

WHAT IS CLAIMED IS:

1. A frame for a laser processing module, comprising:
a platform having an upper surface and a lower surface;
an optics bridge spaced apart from, and extending over, the upper surface of the platform;
and
a bridge support interposed between, and coupled to, the platform and the optics bridge,
wherein at least one selected from the group consisting of the platform and the optics
bridge includes a sandwich panel, wherein the sandwich panel includes:
a first plate;
a second plate;
a core interposed between the first plate and the second plate, wherein the first
plate and the second plate are indirectly attached to one another by the core and wherein the core
defines at least one channel extending between the first plate and the second plate;
a first port formed at an exterior of the sandwich panel and in fluid
communication with the at least one channel; and
a second port formed at the exterior of the sandwich panel and in fluid
communication with the at least one channel.
2. The frame of claim 1, wherein the core includes a tube.
3. The frame of claim 1, wherein the core includes a plate.
4. The frame of claim 1, further comprising a tube arranged within the at least one channel
and extending from the first port to the second port such that an interior of the tube is not in fluid
communication with the at least one channel of the sandwich panel.
5. The frame of claim 4, wherein the platform includes a sandwich panel and wherein the
sandwich panel further includes an exterior wall extending from the first plate to the second
plate,
wherein the first port is located in the first plate and the second port is located in the
exterior wall.

6. The frame of claim 4,
wherein the optics bridge includes an optics table and an optics wall, wherein a surface defined by the optics table and is not parallel to a surface defined by the optics wall,
the optics bridge includes a sandwich panel, wherein the sandwich panel of the optics bridge further includes an exterior wall extending from the first plate to the second plate, and
the first port is located in the first plate and the second port is located in the exterior wall.
7. The frame of claim 6, wherein the optics table is formed from the second plate.
8. The frame of claim 7, wherein the optics wall is formed from the second plate.
9. The frame of claim 1, wherein the optics bridge includes a sandwich panel, the frame further comprising:
a tube external to the optics bridge, wherein an interior of the tube is in fluid communication with the at least one channel of the sandwich panel of the optics bridge.
10. The frame of claim 9, wherein the tube is integrated within the bridge support.
11. The frame of claim 1, further comprising a purge system having at least one purge outlet, wherein the purge system includes at least one purge tube operative to convey fluid to the at least one purge outlet.
12. The frame of claim 11, wherein the at least one purge tube is integrated within the bridge support.
13. The frame of claim 11, wherein the at least one purge tube extends through the optics bridge.
14. The frame of claim 13, wherein
the optics bridge includes an optics table and an optics wall,

wherein a surface defined by the optics table and is not parallel to a surface defined by the optics wall, and

wherein the at least one purge tube extends through at least one selected from the group consisting of the optics table and the optics wall.

15. The frame of claim 1, wherein the frame does not include any material selected from the group consisting of granite, diabase, and concrete.
16. A laser processing module for processing a workpiece, the module comprising:
 - a frame provided according to any one of claims 1 to 15;
 - a laser source supported by the optics bridge,
 - wherein the workpiece is supportable on the platform.
17. The module of claim 16, wherein the laser is a carbon dioxide laser.
18. The module of claim 17, wherein the carbon dioxide laser is operative to generate a laser beam having an average power of 200W or greater.
19. The module of claim 18, further comprising:
 - a shroud door attached to the optics bridge; and
 - wherein the shroud door and optics bridge partially define an optics bay within which the laser source can be supported,
 - wherein the shroud door can be opened and closed, and
 - wherein, when the shroud door and second door are opened and the frame is supported on a surface, the laser source is accessible to a user standing on the surface.
20. The module of claim 16, wherein the laser is an ultraviolet laser.
21. The module of claim 16, wherein the frame is provided according to any one of claims 6 to 8 or 14, the module further comprising:

a positioner operative to move the beam of laser energy relative to the workpiece, wherein the positioner supported by the optics wall of the optics bridge.

22. The module of claim 16, wherein the frame is provided according to any one of claims 6 to 8 or 14, wherein the optics bridge further comprises a process wall opposite the optics wall, the module further comprising:

at least one optical component supported by the process wall.

23. The module of claim 22, further comprising:

a shroud attached to the optics bridge and the platform;

a first door attached to the shroud; and

a second door aligned to the first door and attached to the frame at a location below the platform,

wherein the shroud, shroud door, optics bridge and platform define a process bay within which the workpiece can be supported during processing,

wherein the first door and second door can be opened and closed, and

wherein, when the first door and second door are opened, the at least one optical component is accessible to a user.

24. A laser processing module, comprising:

a system frame, wherein the system frame includes at least one sandwich panel including two plates indirectly attached to each other by a core interposed between the plates; and

a laser source supported by the system frame.

25. A laser processing module comprising:

a carbon dioxide laser operative to generate a laser beam having an average power of 200W or greater; and

a frame, wherein the laser is supported by the frame and wherein the frame does not include at least one material selected from the group consisting of granite, diabase, and concrete.

26. A laser processing module comprising:

a carbon dioxide laser operative to generate a laser beam having an average power of 200W or greater; and

a frame, wherein the laser is supported by the frame and wherein the frame is supported on an exterior surface by no more than three support pads.

27. A laser processing module comprising:

a frame;

a chuck supported by the frame, the chuck configured to support a workpiece within a process bay;

a laser operative to generate a laser beam configured to process the workpiece;

a visual signaling system including at least one light emitting element operative to emit light, wherein the visual signaling system is operative to illuminate at least one object exposed to the process bay with the light; and

a controller communicatively coupled to the visual signaling system, wherein the controller is operative to control the visual signaling system to change at least one characteristic of the light depending upon at least one selected from the group consisting of a functional status of the laser processing module, the type of workpiece to be processed within the laser processing module, a pattern of features to be formed in or on the workpiece during processing, a status of a production run, a throughput of the laser processing module, a cycle time during processing of a workpiece and a takt time.