPOSABLE EN 140:2002, EN 14387:2004 + A1:2008, CE 0120 CONFORM **EARTHING LUG sparkproof**



Designed for effective protection against dust, solvents and organic vapors or gases



In accordance with instruction directive 94/9 EX (ATEX), extremely strong grip, wide span, sharp metal teeth which can grip through colour, rust, grease etc. 5 meter long coiled cable with plastic coating

COVER GASKETS



Standard gasket (black)
Acetone gasket (grey)
TEFLON gasket (white)

SIGHT GLASS IN LID with wiper



For process control
2 sight glasses in lid of boiler. One of them with wiping system

DEFOAMER TYPE LM



Use is recommended when foaming solvents are treated.
Extremely high effectiveness
Addition depends on product (foam) 1-3 %.
Silicone-free

DEFOAMER TYPE WA



Use is recommended when foaming detergents (mostly water varnish) are treated.
High effectiveness.
Addition depends on product (foam) 1-5 %.
Silicone-free

DREFI

Machinery and Equipment
for spray gun and tool cleaning + solvent recycling and waste water treatment

RECYCLING BAGS



Recycling Bags



RECBAGS FIDIAMID 230 (welded)

For easier cleaning, welded, ATEX-approved. The recbags are in accordance with instruction EN 13463-1:2002, attachment C tested and certified. Heat-resistant up to 230°C.

12 + 25 liter units RS 120 + RS 250 approval print and punched thickness 50 μ .

60 + 120 liter units RS(i) -600 + RS(i) 1200 approval print, thickness 50 μ + 70 μ .

Other sizes on request.



RECBAGS FIDIAMID 230 (clipped)

For easier cleaning, clipped. Same as above, but instead of welded seam these bags are clipped, so they are stronger.

Recommended when high amount of residue in boiler, or for remaining quantity of powder (powder coating).

Industrial Distilling Apparatuses

The industrial facilities are equipped with an intern agitator and scrapers (by request), which keep the product moving and avoid adherences at the sides or the bottom of the boiler. The boiler is made of 8 mm V2 stainless steel; it is turned and guarantees a high resistance and long durability.

The total capacity of the boiler is higher than the maximum filling capacity; therefore one can get a perfect separating of solvent and pollution by reduction of drag along-phenomenons.

The diameter of the boiler is very broad compared to the depth of it, this enlarges the evaporation surface, the distilla-

tion gets optimized and the boiler can be tipped over nearly completely so that the drain and cleaning of the boiler is extremely simple. The microprocessor-controlled monitoring makes it possible to have optimized action corresponding to the actual product which is treated.

The process is at the most parted into 6 steps (maximum) and makes it possible to adapt the results straight away with the development of the physico-chemical phenomenons in particular taking account of specific heat, evaporation energy, steam current and several distillation temperatures.



This flexibility enables to:

- Degree of separation of liquid-liquid, liquid-solid and a concentration
- Drying of the residue on the highest possible physical level
- Specific corrective interventions in the extent and duration of the elimination of abnormal foaming
- Linearity and constancy of the difference of temperature between heating medium and product also for thinner with extremely wide range of distillation
- Safe treatment of thermolabile solvents and pollution



DREFI

Machinery and Equipment
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PROCESS WATER TREATMENT



Process Water Treatment

VACUUM EVAPORATOR for process water treatment

Fidi has attended to the problems of process water treatment and offers a system which has many advantages compared to the conventional methods of process water treatment. The FIDI-system is able to solve problems in a technical, economic and ecological way. The principle is based on evaporation of waste water under negative pressure (residual pressure approx. 30 mbar). The boiling temperature of the waste water is 30°C. The low boiling temperature combined with the construction of the industrial plant offers many advantages such as:

- No thermic decomposition of the product in the waste water (further use)
- Very little encrusting
- Very good distilling results (further use)
- High concentration of residue
- Low use of energy
- Fully automatic SPS-controlled method of operation requires low employment of staff
- With one industrial plant different kinds of waste waters can be chemically treated

FIDI-vacuum evaporators are built in a standard make with a daily output of 150-20.000 ltrs. (bigger on demand). The units are totally independent and can be used 24 hours a day. The range of application is almost unlimited.

The industrial plants are manufactured in different series of models, so your specific requests can be considered. Our innovative construction of the units makes it possible to develop and construct an optimal system for you!



FIDI EVAPORATORS

Solving the problem of disposing industrial wastewaters: Lowering residue volumes as well as recycling wastewater or simplifying wastewater disposal.

FIDI EVAPORATORS operate the way that water is separated from other products, which are dissolved herein.

The (liquid) solution is boiling during the evaporation process. The water steams away, condensates and the condenser water is draining. Those contaminations, which are less exhalable, remain in the evaporator and are discharged afterwards.

Advanced and modern technology

Heating Condensation: with heating pump	➔	Maximum output, minimum costs.
Operation pressure	➔	Evaporation process with reduced temperatures allows to significantly lower energy consumption as well as corrosion effects.
Process: Single or multiple effects	➔	Technology is designed for small and large volumes.
Programming: Microprocessor	➔	365 days of operation without supervision supported by original FIDI or SIEMENS SPS Software.

More than 20 years of experience in the field of wastewater treatment and recycling create a stable basis for trust and reliability in our work.

Identification

Series	Hours/Production	Heating	System	Type	Effects	
WT	Heating pump	HP	inner serpentine	S	1 E*
		Hot water	HW	grater	R	2 E
		Steam	HS	accelerated circulation	CF	3 E
		-	-	natural circulation	Cn	-

Process Water Treatment

Application fields

FOOD AND CONFECTIONERY INDUSTRY:

- Recovery and concentration of sugar solutions

GRAPHIC ARTS AND PHOTOGRAPHIC LABS:

- Concentration of developing and fixing baths
- Concentration of roller rinsing water
- Recovery of inks from the washing water

DUMP SITES:

- Treatment of percolation water

OENOLOGY:

- Concentration of must
- Elimination of sulphate
- Preparation of medical herbs
- Recovery of solvents utilised for extraction process

MEDICAL PLANTS:

- Recycling of solvents being used during extraction

PHARMACEUTICAL, CHEMICAL, COSMETIC INDUSTRY:

- Wastewater retreatment coming from reactor operations and washing

GALVANIC INDUSTRY:

- Recovery of metals from washing process (Chromium, Nickel, Copper)
- Concentration of polluted baths (degreasing, pickling)
- Recovery of solvents utilised for extraction process

RUBBER INDUSTRY:

- Recovery of vulcanisation salts
- Purification of washing water

DAIRY INDUSTRY:

- Recovery of proteins from milk wheye

MECHANICAL INDUSTRY:

- Concentration of oily emulsions
- Concentration of liquids from finishing processes
- Concentration of washing baths

OIL MILLS:

- Treatment of water from oil presses

GOLDSMITH'S INDUSTRY:

- Concentration of washing and picking process
- Recovery of gold from the residue of the treatment process

PRESSURE DIE-CASTING:

- Concentration of working liquids (detaching product, glycol, lubricants)

FOOD INDUSTRY:

- Recovery of food additives from different industrial process liquids

COLD MEATS AND SALAMI INDUSTRY:

- Concentration of process broth
- Recovery of greases and gelatine

DRY CLEANER'S PLANT:

- Recovery and concentration dyes and washing liquids

THERMAL TREATMENT:

- Recovery of tempering salts
- Purification of washing water

PAINTING PLANT:

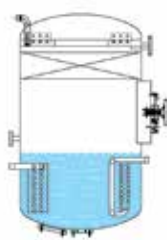
- Concentration of oily emulsions
- Recovery of solvents
- Concentration of phosphoric degreasing baths

HEAT PUMP EVAPORATORS



WT...HP-S Mono-block units - Heating with immersed serpentine

- For the treatment of non-encrusting liquids
- For oil-water emulsions with concentrations < 20%
- For waste streams from die-casting and industrial degreasing



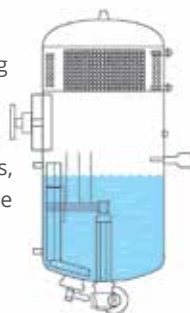
WT...HP-Cf Modular machines - with forced circulation

Units with Modular design: Evaporator Heating Condensation. Constant circulation of the product to be treated in high-efficiency expansion chamber

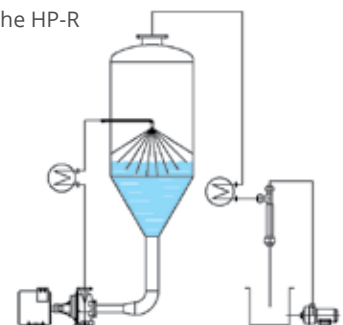
- For high hourly throughput
- For waste streams with a density < 1,25 kg/liter and suspended solids concentrations < 20%
- Reduced sensitivity to foam formation
- Optimal accessibility for maintenance
- Low energy consumption

WT...HP-R Mono-block units - Heating with external serpentine - Scraped boiler

- Versatile units for the treatment of a wide variety of liquids and particular for encrusting liquids
- The scraper favours the heat exchange and the concentration of high particulate residues, avoiding the encrusting of the heating surface
- Low energy consumption
- Compact dimensions design



When higher residue concentrations have to be achieved, these units can be assembled with units of the HP-R series.



These units can be assembled with optional concentrators on the residue outlet for maximum concentration of the process residue.

Process Water Treatment

WARM-WATER AND VAPOUR HEATED EVAPORATORS



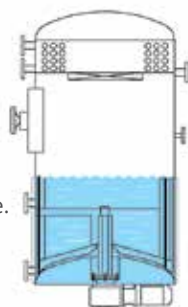
Using warm water or steam sources already available at the customers' site, energy savings can be considerable with reduced investment costs.

The units are of simple construction and deliver a guaranteed high production rate due to the high heat exchange coefficient of water and steam.

WT...HW-R / WT...HS-R Monoblock units - Heating with external serpentine

- Scraped boiler
- Versatile units for the treatment of a wide variety of liquids and particularly for encrusting liquids
- The internal scraper / mixer favours the heat exchange and the concentration of the residue, avoiding the encrusting of the heating surface
- Compact design

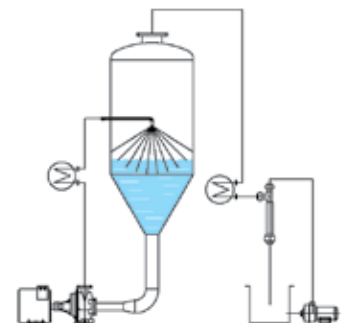
These units can be combined with optional concentrators on the residue outlet for maximum concentration of the process residue.



WT...HW-Cf / WT...HS-Cf Modular machines - with forced circulation

Units with separate groups: Evaporator Heating Condensation

- Constant circulation of the product to be treated in high-efficiency
- For highly hourly throughput
- For waste streams with a density <math><1,25 \text{ kg/liter}</math> and suspended solids concentrations <math><20\%</math>
- Reduced sensitivity to foam formation
- Optimal accessibility for maintenance



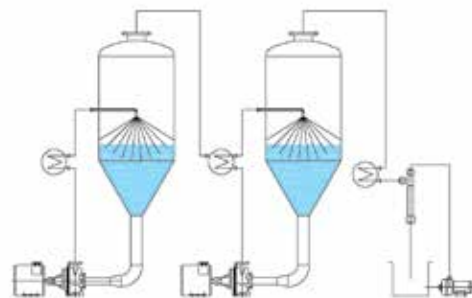
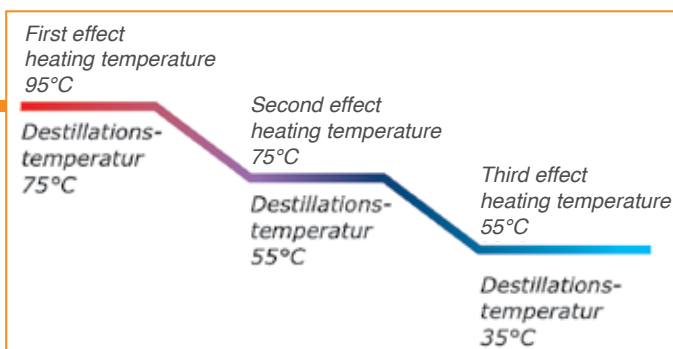
WARM-WATER AND VAPOUR HEATED EVAPORATORS

WT...HW-2 / 3E, WT...HS-2 / 3E Modular units with multiple effects

Units equipped with two or three boilers (called two or three effects) operating in series. A different evaporation temperatures. Another advantage is the automatic sterilisation of the product in the third effect, making the units highly recommended for use in both pharmaceutical and food industry.

This technology allows the reduction of energy costs by two-thirds, combined with minimal investment costs.

- For waste streams with a density <1,25 kg/liter and suspended solids concentrations <20%
- Maximized hourly production
- High distillate quality
- Minimal operating costs

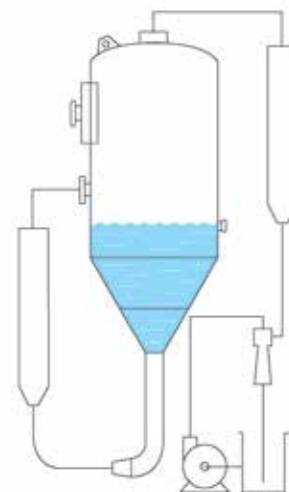


WT...HW-Cn / WT...HS-Cn Modular Units - with natural circulation

These units are designed to treat highly aggressive products. During treatment of sulphuric acid, hydrochloric acid, hydrofluoric acid etc. the movement of the process liquid with pumps is always a critical application.

FIDI allows for the treatment of these liquids in a safe and simple circuit using natural circulation.

The use of highly resistant plastic materials and alloys guarantees corrosion resistance.



We bring together what belongs together: service, quality and reliability.

At DREFI we present the brands DREHKOPF and FIDI as well as our new brand NORTHSHIELD.

We pool resources and competencies, focused on our customers. All in order to continue offering products of highest standards.



NORTHSHIELD®
A DREFI BRAND

High-grade and adequate personal protective equipment for various working environments and – compliant to all relevant standards, risk-reducing, safe.



DREHKOPF®
A DREFI BRAND

High-quality paint accessory products for various fields of application in all industrial and crafts sectors – performance-minded, straightforward, effective and user-friendly.



FIDI®
A DREFI BRAND

Machinery and equipment for highest demands in all areas of solvent recycling, waste water treatment, processing process water as well as cleaning spray guns and tools – professional, cost-efficient, sustainable.

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