



A few feet can make ALL the difference

Fastest response time = shortest stopping distance with Hydrastar® Trailer Brake Actuators

When you're pulling a trailer and facing an emergency stop, a fraction of a second can translate into a few too many feet in stopping distance. Carlisle's Hydrastar trailer brake actuators deliver the industry's fastest response time to provide maximum braking safety for your towed trailer/vehicle.

Industry leading Hydrastar actuators are easy to install and meet all DOT and federal braking requirements – unlike surge brakes which are illegal in many states. Hydrastar has improved the stopping performance for trailers hauling boats, RV/towables, horses, cars, construction and farm equipment, and many other loads.



Better Braking for Towed Vehicles



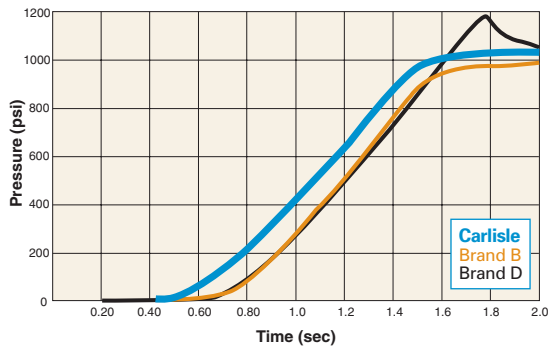
Industrial Brake & Friction

Check out Hydrastar, the fastest responding trailer brake actuator, call 800-873-6361 or visit www.carlislebrake.com/star

For rental fleets and shared trailers we recommend the Electrastar® and Hydrastar XL® with our in-cab, plug-in communicator.

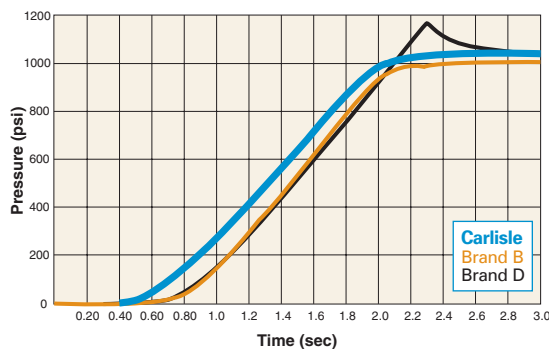
Get a faster response with the leader in trailer brake actuators... *Carlisle*

Response Time Test - Two Axle Trailer*



Time to 200 psi	Time to 900 psi
Carlisle 0.784 sec	Carlisle 1.423 sec
Brand B 0.934 sec (19% slower than Carlisle)	Brand B 1.534 sec (8% slower than Carlisle)
Brand D 0.934 sec (19% slower than Carlisle)	Brand D 1.545 sec (9% slower than Carlisle)

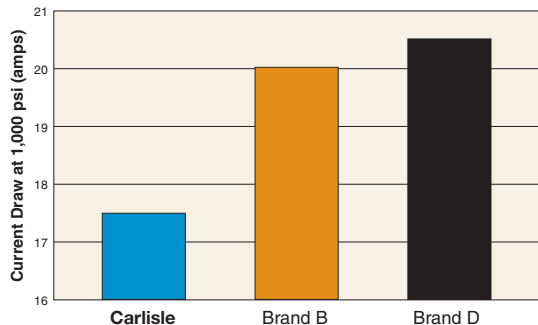
Response Time Test - Three Axle Trailer*



Time to 200 psi	Time to 900 psi
Carlisle 0.883 sec	Carlisle 1.843 sec
Brand B 1.083 sec (23% slower than Carlisle)	Brand B 1.945 sec (6% slower than Carlisle)
Brand D 1.083 sec (23% slower than Carlisle)	Brand D 1.993 sec (8% slower than Carlisle)

*All tests were run with the actuators connected to a two or three axle trailer (respectively) equipped with disc brakes and controlled by a Drawtite II controller.

Current Draw at 1,000 psi



To learn more call 800-873-6361 or visit www.carlislebrake.com

Specifications:

- **In cab controller required** – See instruction manual or our website for a list of approved controllers
- **12 volt DC operation** – Federal regulations require a battery and breakaway kit on trailer. Carlisle (HBA-BA) kit recommended, works with any 5 amp hr. breakaway kit
- **Electrical connections** – Recommended minimum wire; 12-gauge for splicing into power, ground and breakaway; 16-gauge for controller output
- **Hydraulic brakes** – For use with DOT 3 or DOT 4 brake fluid systems
- **Output pressure** – 1000, 1200, or 1600 psi pressures for various trailer brake configurations - prevents over pressurizing your brakes and damaging seals
- **Trailer-mounted and self-contained weather tight enclosure**
- **Dimensions** – 11.8" long x 3" wide x 7.3" high, shipping weight 12 lbs.
- **Accessories** –
 - Breakaway battery kit (HBA-BA) Automatically applies the trailer brakes in the event the trailer and towing vehicle become separated
 - 1/4" line adapter (HBA-BLC) Allows conversion to 1/4" brake line 1/4" brake lines improve braking performance on trailers over 20' and/or with triple axles

HydraStar® Model Numbers

HBA10	1000psi HydraStar Brake Actuator (For drum brakes)*
HBA12	1200psi HydraStar Brake Actuator (For 8k and larger drum brakes)*
HBA16	1600psi HydraStar Brake Actuator (For disc brakes)*
HBA-BA	Electronic Breakaway Kit/5 Amp hour Battery Pack
HSC	Carlisle in-cab controller

* Check with your brake manufacturer for pressure requirements

Superior to Surge Brakes

In addition to optimizing your trailer brake system for greater control and safety, HydraStar actuators solve many of the problems associated with traditional surge brake systems.

- Meets all DOT regulations and complies with CFR-393 federal braking requirements, as opposed to surge brakes
- Eliminates the feel of being "pushed" by the trailer (reducing the potential for jackknife)
- Eliminates problems found when backing a trailer uphill with surge brakes
- Eliminates brake drag common with surge brakes on a downhill grade

Cost effective replacement for vacuum over hydraulic systems

You're in control with...

CARLISLE

Industrial Brake & Friction

1031 E. Hillside Drive
Bloomington, IN 47401-6597