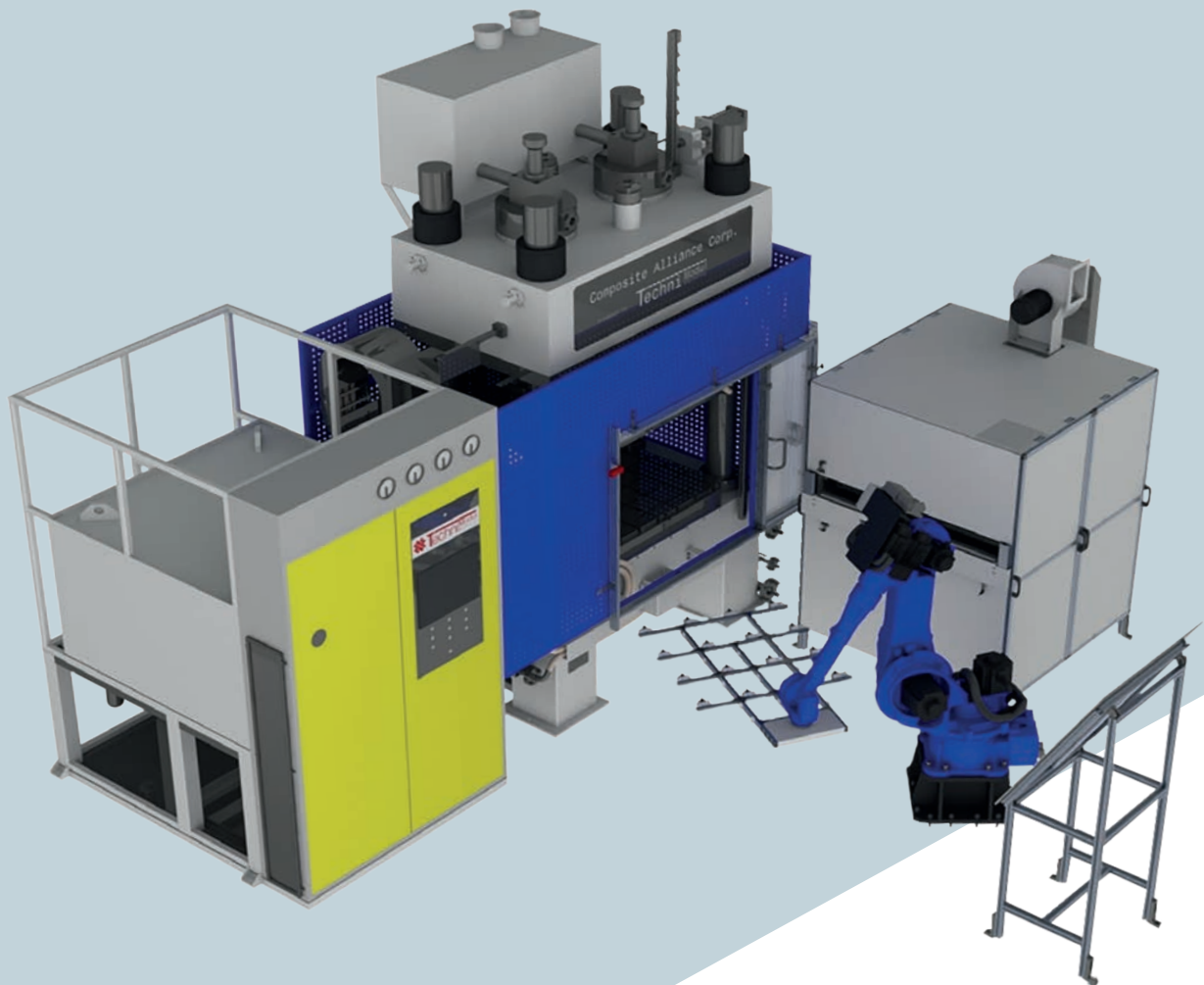


THERMOPLASTIC WORK-CELLS



Composite Alliance Corp. (CAC) offers standard press forming cells for continuous fiber-reinforced thermoplastic composites (TPCs). Complete workstations can be provided including the material transport system, pre-heating ovens, consolidation & forming presses, tooling and fixtures.

Different work-cell configurations are available with various levels of automation depending on applications and throughput. Solutions are offered for laboratory or production, up to very high-volume and for a variety of materials such as PEEK, PEKK, PEI, PPS, PA, PC...



STEP 1: Robot transfer of thermoplastic consolidated blanks from storage to IR oven for material heating

STEP 2: Transfer of pre-heated blanks from IR oven to press in **5 seconds** approximately

STEP 3: Thermo-stamping

STEP 4: Robot or manual part demolding or automated mold changing station

CHOICE OF STANDARD SIZES BASED ON PRESS/OVEN DIMENSIONS		REFERENCES		
		TMP 700	TMP 1000	TMP 1500
PRESS & HEATING PLATENS	Platen length mm (in)	700 (27.5)	1 000 (39.4)	1500 (59.0)
	Platen width mm (in)	700 (27.5)	1 000 (39.4)	1 000 (39.4)
	Platen working area mm (in)	500 X 500 (19.7)	800 X 800 (31.5)	1 300 (51.2) X 800
	Max opening height mm (in)	800 (31.5)	1000 (39.4)	1000 (39.4)
	Closing force T (US ton)	150 (163.3)	300 (330.7)	500 (551.2)
	Stroke mm (in)	700 (27.5)	900 (35.4)	900 (35.4)
	Platen temperature uniformity °C (°F)	± 3 (5.4)	± 3 (5.4)	± 3 (5.4)
IR OVEN	Heating area mm (in)	800 X 800 (31.5)	1000 X 1000 (39.4)	1500 X 1200 (47.2)
	Homogeneity area mm (in)	600 X 600 (23.6)	800 X 800 (31.5)	1300 (51.2) X 1000
	Total heating power kW (kBTU/hr)	2 X 25 (2 X 85.3)	2 X 40 (2 X 136.5)	2 X 72 (2 X 245.7)
	Max working temperature ± 15°C (± 27°F)	450 (842)	450 (842)	450 (842)

Robot YASKAWA (ABB or any other brand in option) • For a custom made thermoplastic work-cell, please contact our sales team



AVAILABLE FEATURES

- Supervision station: material and mold database, data acquisition, process monitoring & production traceability
- Infrared oven multi-zone pre-heating up to 450°C (842°F)
- Heated platens or integrally heated tools up to 250°C (482°F)
- Adjustable stamping pressure
- Adjustable daylight opening
- Gripper with integrated suction cup



ADVANTAGES

- Reliable and repeatable performance
- Rapid cycle automated process
- Simplicity of use and maintenance
- Accurate material positioning
- Heating temperature uniformity
- Optimized human-machine interface
- Advanced tooling and process expertise



OPTIONS

- Material thermal uniformity control
- Automatic mold changer with preheating station
- Automated mold flanging
- Robot de-molding
- Heating platen up to 450°C (842°F)
- Cooling platen
- Ejection system
- Gripper with holding the material in tension

CAC AT A GLANCE

Composite Alliance Corp (CAC) is a global tooling, machinery and service supplier offering a wide selection of standard and custom solutions in support of composite part design and fabrication. Our goal is to advise, equip and assist our customers in using cost effective advanced manufacturing processes to maximize performance and to widen the applications of composites.



www.compositealliance.com

