

THE WINNING CLASS SCORE

Two Polk County Florida high schools - one uses a central boiler/chiller system, the other, Scholar Heat Pumps manufactured by Marvair. Both systems provide effective space conditioning, humidity control and ventilation - so where, you ask, is the Scholar advantage? The answer lies in four Scholar features that make it, simply, the superior system for Polk County.

George Jenkins High School is located in Lakeland, Florida while Lake Region High School is located in Eagle Lake. Both schools were constructed in the last two years, having matching floor plans, contain over 1,800 students and are located within ten miles of each other. Lake Region uses approximately 80 four ton Scholar Heat Pumps while George Jenkins has a central boiler/chiller system. The greatest and most obvious advantage of the Scholar lies in the lower operating costs and total energy expenditure. Over a nine month period beginning in August, 1995 and ending in March of 1996, Lake Region (the school with the Scholars) used **31% less** energy than George Jenkins High School according to the Polk County School Board Energy Department. More importantly, this reduction in energy consumption resulted in a savings to Polk County Schools of \$33,836.00 according to Bill Bass, Polk County Schools HVAC Coordinator. (See table on rear for month by month comparisons.) Significant reasons for this cost and energy reduction involve the design and features of the two systems. The boiler/chiller sys-



Scholar Heat Pump Mounted Inside Classroom - Lake Region High School

tem is designed to heat and cool the entire school even under part load demand. This design requires high energy expenditure and, as a result, high total cost. However, the Scholar is specifically designed to lower energy expenditure and total cost. With the Scholar system each teacher can individually select the classroom temperature and determine if heating or cooling is required; this design saves energy and money, as frequently only certain classrooms within a building require heating or cooling. And the Scholar features high cooling SEERs and Heating Seasonal Performance Factors (HSPF), both of which further reduce operating costs. This is one of the reasons that the energy and costs are reduced.

In addition to increasing energy savings, the Scholar provides superior

comfort. Often the sunnier classrooms within a building require cooling while the cooler more shaded classrooms do not. With the boiler/chiller system, teachers on the cooler side of the building must often teach in a cool classrooms or teachers on the hotter side must teach in an uncomfortably warm classroom. With the Scholar system this scenario is prevented; the teacher always regulates the unit to provide the most comfortable and suitable learning environment.

Lake Region High School's Scholar units also feature superior operation and service convenience, both of which contribute to reduced operation costs and increased user satisfaction. According to Mr. Bass, "the chiller system requires more maintenance because of the larger number

of individual components in the system.” It contains more motors and valves which require frequent opening and closing for regulation. This maintenance, as a result, raises operation costs. And at George Jenkins High Schools, if a component of the chiller/boiler systems malfunctions, the entire systems shuts down. With the Scholar, when one unit requires service only the individual classroom is affected. Service time is quicker and, as a result, less costly. Also, the individual Scholar unit features front panel access to all filters and controls.

Students, teachers and administrators at Lake Region High School are very happy with their Scholar Heat Pump system. According to Mr. Bass, “the teachers are really happy with it

because of the individual controls. They love having their own thermostats.” This allows the teacher to adjust room temperature to meet individual classroom needs. In addition, Lake Region has had very few maintenance problems. On the other hand, according to Bass, officials at George Jenkins High School complain of frequent maintenance problems which affect the entire school’s cooling.

With Florida’s high heat and humidity levels, effective cooling is important. Both schools agree that the Scholar and central boiler/chiller system provide effective school cooling. The Scholar heat pump provides classroom comfort and is the clear winner in cost efficiency, energy sav-

ings and service convenience, making it the ideal school cooling choice!



**ELECTRICAL CONSUMPTION COMPARISON
GEORGE JENKINS HIGH SCHOOL vs. LAKE REGION HIGH SCHOOL
AUGUST 1995 THROUGH MARCH 1996**

KILOWATT HOURS CONSUMED:

	<u>GJHS</u>	<u>LRHS</u>	<u>DIFFERENCE</u>	<u>% CHANGE</u>
August	403,956	483,120	(79,164)	20%
September	400,476	341,280	59,196	-15%
October	401,834	251,200	150,634	-37%
November	337,167	192,280	144,887	-43%
December	264,235	174,240	89,995	-34%
January	398,568	188,680	209,888	-53%
February	394,672	210,720	183,952	-47%
March	311,438	180,360	131,078	-42%
TOTAL	2,912,346	2,021,880	890,466	-31%

COST:

	<u>GJHS</u>	<u>LRHS</u>	<u>DIFFERENCE</u>	<u>% CHANGE</u>
August	\$23,324	\$29,644	(\$6,320)	27%
September	22,436	24,106	(1,670)	7%
October	21,647	18,641	3,006	-14%
November	21,970	15,135	6,835	-31%
December	19,076	15,587	3,489	-18%
January	26,392	16,134	10,258	-39%
February	26,443	15,841	10,602	-40%
March	22,967	15,331	7,636	-33%
TOTAL	\$184,255	\$150,419	\$33,836	-18%



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