

Dispenser Retrofits — Field Modifications

Retrofit Kits are routinely used to upgrade or change the functionality of products. There is no truer example of this than fuel dispenser retrofits.

Fuel dispenser retrofits allow fueling station owners to upgrade existing fuel dispensers to the latest technologies or to comply with local vapor recovery regulations. Retrofits allow such adjustments with the advantages of minimized construction effects and station down-time.

Compliance with Codes

In most cases, installing a dispenser retrofit requires disruption of dispenser circuitry or disassembly of the dispenser, which generally necessitates permits and interaction with the local building official or other AHJ to determine whether the field modified dispenser continues to meet the applicable code requirements.

Section 6.3 of the NFPA 30A Code for Motor Fuel Dispensing Facilities and Repair Garages permits existing listed or labeled dispensing devices to be modified provided that the modifications made are “Listed by Report” by an approved testing laboratory or as otherwise approved by the authority having jurisdiction.

Product certification covered as a ‘Listed by Report’ includes a report that describes the complete assembly and includes installation instructions. Copies of these reports are available from the Listee. UL’s certification of dispenser retrofits is covered under the

product category for Dispensing Devices, Retrofit Assemblies (ERKQ).

What type of dispenser modification calls for Listed by Report?

Dispenser modifications can vary from changes in graphic decals to the addition of credit card readers. Anytime a modification requires dispenser panels to be removed and/or the dispenser’s electrical circuitry to be tapped or interrupted, the AHJ will

usually require the modification be evaluated as a “Listed by Report.”

UL’s investigation of dispenser retrofits kits includes witnessing the installation of the retrofit kit using the manufacturer’s installation instructions to determine the feasibility of the installation. UL’s evaluation also ensures the modified dispenser continues to:

continued »



What kind of retrofits kits exist?

Technology and fueling station owner’s needs generally drive the Development of retrofit kits. Over the years UL has evaluated and Listed by Report:

- Payment conversion kits
- Wireless payment options
- Tip sensors
- Vapor recovery kits
- Display conversions
- Canopy lighting kits



Dispenser Retrofits — Field Modifications (continued)

- Operate in a safe manner for consumers
- Meet the applicable requirements of UL 87, the Standard for Safety of Power-Operated Pumps for Petroleum Dispensing Products.
- Comply with the applicable electrical requirements of the NFPA 70, National Electrical Code especially wiring techniques required in classified areas

The investigation also includes testing of the modified product, such as input test, temperature test, rain test, and possibly other tests, depending on the nature of the modification, to verify compliance with the UL 87 and other applicable requirements.

Important criteria to consider with a field modification

As part of the evaluation of a retrofit kit, UL considers what it will take to install the retrofit kit, and the effects the retrofit kit may have on the dispenser.

In some instances physical changes are severe and require the use of power tools to access components. The use of power tools with arcing/sparking components are prohibited in classified areas. The dispenser or dispenser component will need to be moved to a safe location to complete the assembly procedure.

Another important consideration is the effects the retrofit has on the dispenser's mechanical and electrical systems. Retrofits may require rewiring of dispenser power circuits or reconnection of fuel lines which need to be carefully evaluated.

Special construction criteria and/or site consideration are documented in installation instructions accompanying UL certified retrofits.