



Kieselguhr filter with pump



USE	The filters of the 400/DA serie are used for the filtration of liquid foodstuffs, like: wine, cidre, wort, fruit juices, syrups, liquors, herb essences.
HOURLY OUTPUT	ART.1000 and 1001 and l'ART. 1007 ca. 30 hl ART.1002 and 1003 and l'ART. 1008 ca. 45 hl (Hourly output values are indicative and relate only in this specific case, the hourly rate of the pump under pressure of 0.2 atm. with water).
MATERIALS	Bell inside in stainless steel AISI 304 Supporting abutment with anticorrosive coating with enamel in the form of epoxic powders placed in the oven. Taps in plated brass. Fittings and pipes in non-toxic materials. Wagon wheels in steel with enamel in powder form
DIMENSIONS OF CONNECTIONS	Art. 1000-1001/DA ASPIRATION 30 mm OUTLET 30 mm Art. 1002-1003/DA ASPIRATION 30 mm OUTLET 30 mm
VOLTAGE MOTOR	220/Volts 50 Hz MONOPHASE 380/Volts 50 Hz TRIPHASE
FILTRATION SYSTEM	CELLULOSE FIBRES OF FOSSIL FLOUR (adjuvants of filtration)
SUPPORT ADJUVANTS	Cuff in nylon, length ca. 22 m Theoretical filtration area ca. 24 m ²
DIMENSIONS	Hight 88 cm. Width 58 cm. Lenght 158 cm.



Legend

ASPIRATION ASPIRATION	PIPE and VALVE A PIPE and VALVE V	MAX. 2 m. MAX. 5 m
DRAINING	PIPE and TAP S	Included with the delivery
OUTLET OUTLET	PIPE and VALVE M PIPE and VALVE R	MAX. 1,5 m. MAX. 2,5 m.
BASIN BASIN RECIPIENT FOR BACK LOOPS	W T Z	

GENERAL WORKING PRESCRIPTION

- 1) IT IS ESSENTIAL TO MAKE THE CONNECTION WITH A POWER WITH GOOD EARTHING.
- 2) DO NOT WASH FILTER WITHOUT UNPLUGGING THE PLUG.

We disclaim any responsibility in case of non -compliance with the requirements listed above.

CONNECTING THE WORKPLACE

Previously place recipient Z (capacity 100/150 liters) under the discharge valve of basin W.

Cut the pipe to the recommended lengths.

Tighten the pipes to the nozzles by means of a collar. Tighten the fittings washers tips on the appropriate thread.

Pipe A should go to the place opposite to the discharge valve W, S and R pipes bound together, will be fixed to the container Z at the base of the discharge valve of the basin W. The pipe M sends the filtered liquid in the tank Y. The pipe V descend to 5-6 cm from the bottom of the basin W.

OPENING THE FILTER	Unscrew the discharge nozzle which is located at the base of the abutment plate. Loosen the four flying clamps. Rotating the clamping wheels 180 ° starting outwards from those above.
FITTING THE NYLON BAG	NEW BAG MUST BE PLUNGED IN RUNNING WARM WATER 35 -40°C, AFTERWARDS LET DRY IN EXTENDED FORM SLIDE the bag to the plate stop, link out of the bag with a rubber band. Put the rest of the bag evenly narrowed. Use the supplied rubber bands
CLOSING THE FILTER	Insert in the cylinder the perforated strainer with the bag already mounted. return to the lower discharge hole of the stop plate. Align the eyelets plate with corresponding tightening the flying clamps Tighten the flying clamp beginning with the two below.

**PREPARATION OF THE SUBLAYER**

Fill container Z with the previously filtered and clarified liquid.

This not being possible for the first filtration, it is recommended to use water.

By using the liquid to be filtered to make the sublayer, a lower quantitative yield will be obtained. It is not surprising that the clarification agent is entirely precipitated if the liquids, which have previously undergone clarification treatments, are filtered with bentonites or gelatins.

Add the amount of fossil flour and cellulose fibre recommended in the table to container Z.

The amounts that we recommend are indicative; they may be adjusted depending on the density of the liquid to be filtered as well as the brand of the producer.

The most suitable amounts should be determined by the operator him/herself.

MIX SLOWLY in order not to get air bubbles in the liquid.

FILLING THE CYLINDER

PRIMING THE PUMP. To be performed on a new machine or each time that the pump body is emptied. The operation is carried out by introducing a small amount of wine or water into the pump body.

In the case of a ready-primed pump, operate the diverter valve placed on the cover plate of the motor circuit. As a consequence, the liquid in reservoir Z should quickly diminish. If this does not happen, reverse the position of the electronic control switch

Under these conditions, the valves and tap are in the following positions:

VALVE A OPEN

VALVE V OPEN until the wine reaches the pump body then CLOSED

VALVE M CLOSED

VALVE R CLOSED

TAP S OPEN

When liquid begins to come out of the pipe from tap S, open IMMEDIATELY:

VALVE M in the COARSE FILTRATION operating position.

VALVE M in the FINE FILTRATION operating position.

COARSE FILTRATION OPERATION (for musts and cloudy wines).

With the valves and tap positioned as above, A RAPID LOWERING OF THE LEVEL IS NOTICED in reservoir Z until it is fully drained, and consequently, air is sucked in by the pump. In order to avoid this, before the aperture of hose A is uncovered:

SLOWLY OPEN VALVE V

CLOSE VALVE A

The cycle travelled by the liquid to be filtered in the coarse filtration operation is as follows:

The liquid to be filtered from bowl W through hose V is sucked by the pump which sends it into the cylinder where it must pass through a layer of cellulose or fossil flour that has been placed beforehand on the folds of nylon bag; the layer of these additives should hold the impurities contained in the wine in proportion to their own compactness. Given that the additives used for coarse filtration do not form a very compact layer, we obtain cloudy wine or liquid at the filter output. At the filter output, through hose M, the coarsely filtered liquid will go directly into bowl Y. Tap S remaining open provides the dual role of restoring the level of liquid in container Z and acting as a bypass. This tap should only be gradually closed when the pressure shown on the manometer is 0.6+0.8 atm.

REINSTALLATION OF THE FOSSIL FLOUR DURING FILTRATION

(instructions only valid for fine filtration)

This operation must be carried out in order to substantially increase the quantitative yield of the filtered product. Proceed as follows: add fossil flour into container Z according to the table at the end of the booklet (container Z should obviously always contain 50+60 litres of liquid), while mixing slowly. At the same time, OPEN VALVE A BY 50%. At the same time, regulate the opening of the valve according to the liquid contained in container Z. It should NEVER run out of liquid.

**FINE FILTRATION OPERATION**

IMPORTANT PRELIMINARY CONDITION. Fine filtration of a liquid is possible if the following conditions are checked: The mass of the liquid to be filtered must be completely homogeneous, i.e. bowl W should contain coarsely filtered liquid for a short time.

The liquid to be finely filtered must not contain any suspended chemical clarification residue.

Fine filtration is not an option when you cannot distinguish the exterior silhouette of a switched-on lamp through the liquid in a glass; all of the liquid must undergo coarse filtration in such cases.

With the valves and tap positioned as indicated in the FILLING THE CYLINDER section, the cycle of the wine, in the fine filtration operation, is as follows:

The liquid mixed with the additives from container Z, with the opening of valve R, returns to container Z while leaving the additive on the outside of the bag as sublayer (see diagram at the end of the booklet). After approx. 8 minutes, only finely filtered liquid without additive remains in container Z. If the degree of fine filtration is not sufficient, gradually add fossil flour into container Z as long as it does not come out of the finely filtered liquid from the hose. The tap and valves must thus be operated in the following way:

VALVE M OPEN
VALVE R CLOSED
VALVE V OPEN
VALVE A CLOSED
TAP S CLOSED

With the valves positioned as such, direct filtration from bowl W to bowl Y is obtained.

Add fossil flour during filtration as explained in the REINSTALLATION OF FLOUR section, Fig. at top of page.

Continue to filter until a sufficient quantity of liquid is no longer coming out of hose M. In any event, do not exceed the maximum filter pressure of 1.1 - 1.3 atm.

CAUTION

THE QUALITATIVE STABILITY OF THE FILTERED PRODUCT DEPENDS EXCLUSIVELY ON THE MAINTENANCE, DURING ALL FILTRATION OPERATIONS, OF A HOMOGENEOUS WALL ON THE OUTSIDE OF THE NYLON BAG.

IN ORDER TO ENSURE THIS, AVOID:

SUCKING AIR THROUGH THE SUCTION HOSE

CLOSING VALVES A, M AND R SIMULTANEOUSLY

ALSO CLOSING, EVEN PARTIALLY, THE VALVES IN QUESTION (it is absolutely impossible to vary the flow rate of the filter by adjusting the valves)

STOPPING THE MOTOR

MOVING THE TROLLEY DURING FILTRATION.

If one of the situations listed above occurs, the filter should be returned to its initial installation condition by immediately placing the valve levers in the following positions:

VALVE R OPEN
VALVE M CLOSED
TAP S OPEN then closed
DISCHARGE VALVE FROM BOWL W CLOSED



WASHING THE FILTER

WASHING BEFORE FIRST USE	: It is necessary to carry out an initial wash by circulating a mixture of water and citric acid or other chemical substances of a similar nature inside the filter itself and the hoses used, in order to remove residues from workshop activities and unpleasant odours. It is up to the user to decide when to repeat it during subsequent filtration operations.
NORMAL WASHING	: It is crucial each time that: 1) the pressure displayed on the manometer shows its maximum value of 1.1 + 1.3 atm. 2) you go from filtering red wines to white wines 3) you have to finely filter a wine that was previously filtered coarsely 4) you have finished with the wine to be filtered

DISCHARGE OF RESIDUAL LIQUID

Operations to be carried out always with the motor running:

- 1) Leave hose A sucking air.
- 2) Wait for quite a long time until some filtered wine firstly flows from hose A and then from hose R.
- 3) Lift by 10/12 cm and wedge the trolley's adjustable wheel.
- 4) Place a container under the outlet connection of the abutment plate.
- 5) Unscrew the connector from the nozzle while collecting the filtered liquid.
- 6) Open bleed tap S.
- 7) Stop the motor and detach the POWER SUPPLY PLUG.
- 8) Open the filter very slowly while collecting the residual cloudy wine.

WASHING THE BAG

- 1) Place the abutment plate with the filter screen in a vertical position (Fig. 2a).
- 2) Place two containers with a capacity of 70+100 litres on the sides.
- 3) flow running water into one of the two containers.
- 4) untie the elastic bands on the bag.
- 5) Slowly remove the nylon bag from the filter screen and place it into the container of water.
- 6) Pass the bag from one container to the other two to three times by threading it between your hands.
- 7) Spread the bag out to dry it or replace it on the filter for subsequent use.

The time it usually takes between stopping filtration and starting up again with the washed bag is approx. 10 minutes

MAINTENANCE INSTRUCTIONS

If the filter is not going to be used for long periods, you are recommended to carry out the following operations:

- 1) Circulate in the reassembly position 100+120 litres of water with citric acid (the bag will always be washed separately in water with citric acid added).
- 2) Remove the cylinder, unscrew all nozzle connectors.
- 3) Remove pump body by tilting the filter trolley.
- 4) Remove rubber trim on abutment plate, coat it with vaseline or similar, seal it in a cardboard box and store separately.
- 5) Leave the hoses in discharge position.
- 6) Leave the filter open.
- 7) The fully washed nylon bag may only be folded and replaced when it is completely dry.
- 8) Greasing and lubricating: the threads of clamping knobs, axles and wheel bearings.



<u>NOMENCLATURE OF MOST COMMONLY USED REPLACEMENT PARTS</u>	Name
Art.	
0040	Elastic pin
0041	Spacer
0042	Washer
0043	Clamping knob
0044	Sealed valve
0045	Manometer
0046	Bleed tap S
0047	Rubber trim
0048	Perforated filter screen
0049	Elastic bands for bag
1020	NYLON BAG 22 m.
0050	Adjustable wheel
0051	Fixed wheel
0052	1" ball valve
0053	Connectors for nozzles
0054	Curved nozzle Ø 30
0055	Straight nozzle Ø 30
0056	Couplings 1" x 1"-1/4
0057	Anticorrosive abutment plate

TABLE SHOWING CORRECT USE OF ADDITIVES BEFORE FILTRATION

Operation to be performed	EXTERIOR WALL	WALL	hl* PRODUCTION	RESULT
1) COARSE FILTRATION (musts, young muscats, clarified wines)	CELLULOSE FIBRE GR. 500 (short fibre)	COARSE FILTRINE GR.800	10 - 12	CRUDE
2) FILTRATION Musts, Muscats, Young wines already treated in operation 1	CELLULOSE FIBRE + MEDIUM FILTRINE 30% GR.800	MEDIUM FILTRINE GR. 1000	30 - 45	SEMI-FINE
3) FINE FILTRATION	C. FIBRE (long f.) + FINE FILTRINE 30% GR. 1000	FINE FILTRINE GR. 1000	60 - 100	FINE

* Production in hl related to the quantity of wine that succeeds in going through filtered before the filter itself is clogged.

The recommended weights will obviously vary depending on specific requirements of each type of product to be filtered.



INSTRUCTIONS FOR THE USE OF FOSSIL FLOURS (RECOMMENDED QUANTITIES IN GRAMMES)

STARTING PRODUCT	FILTRATION	RECOMMENDED FOSSIL FLOUR	FAMILY / 200 FAMILY GRAMS
-WORT (SANS PEAU NI PEPINS) -CLOUDY WINES	ROUGH FILTRATION	ART. 23801 MEDIUM FLOUR	300/400
-CLARIFIED WINES -ROUGH-FILTERED WINES -SIPHONING	FILTRATION	ART. 23803 SUPERFINE FLOUR	300/400
-OLD WINES -WINE FOR BOTTLES -WINE TO FILTER IN CARTONS OR BRICKS	FINE FILTRATION	ART. 23822/23821 CELLULOSE FIBER* ART. 23803 SUPERFINE FLOUR	200/250 200/250

* USE OF THE CELLULOSE FIBER

The product quantity indicated on the basis of previously purchased filter is bathed in clean wine and amalgamated in a separate container, at least half an hour before use.

With the filter turned on and the bell filled with wine, pour the cellulose fiber in the reinstallation recipient. Once all the fiber is absorbed, put the fossil superfine flour in the reinstallation recipient.