

# Fluorescent Leak Detection Products for HVAC/R Systems





**Residential Systems** 



**Commercial Systems** 



**Refrigeration Systems** 





# AR-GLO® Fluorescent AC&R Dyes

All Spectroline® fluorescent dyes can remain safely in the system. This makes it fast and easy to pinpoint leaks, confirm repairs and perform future preventive maintenance checks. AR-GLO® AC&R dyes are the only dyes that give you all these benefits:

- Universal (POE) Dyes are compatible with all refrigerants and lubricants
- Lubricant-specific Dyes exactly match the lubricant in the system
- Co-solvent free Dyes will not impair lubricant properties, which could lead to excessive wear or damage to system components
- NSF Certified Registered to meet food-grade processing requirements for category codes HTX-2 and HX-2\*

\*Universal/POE dyes only

## **How It Works**

Just add a small amount of dye to the system and let it circulate. The dye/oil mixture escapes with the refrigerant wherever there is a leak and glows brightly when inspected with a high-intensity Spectroline® leak detection lamp.

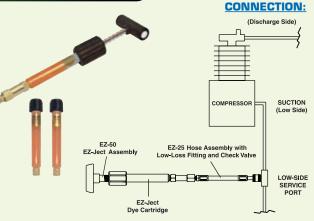
## Small to Medium Size Systems

## **EZ-Ject**™

## Multi-Dose Dye Injection System (Patented)

Convenient and economical. Works in all systems, including high-pressure R-410A systems!

- Each prefilled, disposable EZ-Ject dye cartridge treats up to 2 gallons (7.6 L) of lubricant, 25 lbs (11.3 kg) of refrigerant or 12 tons of cooling. No pouring and no refrigerant required for injection.
- · One calibrated cartridge provides exact dosing for multiple systems
- · Easily overcomes system pressure. Inject dye with a turn of the handle.



### **GLO-STICK®**

#### Dye Capsules (Patented)

Fast and easy servicing. Works in all systems, including high-pressure R-410A systems!

- Prefilled, single-dose, self-cleaning, disposable dye capsules eliminate measuring, pouring and messy spills
- Available in 4 sizes/concentrations to match the capacity of the system. Treats up to 2 gallons (7.6 L) of lubricant, 25 lbs (11.3 kg) of refrigerant or 12 tons of cooling.
- Inject dye while charging with refrigerant, or when connecting from the high side to the low side.
- Metering orifice prevents slugging of the compressor

## **CONNECTION:** MANIFOLD GAUGES REF. SUCTION (Low Side) **0**80()\_∓ GLO-STICK Capsule RECOVERY UNIT

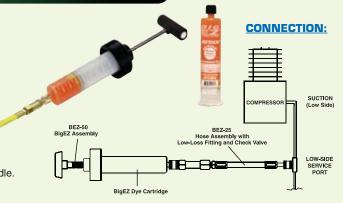
## Medium to Large Size Systems

## **BigEZ**<sup>TM</sup>

## Multi-Dose Dye Injection System (Patented)

Most economical for larger systems. Works in all systems, including high-pressure R-410A systems!

- Each prefilled, disposable 4 oz (118 ml) BigEZ dye cartridge treats up to 16 gallons (60.8 L) of lubricant, 400 lbs (180 kg) of refrigerant or 150 tons of cooling. No pouring and no refrigerant required for injection.
- One calibrated cartridge provides exact dosing for multiple systems
- · Easily overcomes system pressure. Inject dye with a turn of the handle.



## **Violet Light LED Leak Detection Flashlights and Kits**



## OPTIMAX™ 400 Economical, Cordless, Violet Light LED Leak Detection Flashlight

Yellow fluorescence-enhancing glasses <u>not</u> required for most applications!

- Provides optimal fluorescent dye response and contrast
- For use with universal/POE dyes only
- Power comparable to high-intensity 150-watt lamps
- Inspection range of 25 feet (7.6 m) or more
- 100,000-hour LED service life
- 5 hours of continuous inspection time
- · Lightweight, compact design easily gets into tight, cramped spaces
- Powered by 3 "AAA" batteries
- Includes lanyard, holster and fluorescence-enhancing glasses



OPTI-LUX™ 400 Rechargeable, Cordless, Violet Light LED Leak Detection Flashlight

Yellow fluorescence-enhancing glasses <u>not</u> required for most applications!

- Provides optimal fluorescent dye response and contrast
- For use with universal/POE dyes only
- Power comparable to high-intensity 150-watt lamps
- Inspection range of 25 feet (7.6 m) or more
- 100,000-hour LED service life
- 4 hours of continuous inspection time
- Lightweight, compact design easily gets into tight, cramped spaces
- Powered by one rechargeable lithium-ion battery (included)
- Includes smart battery charging cradle with AC and DC cord sets, lanyard and fluorescence-enhancing glasses

Red "CS" part number suffix denotes full-color, hanging clamshell packaging

## OPK-40EZ/E

## Complete EZ-Ject™ Kit

Features the OPX-400 OPTIMAX™ 400 economical, cordless, violet light LED leak detection flashlight



FOR <u>SMALL TO MEDIUM SIZE</u> AC&R SYSTEMS. Versatile, multi-dose dye cartridges. Injector easily overcomes system pressure. Add fluorescent dye with system off <u>or</u> running!

Treats up to 50 lbs (22.7 kg) of refrigerant, 4 gallons (15 L) of lubricant, or 24 tons of cooling!

#### Kit contains:

- EZ-50 EZ-Ject<sup>™</sup> dye injector assembly
- EZ-25 hose/coupler with check valve, low-loss and purge fittings
- (2) EZ-4/E 0.5 oz (14.8 ml) universal/POE dye cartridges
- (3) Drip plugs for hose/coupler
- 8 oz (237 ml) spray bottle GLO-AWAY™ dye cleaner
- Fluorescence-enhancing glasses and rugged carrying case

## OLK-400EZ/E

## Complete EZ-Ject™ Kit

Features the OLX-400 OPTI-LUX™ 400 rechargeable, cordless, violet light LED leak detection flashlight



FOR <u>SMALL TO MEDIUM SIZE</u> AC&R SYSTEMS. Versatile, multi-dose dye cartridges. Injector easily overcomes system pressure. Add fluorescent dye with system off <u>or</u> running!

Treats up to 50 lbs (22.7 kg) of refrigerant, 4 gallons (15 L) of lubricant, or 24 tons of cooling!

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- EZ-50 EZ-Ject<sup>™</sup> dye injector assembly
- EZ-25 hose/coupler with check valve, low-loss and purge fittings
- (2) EZ-4/E 0.5 oz (14.8 ml) universal/POE dye cartridges
- (3) Drip plugs for hose/coupler
- 8 oz (237 ml) spray bottle GLO-AWAY™ dye cleaner
- Smart battery charging cradle with AC and DC cord sets
- Fluorescence-enhancing glasses and rugged carrying case

## OPK-40GS/E Complete GLO-STICK® Kit

# Features the OPX-400 OPTIMAX™ 400 economical, cordless, violet light LED leak detection flashlight

FOR <u>SMALL TO MEDIUM SIZE</u> AC&R SYSTEMS.

Convenient, mess-free, single-dose dye capsules. Add refrigerant and fluorescent dye in <u>one</u> simple step!

Treats up to 50 lbs (22.7 kg) of refrigerant, 4 gallons (15 L) of lubricant, or 24 tons of cooling!

#### Kit contains

- (1) BV-50 bleed valve for attaching GLO-STICK® capsules to service hose
- (1) PC-0249 purge capsule
- EZ-25 hose/coupler with check valve, low-loss and purge fittings
- (1) GS-1/E universal/POE GLO-STICK® dye capsule
- (2) GS-2/E universal/POE GLO-STICK® dye capsules
- (1) GS-3/E universal/POE GLO-STICK® dye capsule
- 8 oz (237 ml) spray bottle GLO-AWAY™ dye cleaner
- Fluorescence-enhancing glasses and rugged carrying case

## OLK-400BEZ/E Complete BigEZ™ Kit

Features the OLX-400 OPTI-LUX™ 400 rechargeable, cordless, violet light LED leak detection flashlight



FOR <u>MEDIUM TO LARGE SIZE</u> AC&R SYSTEMS. Versatile, multi-dose dye cartridges. Injector easily overcomes system pressure. Add fluorescent dye with system off <u>or</u> running!

Treats up to 400 lbs (181 kg) of refrigerant, 16 gallons (60.8 L) of lubricant or 150 tons of cooling!

#### Kit contains:

- BEZ-50 BigEZ<sup>™</sup> dye injector assembly
- BEZ-25 hose/coupler with check valve, low-loss and purge fittings
- (1) BEZ-4/E 4 oz (118 ml) universal/POE dye cartridge
- (3) Drip plugs for hose/coupler
- 8 oz (237 ml) spray bottle GLO-AWAY™ dye cleaner
- Smart battery charging cradle with AC and DC cord sets
- Fluorescence-enhancing glasses and rugged carrying case

# **Blue Light LED Leak Detection Flashlights and Kits**



OPTIMAX Jr™ Ultra-Compact, Cordless, Blue Light LED Leak Detection Flashlight

#### Perfect for tight spaces!

- Power comparable to 75W lamps
- Inspection range of 6 feet (1.8 m) or more
- Compatible with all leak detection dyes
- 100,000-hour LED service life
- 5.5 hours of continuous inspection time
- Powered by 3 "AA" batteries

clamshell packaging

• Fluorescence-enhancing glasses (required)

Green "U" symbol indicates that flashlight works best with universal, "/E" polyol ester (POE) AC&R dyes
Red "CS" part number suffix denotes full-color, hanging



OPTIMAX™ 3000 Rechargeable, Cordless, Blue Light LED Leak Detection Flashlight

#### 15 times brighter than standard LED lights!

- Power comparable to high-intensity 150W lamps
- Inspection range of 25 feet (7.6 m) or more
- Compatible with all leak detection dyes
- 100,000-hour LED service life
- 3 hours of continuous inspection time
- Powered by rechargeable NiMH battery (included)
- Smart AC and DC chargers
- Fluorescence-enhancing glasses (required)

Also available: OPK-300 OPTIMAX™ 3000 Lamp Kit
Features all of the above in a rugged carrying case

## OPK-50EZ/E

Complete EZ-Ject™ Kit

Features the OPX-500CS OPTIMAX Jr™ ultra-compact, cordless, blue light LED leak detection flashlight



FOR <u>SMALL TO MEDIUM SIZE</u> AC&R SYSTEMS, including high-pressure R-410A systems!

Treats up to 50 lbs (22.7 kg) of refrigerant, 4 gallons (15 L) of lubricant, or 24 tons of cooling!

#### Kit contains:

- EZ-50 EZ-Ject™ dye injector assembly
- EZ-25 hose assembly with check valve, low-loss and purge fittings
- (2) EZ-4/E 0.5 oz (14.8 ml) universal/POE cartridges
- (3) Drip plugs for hose/coupler
- 8 oz (237 ml) spray bottle GLO-AWAY™ dye cleaner
- Fluorescence-enhancing glasses and rugged carrying case

## OPK-300EZ/E

Complete EZ-Ject™ Kit

Features the OPTIMAX™ 3000 rechargeable, cordless, blue light LED leak detection flashlight



FOR <u>SMALL TO MEDIUM SIZE</u> AC&R SYSTEMS, including high-pressure R-410A systems!

Treats up to 50 lbs (22.7 kg) of refrigerant, 4 gallons (15 L) of lubricant, or 24 tons of cooling!

#### Kit contains:

- EZ-50 EZ-Ject™ dye injector assembly
- EZ-25 hose assembly with check valve, low-loss and purge fittings
- (2) EZ-4/E 0.5 oz (14.8 ml) EZ-Ject™ universal/POE dye cartridges
- (3) Drip plugs for hose/coupler
- 8 oz (237 ml) spray bottle GLO-AWAY™ dye cleaner
- Smart AC and DC chargers
- Fluorescence-enhancing glasses and rugged carrying case

## OPK-50GS/E

#### Complete GLO-STICK® Kit

Features the OPX-500CS OPTIMAX Jr™ ultra-compact, cordless, blue light LED leak detection flashlight



FOR SMALL TO MEDIUM SIZE AC&R SYSTEMS, including high-pressure R-410A systems!

Treats up to 50 lbs (22.7 kg) of refrigerant, 4 gallons (15 L) of lubricant, or 24 tons of cooling!

#### Kit contains:

- (1) BV-50 bleed valve for attaching GLO-STICK® capsule to service hose
- (1) PC-0249 purge capsule
- EZ-25 hose/coupler with check valve, low-loss and purge fittings
- (1) GS-1/E universal/POE GLO-STICK® dye capsule
- (2) GS-2/E universal/POE GLO-STICK® dye capsules
- (1) GS-3/E universal/POE GLO-STICK® dye capsule
- 8 oz (237 ml) spray bottle GLO-AWAY™ dye cleaner
  Fluorescence-enhancing glasses and rugged carrying case

## OPK-300BEZ/E Complete BigEZ™ Kit

Features the OPTIMAX™ 3000 rechargeable, cordless, blue light LED leak detection flashlight



FOR <u>MEDIUM TO LARGE SIZE</u> AC&R SYSTEMS, including high-pressure R-410A systems!

Treats up to 400 lbs (181 kg) of refrigerant, 16 gallons (60.8 L) of lubricant or 150 tons of cooling!

#### Kit contains:

- BEZ-50 BigEZ<sup>™</sup> dye injector assembly
- BEZ-25 hose assembly with check valve, low-loss and purge fittings
- (1) BEZ-4/E 4 oz (118 ml) universal/POE dye cartridge
- (3) Drip plugs for hose/coupler
- 8 oz (237 ml) spray bottle GLO-AWAY™ dye cleaner
- Smart AC and DC chargers
- Fluorescence-enhancing glasses and rugged carrying case

# **Attractive, Full-Color Hanging Display Packaging**



## Cool Seal™ A/C Leak Sealer

Seals slow leaks as large as 0.020 inch (0.5 mm) in compressors, condensers, evaporators, O-rings and hoses—quickly and permanently. Non-polymer, oil-soluble formula is safe for AC&R system components and recovery equipment. Ideal for preventive maintenance!

## **CS-100CS** Cool Seal™ EZ-Ject™





Cool Seal™ Cartridges

**CS-1CS** 0.5 oz (14.8 ml) EZ-Ject™ cartridge

CS-2CS 2 oz (50 ml) BigEZ™ cartridge. Works with BigEZ™ injector. Can also be used with EZ-Ject™ injector using CS-50

adapter and CS-35 hose/coupler. Full cartridge treats 6 to 12 tons of cooling.



#### Contains:

- EZ-50 EZ-Ject injector assembly
- · CS-25 hose/coupler with check valve and
- (2) CS-1 0.5 oz (14.8 ml) EZ-Ject cartridges prefilled with Cool Seal™ A/C leak sealer. Each cartridge treats up to 2 tons of cooling.
- ✓ Works in <u>all</u> popular AC&R systems, including high-pressure R-410A systems
- ✓ An alternative to expensive parts replacement on older AC&R systems
- ✓ Meets ASHRAE 97 standard for chemical stability

## **AB-100CS** ACID-BUSTER™ Injection Kit

Acid Scavenging Solution — prevents compressor burnout! Contains:

- EZ-50 EZ-Ject injector assembly
- EZ-25 hose assembly with check valve and 1/4 inch flare low-loss fitting
- (2) AB-5 0.5 oz (14.8 ml) EZ-Ject cartridges prefilled with ACID-BUSTER acid scavenging solution



Cartridges AR-4CS ACID-**BUSTER** 4 oz (118 ml)

cartridge

ACID-BUSTER™

AB-5CS ACID-**BUSTER** 0.5 oz (14.8 ml) cartridge

Also available: AB-400CS ACID-BUSTER™ Injection Kit. Features BEZ-50 BigEZ injector assembly, BEZ-25 hose assembly with check valve and ½ inch flare low-loss fitting, and (1) 4 oz (118 ml) AB-4 BigEZ cartridge prefilled with ACID-BUSTER acid scavenging solution.



## **EZ-100/ECS**

## Universal Dye Injection Kit





- EZ-50 EZ-Ject dye injector assembly
- EZ-25 hose assembly with check valve and 1/4 inch flare low-loss fitting
- (2) EZ-4/E 0.5 oz (14.8 ml) EZ-Ject universal/POE dye cartridges



EZ-Ject™ Dve Cartridges (Universal/POE) 0.5 oz (14.8 ml) cartridge



## **BEZ-400/ECS**

## Universal Dye Injection Kit

For all AC&R systems, including high-pressure R-410A systems! Compatible with Mineral Oil, Polyol Ester, PVE and Alkyl Benzene Lubricants Treats up to 400 lbs (181 kg) of refrigerant, 16 gallons (60.8 L) of lubricant, or 150 tons of cooling!

#### Contains:

- BEZ-50 dye injector assembly
- BEZ-25 hose assembly with check valve and 1/4 inch flare low-loss fitting
- (1) 4 oz (118 ml) BEZ-4/E universal/POE dye cartridge
- Service labels



Cartridges BEZ-4/ECS (Universal/POE) 4 oz (118 ml)

cartridge

BiaEZ™ Dve

## **GLO-STICK® Dye Capsules**





GS-1/ECS (Universal/POE) GS-2/ECS (Universal/POE) GS-3/ECS (Universal/POE)

Note: Available in other sizes/formulations.

## **TES-31**

## Tamper-Evident Straps

Protect AC&R systems against refrigerant cross-contamination and unqualified repairs. Warranty your work and ensure return business.

- Fast and easy to use
- · No special tools required
- Packaged in convenient zip-lock storage bag
- · Comes complete with 10 tamper-proof tie straps with unique serial numbers and matching labels



# **Dosage Charts**



Note: All universal/POE dye cartridges and capsules are **NSF Certified** and registered to meet food-grade processing requirements for category codes HTX-2 and HX-2

## **EZ-Ject™ A/C Dye Cartridges**

SYSTEM TYPE ①	Small systems, e.g., ice machines, window A/C units and refrigerators	Residential systems <sup>2</sup>	Light commercial and large residential systems <sup>②</sup>	Commercial and light industrial, including all split systems <sup>②</sup>
Refrigeration Oil Charge	Up to 15 fl oz (445 ml)	15.1 fl oz to 1.6 qt (445 ml to 1.5 L)	1.7 to 3.2 qt (1.6 to 3.0 L)	3.3 qt to 2 gal (3.1 to 7.6 L)
Refrigerant Charge	Up to 2.9 lb (1.3 kg)	3 to 4.9 lb (1.4 to 2.2 kg)	5 to 9.9 lb (2.3 to 4.5 kg)	10 to 25 lb (4.6 to 11.3 kg)
Tons of Cooling	Up to 1 ton	1.1 to 2 tons	2.1 to 6 tons	6.1 to 12 tons
Horsepower	Up to 1 Hp	1.1 to 4 Hp	4.1 to 10 Hp	10.1 to 25 Hp
No. Graduations on EZ-Ject	1	2	6	8-14

Treatment: One graduation treats one pint of refrigeration oil; two graduations treat one quart.

Always use the refrigeration oil charge when it is known. Refrigerant charge, tonnage and horsepower are approximations.

## **GLO-STICK® A/C Dye Capsules**

GLO-STICK® dye capsules require the use of two BV-50 bleed valves (for use on 1/4 inch flare hose fittings)

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Refrigeration Oil Charge	Up to 15 fl oz (445 ml)	15.1 fl oz to 1.6 qt (445 ml to 1.5 L)	1.7 to 3.2 qt (1.6 to 3.0 L)	3.3 qt to 2 gal (3.1 to 7.6 L)
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Tons of Cooling	Up to 1 ton	1.1 to 2 tons	2.1 to 6 tons	6.1 to 12 tons
Horsepower	Up to 1 Hp	1.1 to 4 Hp	4.1 to 10 Hp	10.1 to 25 Hp
LUBRICANT TYPE				
Polyol Ester (Universal/POE)	GS-101/ECS	GS-1/ECS	GS-2/ECS	GS-3/ECS
Mineral Oil	GS-101CS	GS-1CS	GS-2CS	GS-3CS
PVE	GS-101/PVE	GS-1/PVE	GS-2/PVE	GS-3/PVE

<sup>10</sup> Always use the refrigeration oil charge when it is known. Refrigerant charge, tonnage and horsepower are approximations.

## BigEZ<sup>™</sup> A/C Dye Cartridges

Dye Dose for BEZ-4 Series	System Size
1 line, 1/8 oz (3.7 ml)	1/2 gal (1.9 L) of lubricant, 12.5 lb (5.7 kg) of refrigerant or 5 tons of cooling

## **ACID-BUSTER™ Acid Scavenging Solution**

Product Number	Injector	Cartridge Size	Dosage <sup>①</sup>
AB-5CS	EZ-Ject™	0.5 oz (14.8 ml)	4 lines, 1/8 oz (3.7 ml) per 8 oz (237 ml) of refrigerant oil. One cartridge treats up to 1 qt (946 ml) of oil.
AB-4CS	BigEZ™	4 oz (118 ml)	1 line, 1/8 oz (3.7 ml) per 8 oz (237 ml) of refrigerant oil. One cartridge treats up to 2 gal (7.6 L) of oil.

On severely acidic systems, double the dosage shown



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**DISTRIBUTED BY:** 

One full cartridge is recommended for all split systems, even if they are being used for residential applications and they hold less than 10 lbs of refrigerant.

<sup>&</sup>lt;sup>®</sup> Use GS-3 series with all split systems, even if they are being used for residential applications and they hold less than 10 lbs of refrigerant.