STUDY

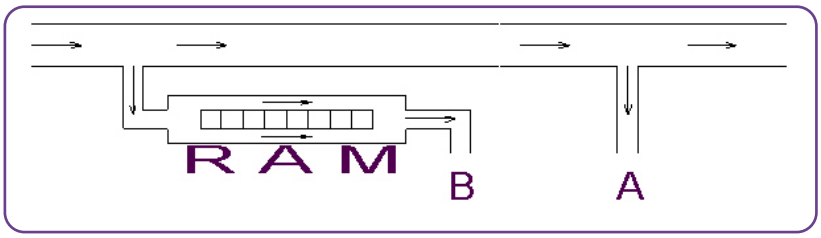
of the effect of the magnetic field of the RAM device on water viscosity.

The measurement was carried out in the laboratory of the Chemical Department of the Rybnik Power Plant in Rybnik.

A TAMSON TV 2000/AKV viscometer was used to measure viscosity.

The water used in the experiment was taken from the internal demineralized-water system.

Two water samples (designated A and B) were taken from the internal demineralized-water system. The first, “A”, was taken directly from the system; the second, designated “B”, was taken after this water (i.e. “A”) had passed through the magnetic field of the RAM device.



Two series of tests (designated I and II) were then carried out at water temperatures of 30 °C for series “I” and 40 °C for series “II”, respectively.

For the water sample taken directly from the system, measurements were made in two cycles, and for the water sample exposed to the magnetic field, in three cycles for each series.

The successive cycles in each series were designated by the following numbers:

I A	"1982" and "1983" - for water taken directly from the system at a measurement temperature of 30°C
I B	"1984", "1985" and "1986" - for water exposed to the magnetic field
II B	"1987", "1988" and "1989" - for water exposed to the magnetic field at a measurement temperature of 40°C
II A	"1990" and "1991" - for water taken directly from the system

The results of two consecutive viscosity measurements of the same water sample (measurements at 30°C) exposed to the magnetic field - designated in the cycles by numbers “1984”, “1985” and “1986” - differ from results nos. “1982” and “1983” for (apparently identical) water taken for measurement directly from the system.

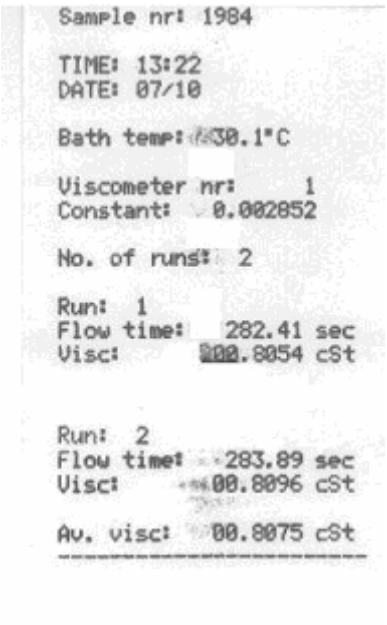
They differ both in the mean outflow times (i.e. viscosity) and in the substantial difference between the 1st and 2nd measurements, which does not occur in ordinary demineralized water. These differences may indicate the dynamic nature of the changes in water exposed to the RAM device.

Subsequent measurements of water samples whose temperature was raised to

40 °C appear to indicate that the differences between samples “A” and “B” disappear. However, as shown by the industrial use of water exposed to the magnetic field, they reappear in steam boilers, resulting in acceleration of the evaporation process.

The measurements performed in the laboratory of the Chemical Department of the Rybnik Power Plant in Rybnik -
due to the limited availability of the viscometer - are treated as a pilot study
prior to carrying out the full scope of research, the need for which is justified both by
the results of scientific work already conducted and by the effects observed in industrial applications.

Table No. 1.

Results nos. 1982 and 1983 show the outflow time of water at 30°C taken for measurement directly from the demineralized-water system.	**Results nos. 1984, 1985 and 1986 show the outflow time of demineralized water at 30°C after it passed through the magnetic-field region of the RAM device**
	
	

Results nos. 1982 and 1983 show the outflow time of water at 30°C taken for measurement directly from the demineralized-water system.	Results nos. 1984, 1985 and 1986 show the outflow time of demineralized water at 30°C after it passed through the magnetic-field region of the RAM device
	Sample nr: 1986 TIME: 13:59 DATE: 07/10 Bath temp: 30.0°C Viscometer nr: 1 Constant: 0.002852 No. of runs: 2 Run: 1 Flow time: 282.81 sec Visc: 00.8065 cSt Run: 2 Flow time: 283.89 sec Visc: 00.8096 cSt Av. visc: 00.8081 cSt

Table No. 2.

Results nos. 1990 and 1991 show the outflow time of water at 40°C taken for measurement directly from the demineralized-water system.	Results nos. 1987, 1988 and 1989 show the outflow time of demineralized water at 40°C after it passed through the magnetic-field region of the RAM device.
Sample nr: 1990 TIME: 16:03 DATE: 07/10 Bath temp: 40.1°C Viscometer nr: 1 Constant: 0.002852 No. of runs: 2 Run: 1 Flow time: 235.55 sec Visc: 00.6717 cSt Run: 2 Flow time: 235.47 sec Visc: 00.6715 cSt Av. visc: 00.6716 cSt	Sample nr: 1987 TIME: 14:55 DATE: 07/10 Bath temp: 40.0°C Viscometer nr: 1 Constant: 0.002852 No. of runs: 2 Run: 1 Flow time: 235.32 sec Visc: 00.6711 cSt Run: 2 Flow time: 235.32 sec Visc: 00.6711 cSt Av. visc: 00.6711 cSt

Results nos. 1990 and 1991 show the outflow time of water at 40°C taken for measurement directly from the demineralized-water system.	**Results nos. 1987, 1988 and 1989 show the outflow time of demineralized water at 40°C after it passed through the magnetic-field region of the RAM device.**
Sample nr: 1991 TIME: 16:15 DATE: 07/10 Bath temp: 40.1°C Viscometer nr: 1 Constant: 0.002852 No. of runs: 2 Run: 1 Flow time: 235.42 sec Visc: 00.6714 cSt Run: 2 Flow time: 235.41 sec Visc: 00.6713 cSt Av. visc: 00.6714 cSt	Sample nr: 1988 TIME: 15:10 DATE: 07/10 Bath temp: 40.1°C Viscometer nr: 1 Constant: 0.002852 No. of runs: 2 Run: 1 Flow time: 235.35 sec Visc: 00.6712 cSt Run: 2 Flow time: 235.37 sec Visc: 00.6712 cSt Av. visc: 00.6712 cSt
	Sample nr: 1989 TIME: 15:21 DATE: 07/10 Bath temp: 40.0°C Viscometer nr: 1 Constant: 0.002852 No. of runs: 2 Run: 1 Flow time: 235.36 sec Visc: 00.6712 cSt Run: 2 Flow time: 235.35 sec Visc: 00.6712 cSt Av. visc: 00.6712 cSt