

## **Development of Remote Monitoring Adaptor for Gas Heat Pumps**

Tokyo Gas Co., Ltd., Toho Gas Co., Ltd., Osaka Gas Co., Ltd.  
Aisin Seiki Co., Ltd., Sanyo Electric Co., Ltd., Mitsubishi Heavy Industries, Ltd.,  
Yanmar Diesel Engine Co., Ltd.

Three gas companies and four gas heat pump manufacturers collaborated to develop a remote monitoring system with the aims of reducing time-to-repair in the event of a gas heat pump failure, and of using failure prediction to enable preventive maintenance and efficient management of heat pump operation.

Two-way communication between the gas heat pump and the Remote Monitoring Center set up by the gas company or manufacturers, etc. enables the Center to receive operating data and alarms from the appliance, and at the same time enables the Center to remotely operate the appliance, including turning indoor units on and off, switching between heating and cooling, and making changes to temperature settings.

Wireless telephone connections are used for communication between the gas heat pump and the Remote Monitoring Center. These can be provided at low cost, do not require the appliance to monopolize the customer's own telephone lines, and can be installed easily and at low cost in typical gas heat pump installation locations on the roofs of buildings where telephone wiring is not available.



Remote monitoring adaptor

By coordinating the different data formats and data content used by the various manufacturers, the remote monitoring adaptor enables the Remote Monitoring Center to provide centralized maintenance for different manufacturers' gas heat pumps. In addition, the system also has the potential to be adapted for other appliances such as absorption

refrigerators and cogeneration systems (Genelight), which will enable gas companies to provide integrated management of the operation of customer appliances.

Because of the universal applicability of the monitoring adaptor, it has already been connected to and installed in over 600 systems, including systems not using gas heat pumps.

Further information is available at the following URL:

[http://www.tokyo-gas.co.jp/index\\_e.html](http://www.tokyo-gas.co.jp/index_e.html)

<http://www.yanmar.co.jp/english/index.htm>

For details of the R&D process for the remote monitoring adaptor, please contact either Ken Yasuda ( [yasuken@tokyo-gas.co.jp](mailto:yasuken@tokyo-gas.co.jp) ), at Technology Development Dept., Tokyo Gas, Yoshihito Taniguchi ( [taniguti@tohogas.co.jp](mailto:taniguti@tohogas.co.jp) ), at Urban Energy R&D Dept., Toho Gas, or Norimichi Murai ( [norimichi-murai@osakagas.co.jp](mailto:norimichi-murai@osakagas.co.jp) ) at Commercial and Industrial Market Development Dept., Osaka Gas.