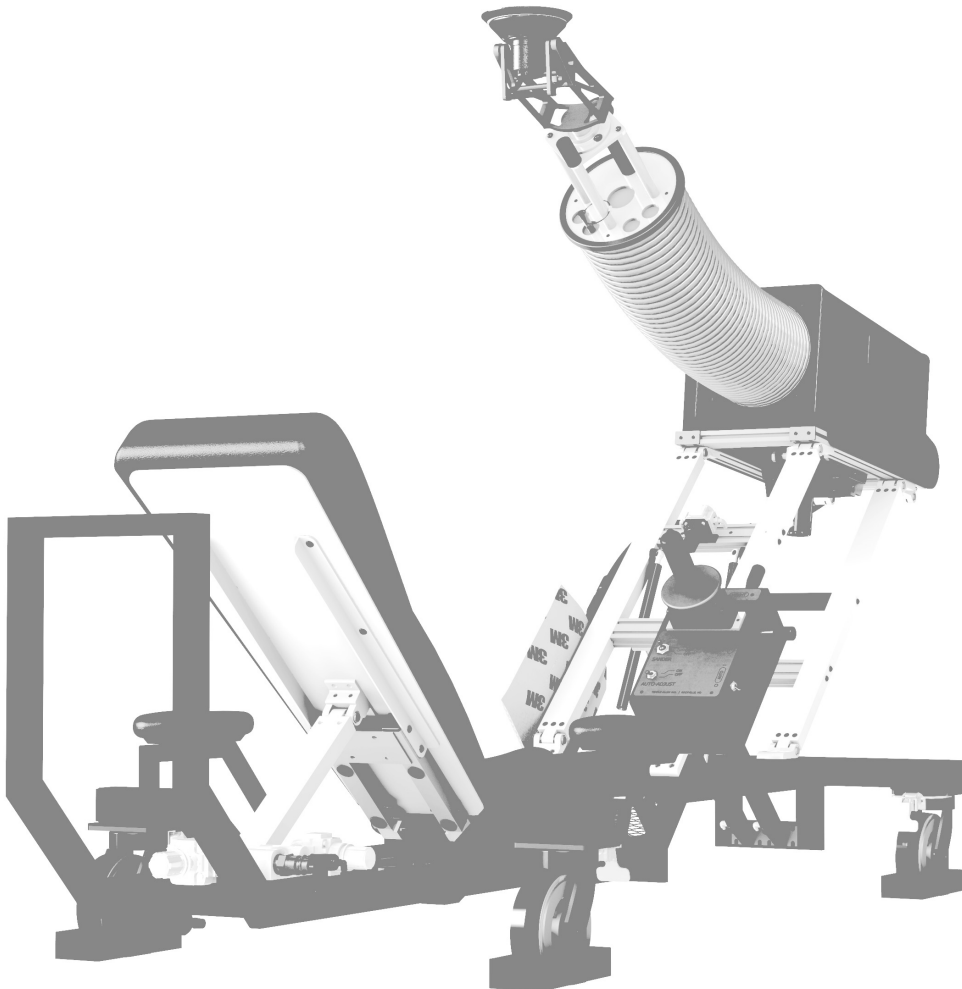


meet EMMA [easily manipulated mechanical arm]

Belly Systems

EMMA (Easily Manipulated Mechanical Arm) from Temple Allen Industries is a 100% pneumatic arm that can deliver a variety of surface preparation tools while effectively shielding artisans from the health and safety problems associated with manual sanding. All EMMA systems include the core technology – the EMMA module – combined with a deployment structure designed to best position the artisan and the End-Effector for a given application.

The EMMA Belly System is ground deployed and designed for maximum maneuverability and easy integration within current shop infrastructure. EMMA systems address some of the most ergonomically challenging surface preparation tasks, including sanding overhead.



TEMPLE ALLEN INDUSTRIES

ROCKVILLE, MD | WWW.TEMPLEALLEN.COM | 301.541.3662

EMMA [belly system]

ARM

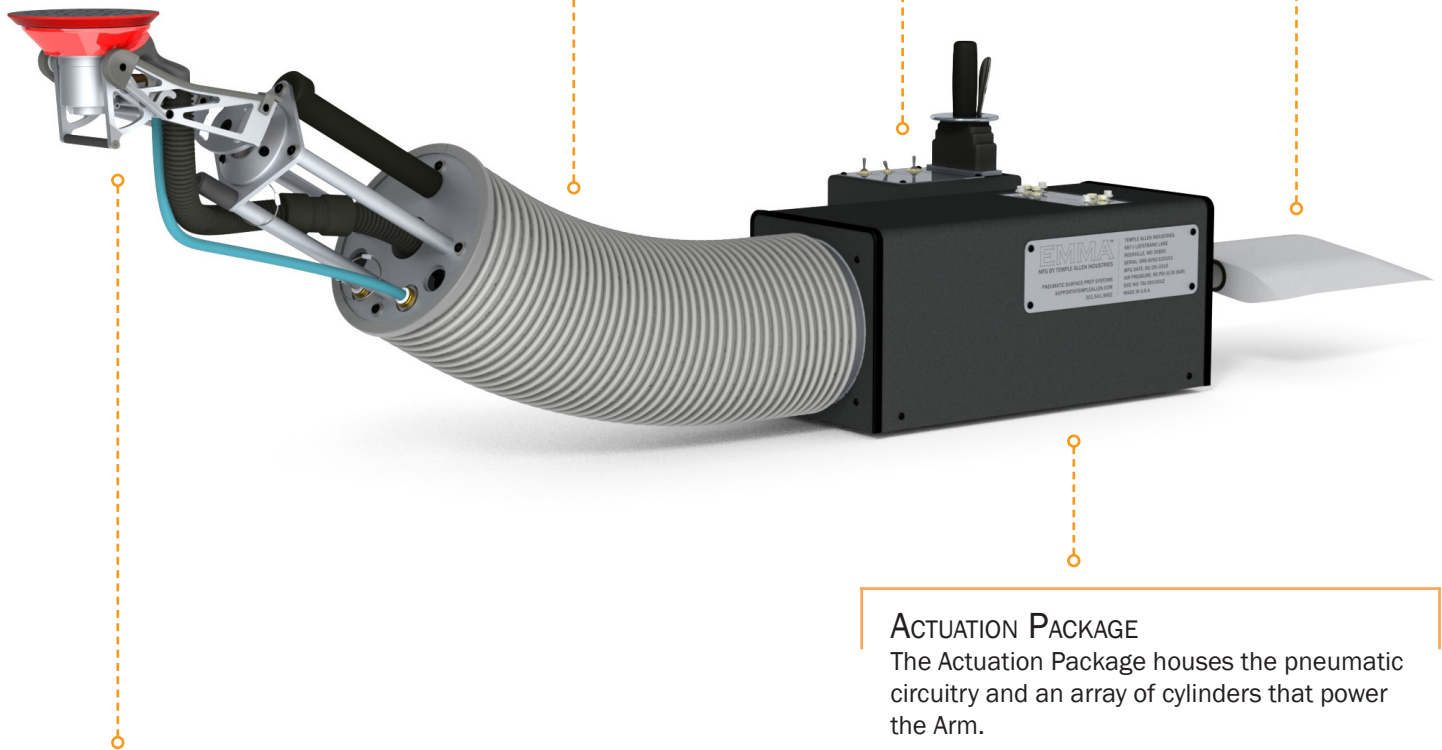
The Arm is a sheathed set of control cables and a polyurethane core that generates EMMA's smooth motion.

JOYSTICK BOX

With intuitive joystick controls, an EMMA operator is always in full control of the sanding system and material removal rate.

INTEGRATED VACUUM

The optional Integrated Vacuum allows operators to utilize disposable 3M Clean Sanding Filter Bags



END-EFFECTOR

The End-Effector is the mounting assembly that holds the sander(s) at the end of the Arm. In an EMMA End-Effector frame, the sander(s) independently pitch and roll and are balanced to allow abrasive discs to conform to the working surface. EMMA End-Effectors always hold sanders flat (normal) to the surface. EMMAs can be outfitted with a variety of End-effectors to tackle different surface preparation challenges.

ACTUATION PACKAGE

The Actuation Package houses the pneumatic circuitry and an array of cylinders that power the Arm.

AUTO-ADJUST

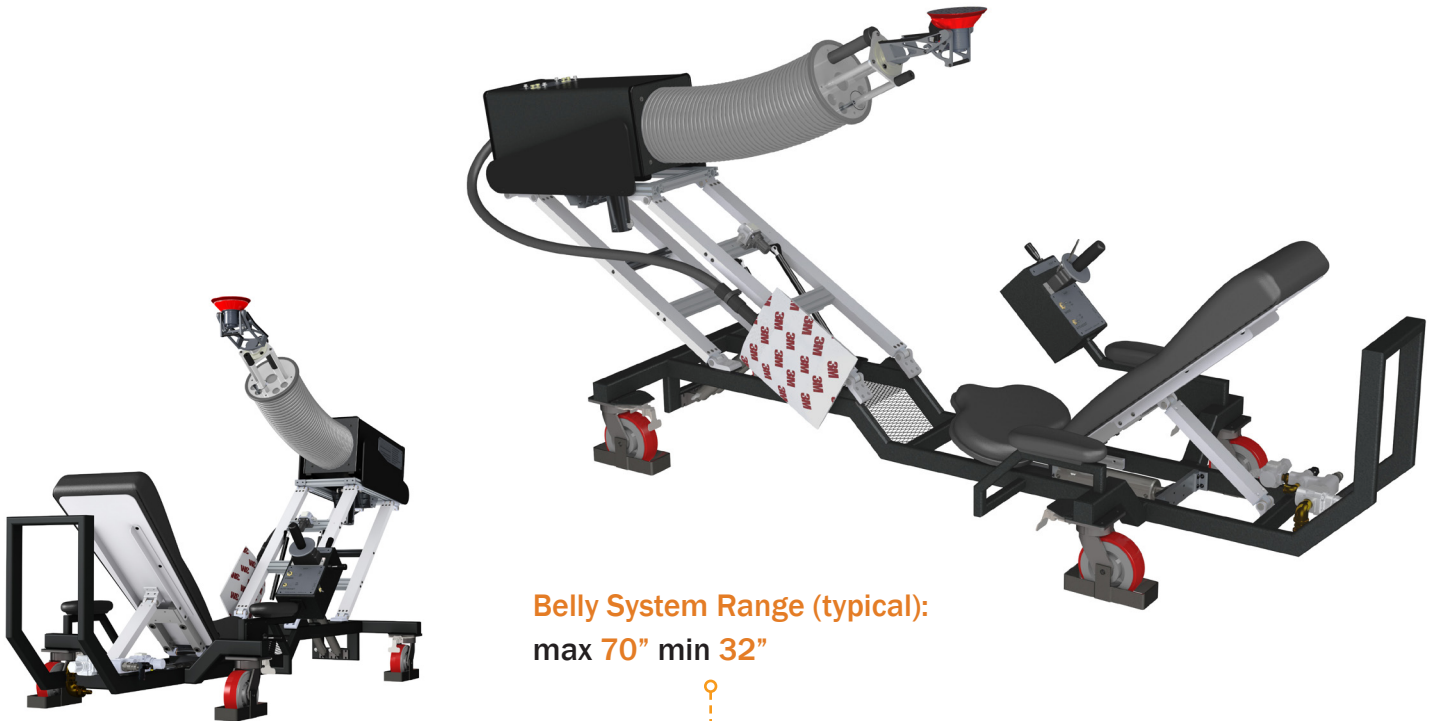
Each EMMA has an Auto-Adjust mechanism that accommodates both flat and curved surfaces, ensuring the consistent application of user-specified contact pressure over the skin of an aircraft.

EMMA [belly system]



BELLY SYSTEM

The EMMA Belly System solves the greatest ergonomic challenge in surface preparation - sanding or grinding overhead. EMMA allows the operator to comfortably sand the belly of an aircraft and underneath its wings. The operator sits in the EMMA's adjustable reclining chair and controls the system using the joysticks.



Belly System Range (typical):
max 70" min 32"

All min and max heights are estimates based on the standard EMMA model for each system. The reach of each system can be tuned (by changing various components) to best meet the needs of a specific application.

Common Options

- Auto-sweep
- Integrated Vacuum
- Operator Presence Control
- Variable Wheel Mounting Plates
- Raised Chassis - allows higher reach
- Auxiliary air supply - allows use of hand tools

