

## SFT를 이용한 로터리 압축기 크랭크 1회전 동안의 실시간 진동소음의 가시화

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### The Visualization of Vibration and Noise of The Rotary Compressor during One Cycle of Crank Shaft by use of Short Time Fourier Transform

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**Key Words** : Short Time Fourier Transform(단시간 푸리에 변환), Non-Stationary Signal(비정상 신호), Visualization(가시화), Rotary Compressor(로터리 압축기), Vibration and Noise(진동,소음)

**Abstract** : There have been many studies to visualize the vibration and noise of rotary compressor. Most of these studies assumed that the signal is stationary and the time-averaged signal is used for visualization. However, the noise and vibration signals generated during one cycle of crank shaft vary continuously. In this paper, the noise and vibration of rotary compressor which vary continuously are visualized by short time fourier transform method. The location of source and the transfer path of vibration and noise at arbitrary frequencies, which can not be visualized by averaged signal, can be visualized clearly.

## 모터구동 밸브의 원격 진단 감시 시스템 개발에 대한 연구

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### Development of Remote Diagnostic Monitoring System for Motor-Operated Valves

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**Key Words** : motor torque, stem thrust, stem thrust estimator

**Abstract** : A diagnostic methodology, which utilizes only the remotely-measurable signals, has been requested to be developed in order to evaluate and monitor conditions of MOVs. It is proven that the stem thrust are the most important variables which provide the operability of MOVs. Therefore the stem thrust estimator was developed and validated, which estimates stem thrust by use of the motor torque. The motor torque is calculated using electrical signals which can be measured in Motor Control Center(MCC). The procedures to evaluate the accuracy of the diagnostic variables were set up and the accuracy of each variable was obtained through the experiments under various conditions. In addition, the applicability of the stem thrust estimator was tested in the plants.