Infinity™ and P220 Series

Automation Design Considerations for Future Calibrations

Application Note AN540

www.dukane.com ussales@dukane.com

Automation Design Considerations for Future Calibrations

Designing the press system around calibrations has several considerations. Access will be required to differenct areas of the machine to perform a successful calibration. Several of these requirements are not only needed for calilbration, but for day to day usage of the press.

There are five basic conditions that should be considered when designing an Ultrasonic Welding Station for calibration and future use. These conditions are as follows:

- **Front Door Panel Access –** The front door panel should be accessible from the front of the press. The stack inside will be removed/replaced during the calibration process. The X2, X3, and X4 all will need additional clearance in front of the door panel for the calibrated weights used during the calibration process.

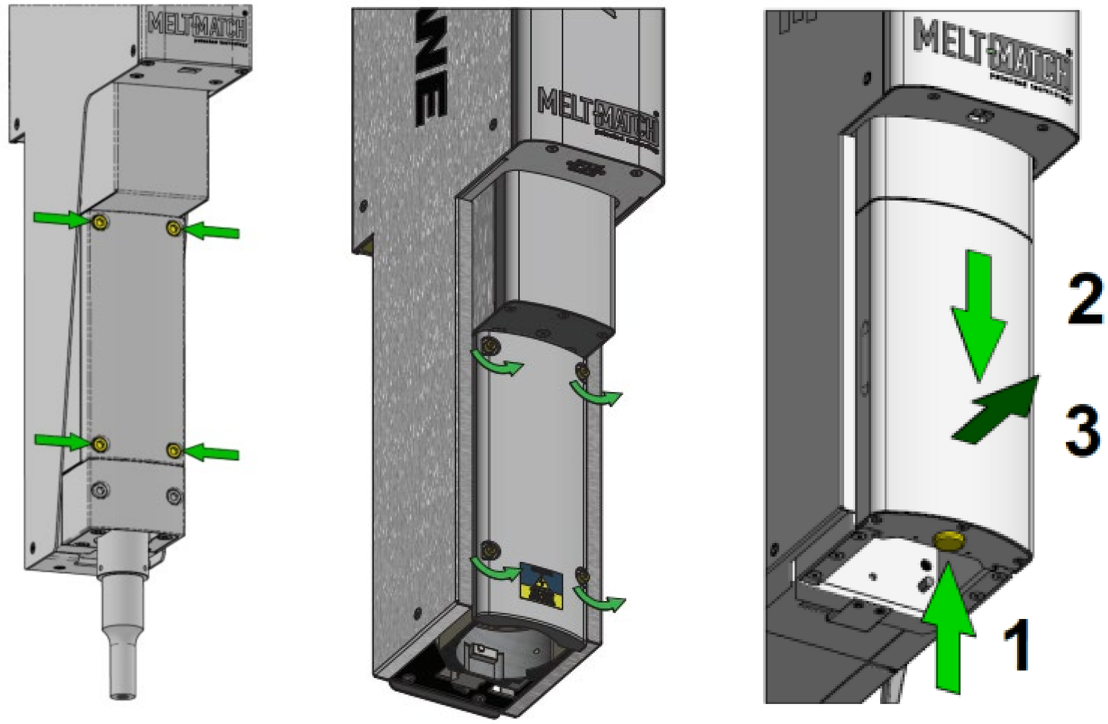
- **Clearance Beneath the Stack Housing** - Force, Distance, and Speed are all measured during calibration. A LEVEL AND RIGID surface, parallel with the stack is needed for placement of the force gauge and gauge blocks. The force gauge size measures about 78mm x 25mm x 50mm (3.0” x 1.0” x 2.0”). When measuring force, force is gradually applied up to 10% above the maximum press force specification during calibration.

- **Cabling Access** – Access will be required to the press USB connector, the generator I/O connector(s), and the generator ultrasound output connector.

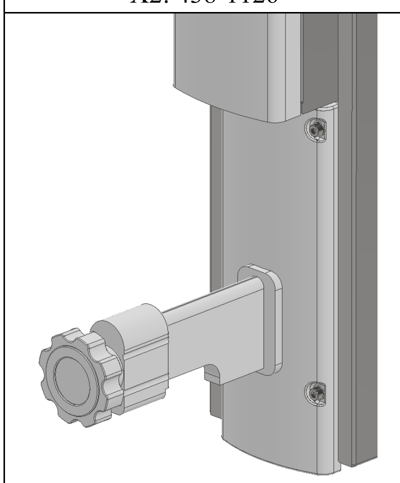
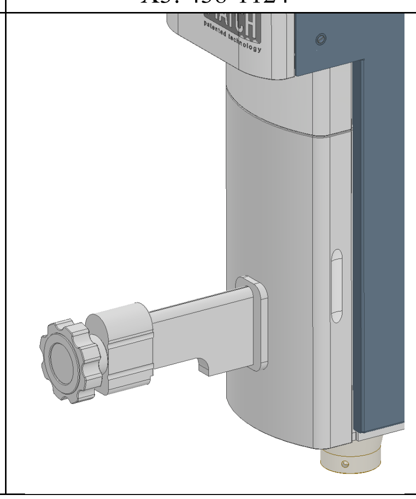
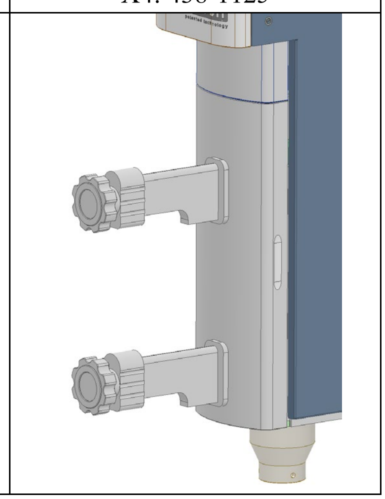
- **Extra Outlets** – A least one 110 Vac outlet should be available for powering the calibration test instruments.

- **Anti-Rotation Screws Access –** Screw access, found typically underneath the front door panel, is not required for the calibration but should be a consideration when designing the machine. Access is especially needed in applications where alignment is critical.

Front Door Panels – Examples of the door panels found on Infinity/P220 systems can be found below.

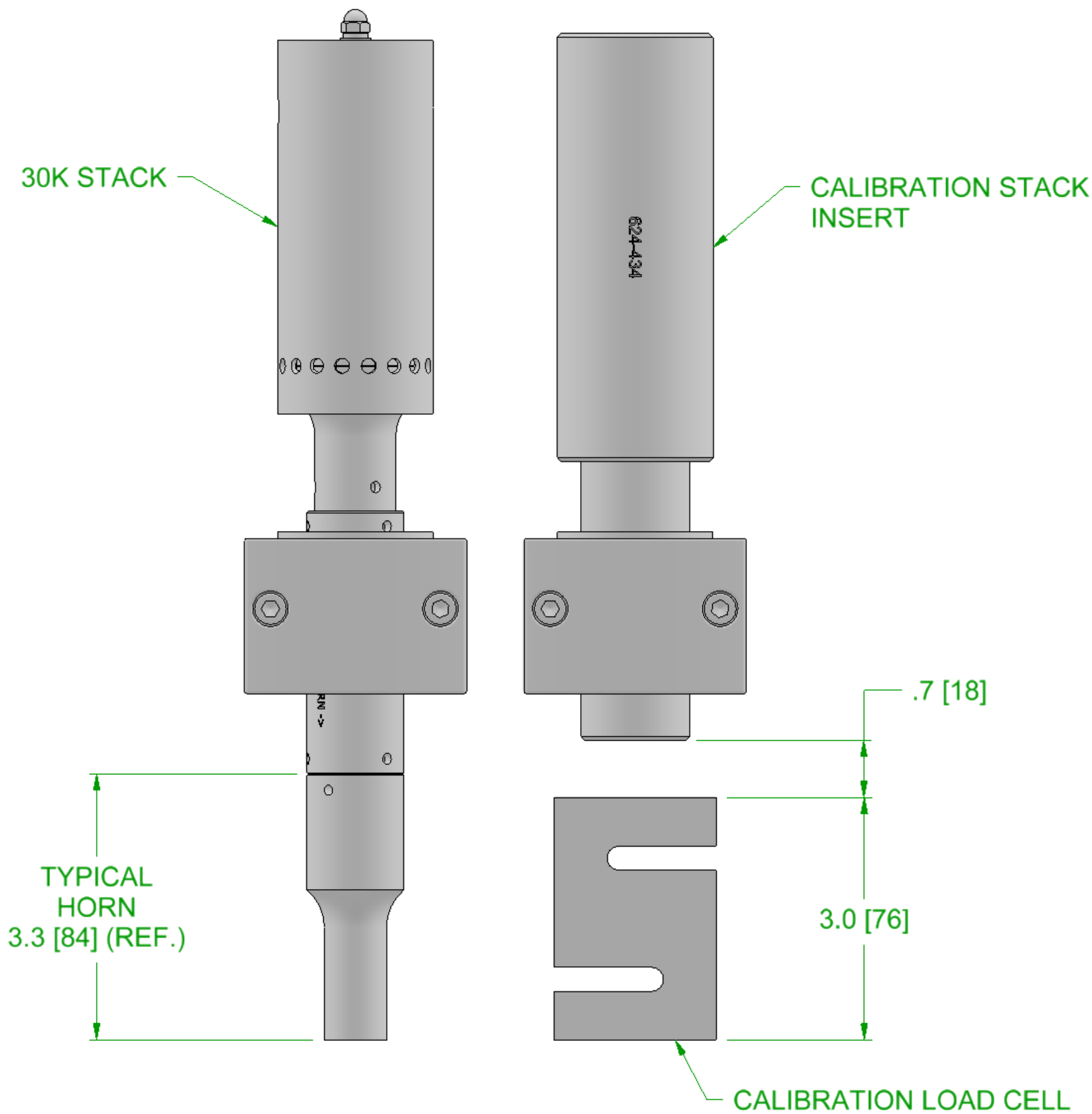


From left to right, the X1, X2 and X3 front door screws or panel. The X4 has a similar door design as the X3. The USB port can be seen just above the door on all three presses.

X2: 438-1126	X3: 438-1124	X4: 438-1125
		

Depiction of the doors panels used during force calibration for the different press systems. The X1 system uses the weight of the calibration stack.

Clearance Beneath the Stack Housing – The customer stack will need to be removed so the calibration stack can be inserted into the press. Dukane recommends either making the fixtures easily removable, or if there is enough room, a piece of metal over the top specifically for use in calibration is sometimes used.



Left, A "typical" customer stack. Right, The space required for the calibration load cell and a depiction of the Calibration stack that is placed in the thruster. Units are in inches with [ ] notating mm.

Contacting Dukane

Mailing Address:

Dukane IAS

2900 Dukane Drive

St. Charles, IL 60174 USA

Phone: (630) 797–4900

E-mail: *ussales@dukane.com*

Website

The website has information about our products, processes, solutions, and technical data. Downloads are available for many kinds of literature.

This is the address for the main website:
www.dukane.com

Application Support

You can get application support at the following link below:
https://www.dukane.com/support/#application-support

Local Representative

You can locate your local representative at:
www.dukane.com/contact-us

Please refer to our website at:

www.dukane.com/contact-us

to locate your local representative.

DUKANE