



Introduction

Located in South Korea, Camp Humphrey is the largest overseas United States Military Base. It is the most active U.S. Army campus in the Pacific and was originally the largest construction project in the U.S. Department of Defense's history. With close to 500 buildings and amenities, the site's requirement for both comfort heat and hot water is crucial. Some of the amenities on site include residential, health care and fitness facilities as well as dining halls, schools, and offices.

Most sites in Korea use heating oil to power their systems and fulfill both

comfort heat and water heating needs. During 2015, the government entities and contractors at Camp Humphrey made the decision to upgrade their heating and hot water equipment from oil-based to natural gas. In May 2018, the heating equipment in two buildings, a fitness center and residential facility, were finalized and started up.



For more information about Patterson-Kelley, please visit pattersonkelley.com.

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Boiler Room



Patterson-Kelley Solution

Patterson-Kelley had the privilege to take on the project and meet the requirements of the building management team. The P-K team installed one MACH® C2500 system for primary comfort heat and two MACH® 'n' Roll 1050 systems as primary domestic hot water, capable of providing additional comfort heat capacity as a backup for the larger boiler during peak demand periods. The new indirect water tube boilers increased efficiency to 92%, now running in a condensing state with returning temperatures to the boilers at 110°F and 120°F constantly.

Patterson-Kelley aluminum boilers have become a preferred solution of heat transfer equipment in U.S. military operations based in South Korea. Our partnership with **Rb Engineering** and **Bekaert** has allowed us to build reliable and highly efficient boilers that meet all commercial heat and hot water requirements.

Challenges

At the time, the heat requirement was achieved by old firetube boilers powered with heating oil, which burnt at about 80% efficiency. This generated a need for performance and efficiency improvements as the base continues to expand their campus footprint as well as incorporate other military base operations within their location.



 **BEKAERT**

better together

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