

# refrigeration technology



## for supermarkets and hypermarkets

**JDK refrigeration technology**, to be precise the TESCO project with aggregated condenser units and modern control and monitoring systems, ensures optimum ecological and economical operation of refrigerated and deep-freeze boxes in hypermarkets. The contractor's own development activities, the use of components made by renowned manufacturers and a number of successful applications have gained the full confidence of TESCO, one of the largest operators of hypermarkets.



**The aggregated compact condensing units** have been designed separately for the refrigerating and deep-cooling sections, and have been placed on the roofs of the hypermarkets right above the refrigerated equipment, thus allowing for simpler distribution piping and electric power lines. This solution has eliminated the necessity to build large machine rooms. The design of the units makes it possible to couple them in pairs, thus increasing their refrigerating output.



**The compressors** are of a hermetic scroll design, made by the renowned manufacturer Copeland. In the whole chain of hypermarkets, use is made of only two standard types of compressors, ZS 45 K4E in the refrigeration units and ZF 18 K4E in the deep-freeze ones. Due to this the compressors can be readily replaced. The oil lubrication is based on a standard medium-pressure oil-recycling system; the units are fitted with oil separators controlled by a float gear. A stable oil level in the individual compressors is ensured by type OMA TraxOil devices.

**The control switchboards** constitute a part of each unit and are divided into a power section with protective current breakers, and a control section containing the controls of the unit, condenser fans, customer service points, and providing

continuous evaluation of defects. The actual regulation is performed by the EWCM 900 S controller.



**The control and monitoring system** makes use of state-of-the-art Televis 2001 technology. This electronic system is furnished with a touch-sensitive screen, contains a communication modem and interfaces. It ensures communication with 225 modules along the communication line, evaluation of alarms, audio signalling of alarms, an output for EZS and a telephone communicator. The touch-sensitive screen allows the system to be simply controlled by touching the individual fields on the computer screen.

# reference

## Tesco Nitra

### Type of Unit

#### Cooling

- 1 x LME-ZS-45/3
- 2 x LME-ZS-45/4
- 1 x LME-ZS-45/7
- 1 x LME-ZS-45/8

#### Freezing

- 1 x LLE-ZF-18/3
- 2 x LLE-ZF-18/4

Total Cooling Capacity - cooling part  
- 297 kW at  $t_e = -10\text{ °C}$ ,  $t_c = +40\text{ °C}$

Power Input - cooling part  
- 95 kW při  $t_e = -10\text{ °C}$ ,  $t_c = +40\text{ °C}$

Total Cooling Capacity - freezing part  
- 30 kW při  $t_e = -35\text{ °C}$ ,  $t_c = +40\text{ °C}$

Power Input - freezing part  
- 25 kW at  $t_e = -35\text{ °C}$ ,  $t_c = +40\text{ °C}$

Type of Compressors  
- hermetic scroll compressors Copeland

Used Refrigerant  
- R 404A

Electronic controlling and monitoring  
- programmable regulator Eliwell  
- monitoring and controlling system Televis



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