

## PLC Retrofit Kit

KDF now offers PLC upgrade kits for existing T, GT and NT systems equipped with Brooks/Techware controllers. This upgrade follows KDF's OEM policy of 'No Tool Left Behind' and replaces the no longer available Brooks/Techware controller with our new KDF *i controller*.

The new *i controller* utilizes Rockwell Automation Programmable Controller coupled with an industrial rugged mini PC running Windows 10 for application graphics.

The new *i controller* utilizes Ethernet Field Bus technology for simplification and speed. Discrete I/O is handled through a combination of digital input/output and analog modules. Most system option functions are pre-hard wired for future expandability. The digital output modules have electronic circuit fuse protection.

The *i controller* package also includes serial device servers which couple the serial communication devices to the PLC via Ethernet IP protocol.

For NT, GT and T systems the new system interface includes an 22" touch screen LCD monitor and rack-mounted keyboard with integrated touch pad. An UPS is also supplied to insure an orderly shut down of the system computer in case of an unexpected power outage.

Pneumatic operation is controlled through a new DIN rail mounted Ethernet operated air package. Air package is comprised of multiple solenoids in various configurations with room for optional expandability at future date. All pneumatic sensor switches communicate directly with the pneumatic package and PLC feedback via Ethernet for simplification of cable routing.

Once upgraded to the new *i controller* your system will have the capability for realtime software downloads and diagnostic help via WebEx or GoToAssist over the Internet.



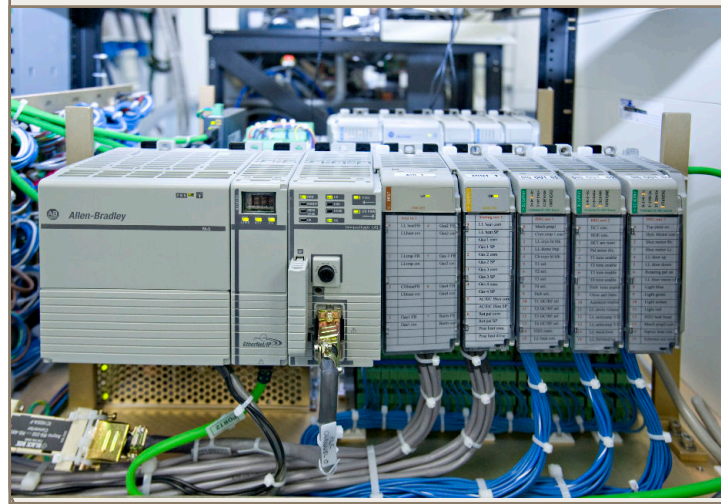
## In line with your process

KDF carries a full line of parts for your KDF or MRC system. All our parts are manufactured from the original MRC documentation located and maintained at KDF.

With our large inventory we are able to deliver the exact and correctly engineered replacement parts for all MRC and KDF equipment typically within days of your order. We maintain working stock room with thousands of parts valued over 2 million dollars.

KDF and its engineering department are always investigating ways to update and improve older designs for better system reliability, as well as finding replacement parts for obsolete components. Do not be fooled by third party pirated parts, stay with KDF and get the correct part the first time.

KDF supplies replacement parts, retrofit kits, backing plates, target materials and bonding services for MRC and KDF sputtering and etch systems.



## KDF External Support Program

The KDF WebEx or GoToAssist based support program includes:

- Realtime access to KDF software enhancements
- Realtime access to KDF software upgrades
- KDF handles all remote software connection charges associated with this program. All you need is an internet connection on site
- KDF system monitoring (as requested) for diagnosis of potential problems and threats before they become a system issue
- KDF online live diagnostic help (as requested) to resolve system problems

The KDF *i controller* has the same footprint as the Brooks/Techware controller and

interconnect panel. Replacement components are installed into your existing tower frame. Installation time on a typical NT or GT system is 3 days on-site thus minimizing system downtime. Upgrade of T systems might take slightly longer time and it is based on the original system configuration.

### Additional upgrade features

- GP "smart" 390 and MKS 925 serial communication vacuum gauges
- Ethernet I/P protocol pneumatic air package with all new air lines
- VAT throttling gate valve/controller allowing for upstream and downstream pressure control
- Load-lock cylinder with linear transducer for increased accuracy

The new KDF *i controller* installations are shown below.



Old NT Techware controller tower



New KDF *i controller* tower



Old GT controller tower



New KDF *i controller* tower

\* Contact KDF for details on the many optional features for retrofits. Specifications subject to change.