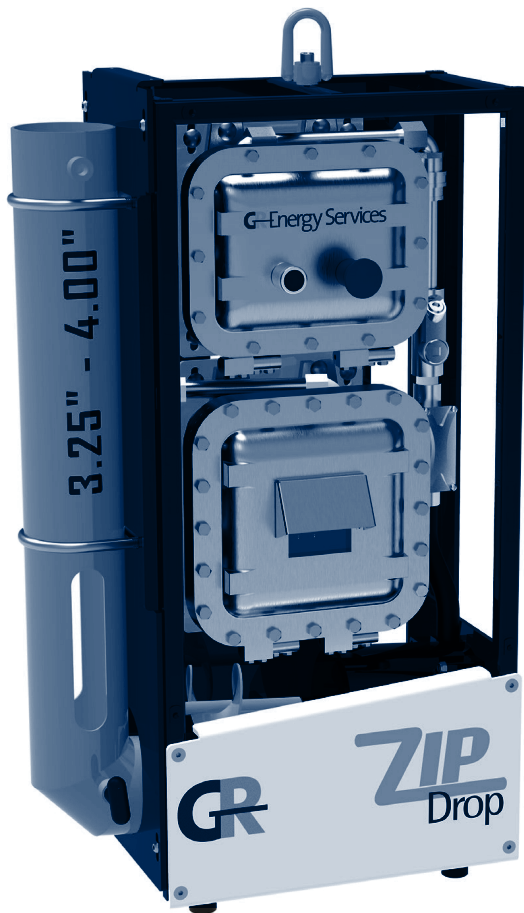


# ZIPDROP OPTICAL REMOTE BALL DROPPER REDUCES RISK TO WELLSITE PERSONNEL

GR Energy Services has developed the ZipDrop\* optical remote ball dropper to optimize safety, wellsite efficiency and transition time between frac stages. The patent pending, proven technology has been integrated into the ZIP\* Intervention Platform to help operators increase total available pumping time, reduce risk and lower the total cost of operations.



*The ZipDrop optical remote ball dropper saves time and eliminates the need for personnel to work at heights or in the red zone to place a ball in the top of the wellhead. The unit is 38.5 in. long, 22 in. wide and 10.5 in. deep and weighs 125 lbm. The yellow ball hopper is available in four different ball size ranges:*

- + 3.25 to 4 in.
- + 2.625 to 3.125 in.
- + 2 to 2.5 in.
- + 1.5 to 2 in.

Unlike conventional plug-n-perf operations that require personnel to work at heights to deploy frac balls by hand, ZipDrop equipment safely deploys balls with a high-powered, infrared, remotely controlled trigger mechanism. Pulses of infrared light, which are invisible to the human eye, are highly reliable and ensure a perforating-safe environment. A long-range visual drop indicator is visible in all weather conditions, and an induction-based sensor detects ball drops. A green LED window indicates a successful drop, and a red light indicates a ball drop did not occur.

## **Specifying ZipDrop equipment for frac and refrac operations locks in several advantages:**

- + Reduces risk—no personnel dropping balls at height in a high-pressure zone
- + Speeds up wellsite operations to significantly lower transition time between frac stages
- + Securely encoded infrared binary-code signal prevents ball drop triggering from other sources of infrared light
- + Fully reloadable outside the red zone so fracture operations can continue

Contact a GR representative for more information on ZipDrop equipment and the ZIP Intervention Platform. Compare the impact this technology makes on the challenges posed by today's horizontal well completions and you'll see a measurable difference that adds significant bottom-line value.