

ENGINEERING  
TOMORROW



Case story | Universal TR6 Kits

## Danfoss Universal TR6 Kits prove a perfect fit for Dowd Heating & Air Conditioning

With up to four capacities to choose from and compatibility with two refrigerants, the Universal TR6 Kit is the go-to TXV for Dowd Heating & Air Conditioning.

Up to

**15%**

increased efficiency  
in older machines  
when TR6 is used

[danfoss.com/TR6](http://danfoss.com/TR6)

Thermostatic expansion valves (TXVs) play a key role in the refrigeration process by controlling the flow of refrigerant. With new and updated energy efficiency standards being put in place on a regular basis, most original equipment manufacturers (OEMs) use TXVs as the primary metering device for air conditioning and refrigeration units. This means that TXVs are an important piece of equipment that residential HVAC contractors need in order to replace factory-installed valves or upgrade air conditioning system efficiency in the aftermarket.



Joe Dowd, owner of Dowd Heating and Air Conditioning in Bensalem, Pennsylvania, has a fleet of nine trucks and services more than 7,000 customers a year. Since being introduced to the Danfoss TR6 line of expansion valves, Dowd has stocked his trucks with nothing else. His team replaces several TXVs a week and relies on Danfoss' TR6 air conditioning thermostatic expansion valves because they are versatile and easier to install than other valves on the market.

"Our goal is to repair broken HVAC equipment and quickly move on to the next job. The TR6 expansion valves help us do just that," Dowd said. "Everything you need is included in the kit, and that means we don't have to spend time driving around looking for the right parts. We can complete the job and move onto the next—it's good for our customers and it's good for business."

### A Universal Solution

Dowd explained that his crew installs several TXVs a week for a variety of applications, including replacing an OEM's thermostatic expansion valve, improving the efficiency when installing a new aftermarket evaporator coil or maximizing system efficiency when replacing an outdoor condensing unit. Due to the diverse nature of what technicians can encounter while on the job, it is imperative that expansion valves are adaptable and easy-to-install regardless of the application or air conditioning unit being worked on. This is why Danfoss created the Universal TR6 Kit expansion valve specifically for use in the aftermarket.

Each TR6 comes packaged with everything needed for installation: the valve, insulating tape, bulb strap and the two most common types of evaporator fittings—Aeroquip and Chatleff. This latter feature simplifies stocking and inventory as service technicians do not need to carry several different OEM

valve designs on their trucks. They know that they will have the right replacement TXV for OEM equipment, regardless of the manufacturer. Additionally, the valve's compact design means it can easily fit in most spaces. The Danfoss TR6 valve adapts to 90 percent of the HVAC systems on the market.

Additionally, an internal check valve, adjustable superheat and adaptable inlet and outlet ports make it easy for contractors to install the valve after selecting the refrigerant, tonnage and connection type.

"The guys love it because it's so easy to install. We haven't found an application where it doesn't fit," said Dowd. "Before this, we really couldn't get a universal type of expansion valve and we had to do a lot of driving around to find the right fittings and parts."

### A Cost-effective Efficiency Boost

The TR6 valves also help increase the efficiency of older air conditioning units and heat pumps. Danfoss studies show that the TR6 can boost system efficiency up to 15 percent on older equipment, depending on the age and capacity of the existing system. Dowd said that he feels this is a huge benefit to his customers because it is much more cost-effective to retrofit the unit with the TR6 than to invest in brand new equipment or even a new system. Additional Danfoss field studies demonstrate that replacing older, factory-installed valves can lead to operational-cost savings of up to 36 percent.



### Fully Stocked

The TR6 is available in seven models that cover OEM air conditioner and heat pump designs in a wide range of applications, from 1.5 to six tons in systems that employ either R-22 or R-410A. In order to facilitate on-the-fly installations, Danfoss has put together two kits that assemble the valves of every size for the two available refrigerants: three valves for R-410A and four valves for R-22.

With these two kits, service technicians can be prepared for nearly any job that requires a TXV. Dowd explained that he stocks his trucks with four kits each: two R-22s and two R-410As. "This is the best [TXV] out there—it just comes out of the box perfect every time," says Dowd.