



WATER AND MECHANICAL TECHNOLOGY S.R.L.

VACUUM FILTER



LIQUID VACUUM SANDWICH TUBE

Patent Nr. 01273048

And Nr. 01254551

LIQUID VACUUM SANDWICH TUBE

Is the logical continuation of the development introduced by its predecessor, the Liquid Vacuum Sandwich Panel.

From this it takes the filtering process technology (see filtering panel patent nr. 01254551 and nr. 01273048) that grant to reach a very fine medium filter degree.

New is the the filter panels back wash, through a turnover between all the filtering elements, using the cleaned coolant. The back wash index and the filter index has the same time.

The filtering elements can be from different typologies, from the triangular to the hexagonal shape, from the cylindrical to the leaf ones.

In engineering the LVST a special attention was given to the upgrade possibility of the old vacuum system with the new SANDWICH TUBE, increasing in that way the adaptability to any kind of working requirement.

Flow increasing, different filter degree for special operation on the same line, medium filter degree assurance are now feasible especially keeping the pre-existent carpentry structure.

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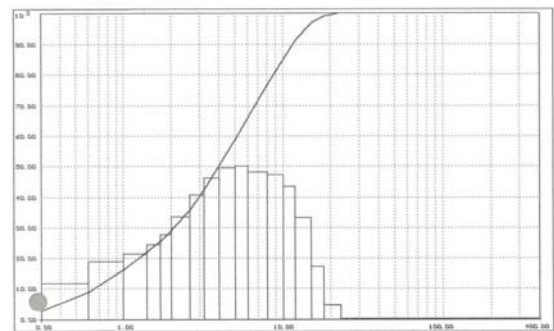
Granulometer 920 number 353          Version   : 3.30
05/21/2003 09:54:00                 Ref. CILAS : 4561C9300197F003C38D1
File name   : C:\GRANULOG\MPRES003.MES

Sample      : MAXI PRESSA 03

Liquid      : ACQUA
Ultrasonic mixer : 20 s. / Dispersing agent : ACQUA
Comment     : LINEA DISCAGLIATURA MAXI PRESSA
User name   : WMT SRL - FR
Plant       :
Place       :
Concentration : 16

Median size : 3.97 mu
Diameter at 10.0 % : 0.65 mu
Diameter at 90.0 % : 11.66 mu
Cumul. at 100.00 mu : 100.00 %
Number of measur. : 20
automatic dilution : No
Results : Weight distribution / Undersize
    
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D	0.30	0.60	1.00	1.40	1.70	2.00	2.60	3.20	4.00	5.00
C%	2.49	8.74	16.21	21.80	25.47	28.97	35.76	42.29	50.27	58.85
D	6.00	8.00	10.00	12.00	15.00	18.00	23.00	30.00	36.00	45.00
C%	65.92	76.67	84.85	90.97	96.70	99.15	100.00	100.00	100.00	100.00
D	56.00	70.00	90.00	110.00	135.00	165.00	210.00	260.00	320.00	400.00
C%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00



CILAS 920 N.353
CORPORATE PRODUCT LINE OF LUDOX®
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SYSTEM MANAGING

The system is handled by a PLC and, to control the working parameters, it is equipped with digital 4-20 mA or PROFIBUS devices.

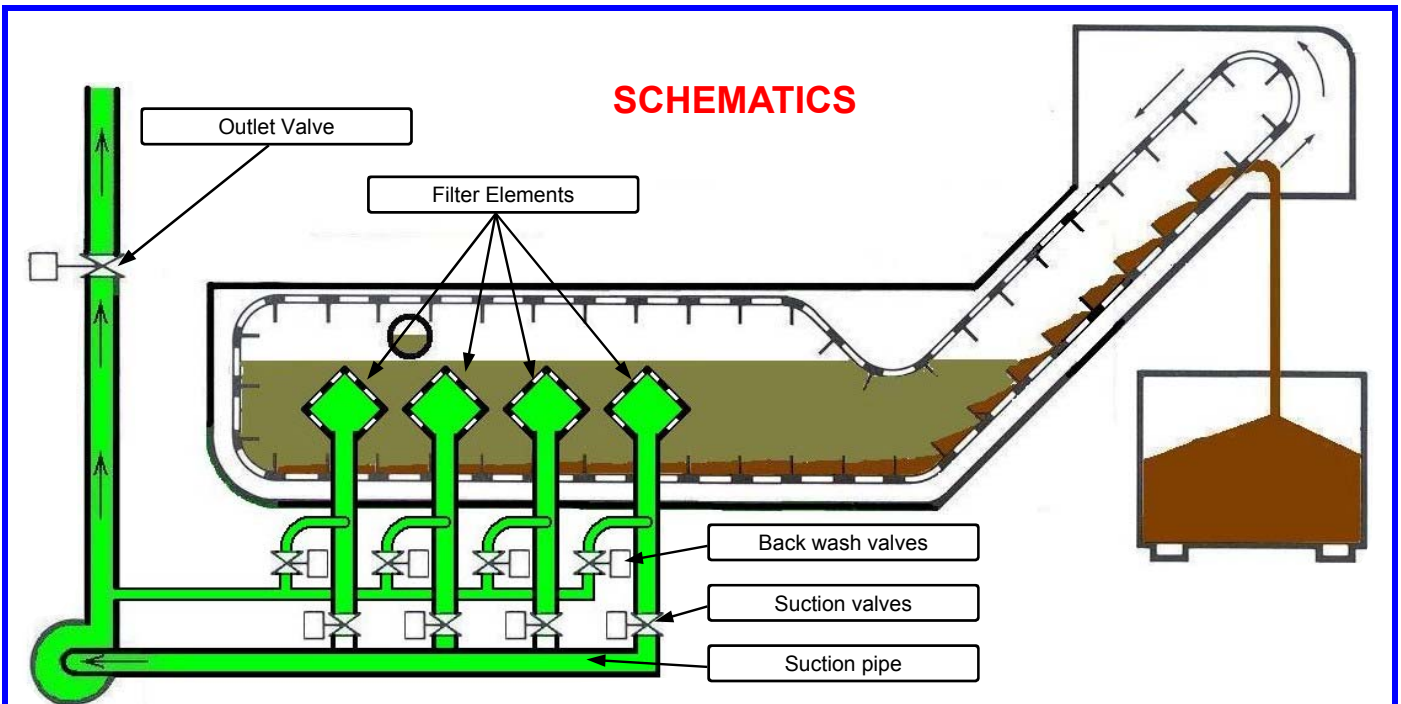
These devices, through a dedicated program, let the system work on variable condition in function of the pollution, chip or tramp oil, collected in the tank by the flumes. Six working mode, VERY SLOW, SLOW, NORMAL, FAST, VERY FAST, CONTINUOUS are the variable working condition.

Thank to the fully automatic logic and to the parametric working mode W.M.T. has developed a Remote Installation Administration System RIAS® that make possible, if necessary, to modify remotely the system parameters. This system also send, to a defined distribution list, in order to have a continuous monitoring, all the working parameters and the alarm signals to prevent undesirable shut down condition.

In such way we have improved the panels life, before it will be necessary their regeneration, till a period between 1 and 2 years with a consistent reduction of the filter media managing cost.



Suction and back wash pipe.



LIQUID VACUUM SANDWICH TUBE (Patent nr. 01254551 and nr. 01273048)

Looking at the above scheme you can notice that the new LVST system is different from the old one primarily for the filtering septum and for the backwash circuit.

That one simply use the same coolant sent to the operations assuring a constant filter elements cleaning due to the fact that the back wash index and the filter index has the same duration.

The tank, properly strengthened in the thickness and in the material typologies, in this filter became a simply dredging tank. In this way all the possible damages at the filter panels, due to tool or worked pieces falling, that happen in the traditional vacuum system are eliminated. It is also eliminated the panel consumption due to the drag conveyor mechanic wear.

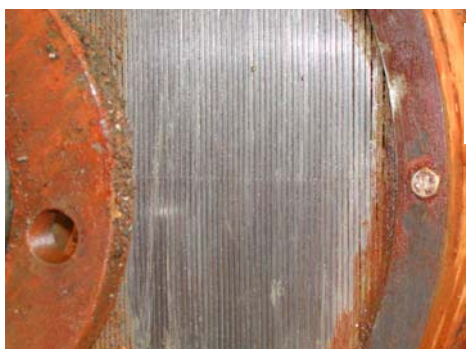
The new filter panel granted a greater steady performances.



Leaf Elements



Cylindrical Elements



Wedge-Wire detail



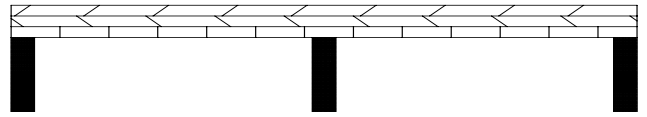
Quadrangular Elements

FILTER PANEL TYPOLOGIES

Patent nr. 01273048

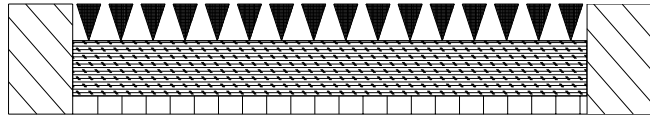
MP - MULTIPLATE PANEL

Filter panel made with superposed pressed, pressed and sintered, sintered wire gauze with a filter degree of $1 \div 5 \mu\text{m}$, regenerable with 200 ÷ 300 bar backwash or with ultrasound washing.



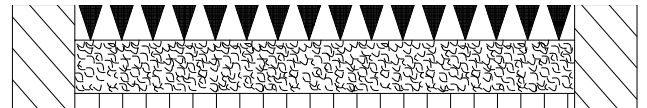
SP - SANDWICH PANEL

Filter panel made with: wear sliding material (usually wedge wire); pressed, pressed and sintered, sintered porous material such as metallic, animal, vegetable or synthetic material; support structure. This panels are regenerable with 200 ÷ 300 bar backwash or by changing the inside porous material.



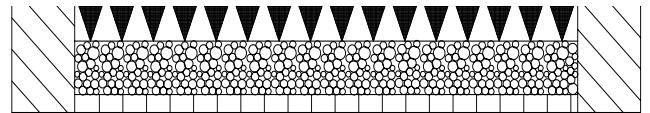
CP - CHIPS PANEL

Filter panel made with: wear sliding material (usually wedge wire); pressed, pressed and sintered, sintered porous material such as metallic, vegetable or synthetic chip; support structure. This panels are regenerable with 200 ÷ 300 bar backwash or by changing the inside porous material.



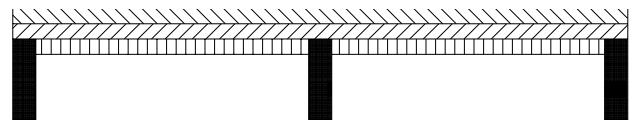
SI - SPHERICAL INSERT PANEL

Filter panel made with: wear sliding material (usually wedge wire); pressed, pressed and sintered, sintered porous material such as metallic, vegetable or synthetic granulated material; support structure. This panels are regenerable with 200 ÷ 300 bar backwash or by changing the inside porous material.



HT - HIGHT TEMPERATURE PANEL

Filter panel made with superposed pressed, pressed and sintered, sintered titanium wire gauze with ceramic insert with a filter degree of $1 \div 5 \mu\text{m}$, regenerable with 200 ÷ 300 bar backwash or with ultrasound washing.



SERVICES

Some services complete our offered product range:

- Engineering and/or furnishing of coolant piping.
- Engineering and/or furnishing of chip conveyor, mechanic, hydraulic or mixed.
- Engineering and/or furnishing of chip treatment.
- Engineering and/or furnishing of Remote Installation Administration System RIAS®.
- Granulometric coolant analysis with CILAS 920 device



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