

Do you have any problems with water distribution system fouling?
Here's our solution:

Magnetic liquid's treatment device EKOMAG

Tangential separator with increased impurities' separation

Gas separator



▲ Solution in physical way without chemistry, on the basis of magnetic field and hydrodynamics; behaves environment's friendly.

▲ Top products arisen on the basis of long-term operational tests.

▲ The device reduces the water stone formation on the walls of conduits, of boilers and of heat exchangers. It removes already created water stone gradually and eliminates at the same time impurities from the circulation flow.

elimination effects; it is protected with CZ patent.

▲ It brings assistance to the trouble-free operation of measuring and control technique.

▲ It reduces the economical pretentiousness of water heating-up and of central heating. The service time of the entire system becomes longer.

It saves your and your customer's money.



▲ It separates ferric hydroxides, causing the fouling of warm water systems. These settlings act more over like the nutrient field in reproduction of bacteria.

▲ It removes solid parts, settlings and other impurities from liquids and gases.

▲ The system is acting as prevention from the corrosion. The point corrosion caused with oxidation is removed effectively.

▲ Combination of the device increases separation and



Magnetic liquids' treatment device EKOMAG

This device prevents the formation of water stone lime deposits (incrusts). It removes the old water stone gradually and creates a protective magnetite layer on the piping. No chemical water quality becomes changed. The system prolongs the older systems' service life and effectively protects the new ones.

In water dissolved substances lose their potentiality of solid incrusts' creation and they are eliminated in a form of fine crystalline event, amorphous settlements. This is possible to be removed effectively by means of tangential impurities separator.

It is applicable for most of water sorts, including the industrial and waste ones.

Permanent magnets create an intense field without electric power supply. The system is free of costs for expensive chemicals, phosphates and salts for water softening. No operation involved. Its installation is very easy - by means of treaded connection in sleeves or by insertion into the piping and clamping into a flange connection.



Magnetic liquids' treatment device EKOMAG

Tangential separator with increased impurities' separation

The device serves for separation of fine-crystalline and amorphous settlements created within the operation of EKOMAG magnetic liquid treatment.

It eliminates solid particles, settings and other substances, which are heavier than the medium being cleaned. The device is possible to be used very successfully e.g. for separation of water, of oil as well as of solid impurities from compressed air.

Its efficiency is very high and it increases more when engaged in a circulation. For demanding requirements there exists the possibility to install more tangential separators in series arrangement.

The device has very simple handling. It operates without any electric power supply, needing no maintenance as operational expenses too. The operation is very easy to be automated.

Considering its capacity it is of small dimensions, being able to serve instead oversize settling tanks or screen filters. Eliminated impurities are possible to be fed effectively into the sewerage or in to collecting vessels eventually.



Tangential separator with increased impurities' separation

Gas separator

This device separates gas particles from liquids.

By the separation of air bubbles from the water it is prevented the air intake of heating and cooling systems. It does not come to the locking of thermostatic valves and automatics. The noisiness of systems does not increase.

It prevents the creation of the corrosion and the reduction of the efficiency and of the service life of the system in that way. During the technology processes in the industry production it dispose of the gas bubbles from liquids.

The elimination is continual with automatic separation. The efficiency is of high standard at high gas portion too.

The separator eliminates greater solid particles at the same time. The device operates without electric power supply, nor control or maintenance and is free of operation costs.



Protection of the exchanger station and of the entire system by means of EKOMAG device

Liquid's treatment magnetic device EKOMAG

Tangential separators with increased impurities separation

*These devices prevent the formation of water stone on the walls of piping,
of boilers, heat exchangers etc.*

*The device removes the gradually already created water stone
and simultaneously eliminates the solids from the circulation flow.*

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*Combination of both devices increases separating and eliminating effects,
being protected with Czech patent.*

It separates ferric hydroxides, acting the zinc washing off.

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*They reduce the economical pretentiousness of water heaters and
central heating systems.*

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*They prolong a lifetime of warm-water
systems - boilers, water conduits, radiators.*

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*They ensure trouble-free operation of measuring
and regulating instrumentation in measurement and regulation of heat and warm-water consumption.*

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They save your and your customer's money.

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They support the solution of enviromental problem.

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*High quality, useful size assortment,
short delivery-time, free-of-charge consulting warrant your satisfaction.*

EKOMAG - device for magnetic liquid treatment

Function of EKOMAG devices:

- * they prevent the formation of the water stone, of soft and hard settlings - incrusts, eliminate the arisen water stone and create protective magnetite layer of inner walls of conduit
- * they eliminate in water dissolved, in fine-crystalline event. amorphous settlings shape substances, which removed by means of tangential impurities separator
- * they improve the separating properties of impurities
- * they are affective in all sorts of water, including of industrial and waste one
- * the device is simple in installation - it's plugged into the conduit and attached in flanged connection (regardless of the position)

Permitted overpressure is 2.5 MPa and temperature to 150°C (centigrade) the pressure loss 0.5 to 10 kPa. Permanent magnet's supporting device is an anticorrosive steel make and the EKOMAG has therefore practically unlimited lifetime; for it's function is of no electric power, control and maintenance need and works without operating expenses.

Type	Rate of flow (m ³ /h)			s	l
	optimal	max.			
EM0 DN 8	0.01 - 0.5	0.6	-	125	
EM1 DN 50	1 - 18	24	6	250	
EM2 DN 100	14 - 80	120	6	265	
EM3 DN 150	30 - 170	220	7	280	
EM4 DN 200	60 - 315	450	8	210	
EM5 DN 300	150 - 650	950	10	240	

Type EM1 DN50 can be delivered with galvanized sleeve 3/4" and 1".
The device is protected with Czech patent.

Examples of EKOMAG applications:

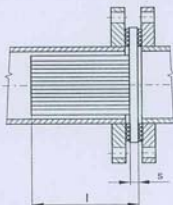
IN THE WATER SYSTEMS

hot water heating systems, heating-up of warm service water, protection of boilers, water meters and heat measuring instruments closed or opened cooling systems. It increases the settling abilities of dispersed particles at wastewater (municipal, industrial ones)

IN THE TECHNOLOGICAL PROCESSES

of sugar factories, foundries, paper production, sintering plants, for lubricating and cooling liquids, hardening processes, chemical industry, hydraulic engineering, agriculture, poultry houses, at laundries, fabrics dyeing, at foot industry for washing of bottles. At the treatment of batch water for concrete, at the ceramics, bricks and gas-silicates production it is increased their strenght.

EKOMAG reduces the power pretentiousness, brings substantial energy savings in many branches. It's a contribution to solve the environment's problems.



Tangential separators with increased impurities' separation

The device serves for separation of fine-crystalline and amorphous settlings created within the operation of magnetic treatment EKOMAG as of the other solid particles of 5 μm size or more from liquids with efficiency 75 to 98 % according to particles size. The device is possible to be used very successfully for separation of water, oil as well as impurities from compressed air, event. from other gases. Its efficiency is up to 99 %. For requirements of higher demand there exists the possibility of serial or parallel arrangement of tangential separators. They must be operated in vertical position. The device works without electric power, needs no control and maintenance and is free of operation expenses.

It's designed for working pressures 0.6 to 1.6 (2.5) MPa and temperature to 300°C (centigrade). The pressure loss at optimum flow rate is 10 - 40 kPa, at maximum flow rate 70 kPa.

Description of operation:

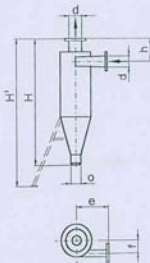
The tangential impurity separator with increased impurities' separation eliminates at its tangential inlet and under increase inlet speed the solids from liquids or gases by the effect of centrifugal force and differences of specific masses between impurities and basic liquids or gases. Cleaned liquid or gas is discharged with an axially located pipe of the separator. The impurities sink along the cylindrical and cone part of the separator into the lower collecting space, which off continuously or cyclically discharged. For settlings draining-off there is recommended the use of ball valves or automatics.

This device substitutes in some cases the settlings basins for sludge sedimentation or sand, event, screen filters. It can also lighten the sewage disposal plant. It separates the impurities and also the water from other liquids, e.g. fuels. It substitutes bulky gas filtering systems.

The application of tangential impurities' separator contributes the improvement of the enviroment.

Type DN	Liquid				Gas		Weight (kg)	
	Rate of flow (m ³ /h)		Rate of flow (m ³ /h)					
	Optimum	min.	max.	Optimum		Empty	Full	
TO 00 DN 8	0,1 - 0,4	0,05	0,6	0,01 - 4				
TO 0 DN 17	0,5 - 1,8	0,3	2	1 - 25				
TO 01 DN 25	1,5 - 4	0,8	4,5	2 - 40				
TO 1 DN 32	3 - 7	1,5	10	4 - 70				
TO 2 DN 50	10 - 20	5	30	14 - 550				
TO 3 DN 100	50 - 80	30	120	54 - 1500				
TO 4 DN 150	80 - 160	40	240	82 - 2800				
TO 5 DN 200	160 - 320	90	420	195 - 6000				
TO 6 DN 300	350 - 700	180	900	500 - 16000				

Type DN	d	H'	H	f	e	h	o	Empty	Full
TO 00 DN 8 (M12x1)	-	140	6,5	60	25	8	0,2	0,25	
TO 0 DN 17 (1/2")	-	210	13	110	40	1/2"	0,5	0,9	
TO 01 DN 25 (1")	-	295	23	135	42	1/2"	1,75	2,5	
TO 1 DN 32 (5/4")	-	650	41	150	150	1"	10	13	
TO 2 DN 50	50	-	895	66	180	5/4"	25	40	
TO 3 DN 100	100	1800	1580	95	430	230	2"	120	190
TO 4 DN 150	150	2700	2450	175	780	290	2"	190	490
TO 5 DN 200	200	3400	3150	225	1100	400	70	290	845
TO 6 DN 300	300	4200	3950	350	1500	580	100	420	1800

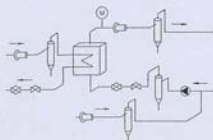


TO 00 - 01 is made of anticorrosive steel. TO 3 - 6 have own column.
The device is protected by Czech patent.

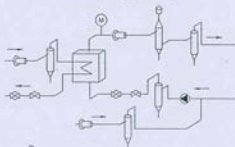
EKOMAG



Examples of magnetic treatment EKOMAG and tangential impurity separator use in warm and service water and central heating

Warm and service water exchanger



Central heating exchanger

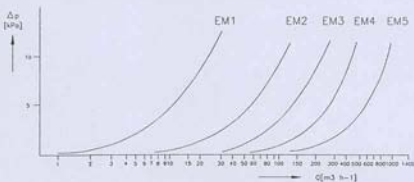


 Tangential impurity separator TO and ball valve
 Magnetic liquid treatment EKOMAG EM

 Gas separator

Recommended distance between EM and TO is 3 meters.

The pressure loss of magnetic liquid treatment – EKOMAG



The pressure loss of tangential impurity separators

