

# What are the Differences between hydraulic Desks and Electric Standing Desks?

*Why would an office desk use a hydraulic powered lift system? Read more to learn which lift is the best fit for your next office furniture project!*

AUSTIN, TX, UNITED STATES, September 5, 2018 /EINPresswire.com/ -- What do Boeing's top-selling 737 aircraft and Ford Motor Company's top-selling F150 trucks have in common with [Formaspace's new Weldmarx line](#) of height-adjustable desks, workstations, and tables?

If you guessed that Boeing and Ford are both Formaspace customers, we'll give you partial credit (because it's true!) — however that's not the answer we were looking for.

What do the top-selling passenger jet and pickup truck have in common? The answer is they both rely on hydraulic power for critical functions.

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When it comes to generating mechanical power, hydraulic systems give you a lot of “oomph” in a lightweight, compact package.”

*Formaspace*

hydraulics control the gear shifting in automatic transmissions as well.)

Our height-adjustable desk features sleek, uncluttered lines, thanks to hydraulic powered actuators (hidden in the legs) that can raise or lower the entire desk surface at the touch of a button.



hydraulics versus electric



white height adjustable desk

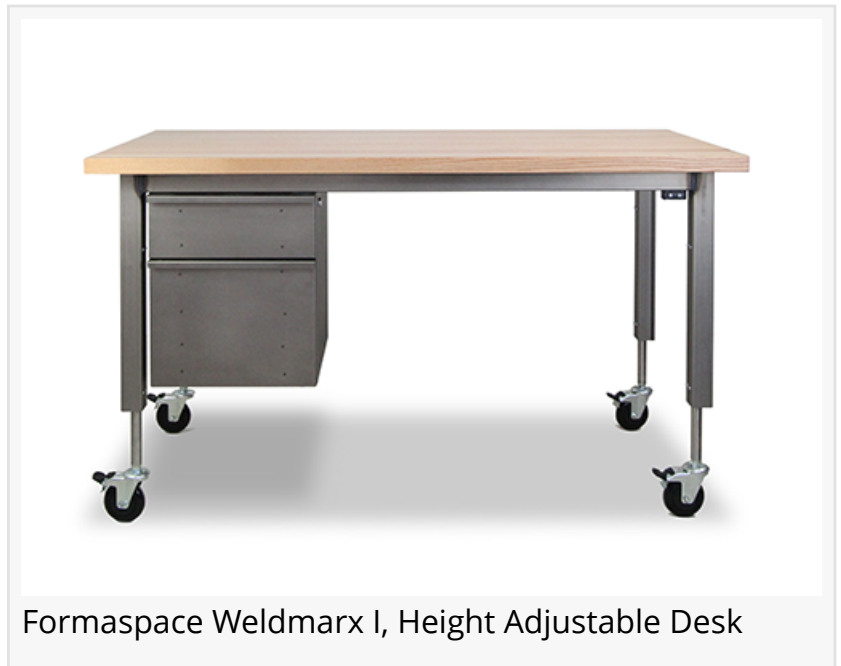
For example, when a pilot flies a Boeing 737 jetliner, electrical signals from the cockpit tell the hydraulically powered actuators when and how far to move the [flight control surfaces](#) (ailerons, rudder, flight spoilers, etc.) for a secure takeoff, smooth flight, and safe landing.

Likewise, when you press the clutch pedal on Ford F150 truck equipped with a manual transmission, heavy-duty hydraulic cylinders respond by activating the clutch. (If you drive a Ford F150 with an automatic, don't worry, internal

You may not have thought much about hydraulic power before, but there are dozens of examples of all around us.

For example, if you shop at Costco or Home Depot, you'll often see manual floor jacks used to move heavy items around the store — or forklift operators lowering pallets full of products from the storage racks. In all these cases, hydraulics provides the necessary lifting power.

Hydraulic power is also used to lift your car up in the air when it's time for the mechanic to inspect the chassis. It's also commonly used to raise and lower [elevators in low-rise buildings](#). (You can often hear the soft 'whoosh' sound as you descend in a hydraulic elevator as the fluid is released from the reservoir chamber.)



Formaspace Weldmarx I, Height Adjustable Desk

Even some of the newest high-end bicycles have scrapped mechanical cables in favor of hydraulically powered systems that activate the front and rear brakes.

#### WHEN DO FORD, BOEING AND FORMASPACE ENGINEERS CHOOSE HYDRAULIC POWER OVER ELECTRIC MOTOR POWER?

When it comes to generating mechanical power, hydraulic systems give you a lot of "oomph" in a lightweight, compact package.

Also, because hydraulic fluid does not compress, there is little to no mechanical power loss between the pump and the actuator — even if the hydraulic lines are quite long.

That's not to say electric motors are always ruled out of the picture. Formaspace does utilize electric motor power on certain desking solutions as well.

In engineering, design decisions are made on the basis of optimizing a series of trade-offs to get the best performance for a particular application.

Indeed, the newest iteration of electric motors is now seeing applications that were previously the exclusive domain of hydraulics. For example, Boeing's latest 787 jetliner is an "all-electric"

design, which doesn't rely on hydraulic actuators, in an effort to boost overall fuel economy. (In traditional jet aircraft, power for the hydraulic system is taken from the engines themselves; the 787 replaces this with high-efficiency generators driven by the engines instead.) Likewise, some new car models have introduced electrically powered steering in an effort to raise fuel mileage by one mpg.

## WHY DOES FORMASPACE SPECIFY HYDRAULIC POWER FOR OUR TOP-SELLING HEIGHT ADJUSTABLE DESK, WELDMARX I?

Weldmarx I, Height-Adjustable Desk

So, why did Formaspace engineers specify Weldmarx I with hydraulics over an electric powered system?

There are two main reasons.

First, we know customers care about the visual, ergonomic, and environmental impacts when choosing new furniture for their offices.

If you are familiar with our industrial-look furniture, you'll know we are known for our heavy-duty metal frames topped with a wide selection of surface materials (ranging from choice hardwoods, such as maple, to stainless steel and everything else in-between).

But you may not realize that the broad-stance metal frames that are part of our design language have a hidden benefit as well — they've allowed Formaspace engineers to incorporate hydraulic actuators inside the furniture legs where they are discreetly hidden from view.

This allows our hydraulic desk to maintain clean lines as part of our modern, industrial-look visual aesthetic. They also have no visible motors, gears or other dangerous "pinch point" mechanisms.

And that's not all. Thanks to embedding the hydraulic actuators inside the legs, Formaspace engineers were able to configure Weldmarx I to lift up as an entire unit — unlike competitor products which only raise a portion of the desk.

hydraulic system

The hydraulic fluid used in Formaspace desks is environmentally-friendly as well. Rather than using petroleum products, we use natural peanut oil instead.

Because Formaspace hydraulic desk lifts the entire desk as a complete unit, there is no need to

reshuffle your desktop items to make sure they “clear” the moving parts.

Instead, your monitor, keyboard, books — everything — will move up and down as a single unit. As a result, your employees will find it easier to move the desk up and down during the day, which in turn, will provide them with the desired health benefits that come from using a height-adjustable desk.

Using hydraulic power also makes our height-adjustable desks more friendly in the office environment. Other employees won't be distracted by workers shuffling around and futzing with their desk gear just to move their desk up and down. Hydraulic power is quiet, too — much less distracting than the buzzy electric motors used by our competitors.

What's the second reason that Formaspace engineers chose to utilize hydraulic lifts in some of their new desks?

The answer is safety.

To give you an idea, our hydraulically powered mobile pedestals are rated to lift loads of 1,000 pounds and up. In contrast, electric motor powered systems designed for the office furniture market are typically limited to 300 pounds of lift capacity.

Why is this important? As you can imagine, the first day you bring a height-adjustable desk into the office, a couple of jokers from the sales department are going to want to jump up on your brand new height-adjustable desk and “go for a ride.”

Even with a full complement of computer equipment and books loaded on the desk — plus any unauthorized passenger(s) — hydraulically powered Formaspace desks will be able to carry the load. Products using electric motor power? Not so much. Electric motors can whine in protest and then burn out when they get overloaded.

telescoping workbench legs

Telescoping Legs on Basix™ Workbench

Formaspace hydraulic powered height-adjustable desks, tables, and workstations uses a centralized electric powered or hand-cranked hydraulic pump that drives four individual lift actuators (one in each of the four legs.) The hydraulic system, designed for commercial office use, is sealed for life and rated for a 50K duty cycle (e.g. 50,000 lifts during its lifetime of service.)

As part of our quality assurance testing regime, Greg Casey (Formaspace Senior Vice President of Operations) reports that our sit-to-stand hydraulic desks are able to lift TWICE the weight and withstand TWICE the number of duty cycles required by BIFMA, the trade association for business and institutional furniture manufacturers which oversee the ANSI standards for the commercial furniture industry.

We test each of our hydraulic desks thoroughly and, like all our furniture products, back them up with a 12-year, no-questions-asked guarantee.

WHY DOES FORMASPACE SPECIFY ELECTRIC POWER FOR WELDMARX II+ (SERIES DESK SYSTEM) AND #NETWORKING (MULTI-PURPOSE PING PONG TABLE)?

So, why did Formaspace engineers specify Weldmarx II+ and #Networking with an electric over a hydraulic powered system?

There are three main reasons.

First, there is no additional weight.

Formaspace utilizes electric motor power on certain desking solutions because of the needed weight capacity. Neither of our electric powered desking systems have a mobile pedestal attached so there is no need for a heavy-duty hydraulic system.

Second, easy integration of Bluetooth controllers with electric lifting systems.

Our #Networking table uses an electric lift because of its Bluetooth enabled capabilities. You can control your height-adjustable ping pong table with any Bluetooth-enabled device.

Lastly, we wanted to reduce the number of legs present.

If Formaspace were to create our Weldmarx II+ back-to-back desking solutions with our hydraulic system used on Weldmarx I, we would utilize twice as many legs. Using these many legs would conflict with usability and aesthetics.

So, for more practical reasons, electric was the best fit for these unique projects.

Both hydraulic and electric lifts have appropriate applications depending on the requirements for a desk. Want to find the right fit for you project? Be sure to talk to a Design Consultant to find out what is best for you.

Read more ... [https://old.formaspace.com/articles/office-furniture/differences-hydraulic-and-electric-desks/?utm\\_source=facebook&utm\\_source=einpresswire&utm\\_medium=social&utm\\_medium=content+&utm\\_campaign=article-080817](https://old.formaspace.com/articles/office-furniture/differences-hydraulic-and-electric-desks/?utm_source=facebook&utm_source=einpresswire&utm_medium=social&utm_medium=content+&utm_campaign=article-080817)

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