

Efficient & reliable package solution for refrigeration from SANHUA has its market validation

For many years Sanhua has been a leader in development and manufacturing of electronic expansion valves for HVAC&R industry. Focus was given on electronic expansion valves (EEV) for OEMs who had their own controller for EEV or third-party controllers in combination with SANHUA EEV. Due to increased demand for Sanhua products in Wholesalers and Installers (WS/I) market, particularly for electronic expansion valves series DPF, Sanhua has developed a **complete package solution**, especially adopted to the needs of WS/I and small OEMs: **electronic expansion valve, dedicated controller, pressure and temperature sensor.**

Electronically operated expansion valves are offering significant benefits compared to thermostatic expansion valves:

- Wide capacity regulation range for the same model
- Same model for different refrigerants
- Stable valve capacity at minimum pressure drop
- Precise capacity regulation
- Additional level of system protection, monitoring and remote control

Before releasing the new EEV controller and existing electronic expansion valves DPF, Sanhua conducted extensive tests of controller with the valve to achieve best performance for typical refrigeration applications served by WS/I. This was done to offer customers a **complete package solution**, tested, qualified and ready to use in refrigeration applications. The second important target was to offer a **cost-efficient solution** to be able to compete with traditional mechanical expansion valves considering increasing demand for **high energy efficient solutions.**



SANHUA SEC60x controller, DPF electronic expansion valve and YCQ pressure sensors

After official release of this package EEV solution (controller + EEV + sensors/cables) our WS partners started active promotion of this solution to their customers, one of them is Baltic Refrigeration Group (BRGroup), a leading Wholesaler in the Baltic and East Europe region. Below we would like to share interview with BRGroup Technical Director **Mindaugas Kristanaitis** about their experience of usage of Sanhua new controller with electronic expansion valve.

Sanhua: What was the customer application or need to be solved?

BRGroup: Main application were cold rooms (medium and low temperature) with 10-30 kW cooling capacity. Main need was to find reliable and energy efficient solution of electronic expansion valve and controller which would be price competitive versus typical mechanical expansion valves used for these applications. Additionally, EEV solution had to increase system reliability by protecting compressors against work outside its application envelope (e.g. too high or too low superheat), by increasing reliability during hot gas defrost preventing TXV bulb damage during hot gas flow via evaporator outlet and increase of bulb temperature.



Sanhua: What exact Sanhua product has been used?

BRGroup: We offered to our customers new Sanhua SEC6xx EEV controller and Sanhua DPF valves (different models according requested capacity of evaporator).

Sanhua: Why were Sanhua products selected compared to similar products from the other manufactures?

BRGroup: It was important for us to have reliable components, good support (commercial, technical, logistic). As we are using the other Sanhua components, we were confident about their quality. Additionally, SANHUA package solution of EEV + controller is much more price attractive for us as WS and our customers (end users or installers) compared to the similar solution from other suppliers. Such a cost of efficient SANHUA EEV + Controller package solution allows us to compete even against mechanical TXV with big capacity (models with removable parts).

Sanhua: How is the customer satisfaction with technical features of this package solution?

BRGroup: Performance wise, Sanhua package solution is on the same level as similar competitor's solutions. In general, customers observed very stable superheat during regulation, they were satisfied with behavior of the complete system and dynamic temperature decrease inside cold room. There was no possibility to measure and compare energy saving versus thermostatic expansion valve but stability of superheat on the 6K level ensures high efficiency of the system and cost savings. As usually, after release of new products, customers shared their feedback about features which must be improved: extend length

of coil cable (Sanhua: factory is working on this request developing cable extension for the coil), “old style” of controller external shape (Sanhua: this will be taken into consideration for next developments of controller as we will not stop our activity in this direction).

Sanhua: What was the solution customers used before?

BRGroup: Some customers used mechanical expansion valves and solenoid valves before, other customers preferred to use similar EEV package solutions from the other suppliers.

Sanhua: what was the advantage of the Sanhua solution compare to previous products?

BRGroup: Performance wise, customers were satisfied with similar competitors’ solutions, but preference has been given to Sanhua EEV package solution due to cost effectiveness and possibility to use more efficient EEV solution instead of TXV, without significant impact on the cost of the system.

Sanhua: What are the benefits for customer with such a complete solution?

BRGroup: Customers used a combination of Sanhua EEV and controller from third party manufactures earlier. This solution worked, but without smooth and precise regulation, it was not easy to adjust controller settings to each EEV, it took long time and only experienced installers were able to do this. With the new Sanhua EEV package solution controller, parameters are already adjusted to Sanhua EEV, PID algorithm optimized for precise flow regulation. The Sanhua package solution is user friendly and easy to use even by installers without deep experience in electronics.

Sanhua and BRGroup has long history of successful cooperation and we are looking forward to continue this trend together by utilizing Sanhua capability of production, development of new products and BRGroup sales network with their high technically experienced sales engineers. All commercial, technical topics as well as questions about availability of Sanhua EEV package solutions and other products can be addresses to various offices of BRGroup in Europe:

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