复杂构件激光精密焊接技术

Laser precise welding technologies of complex components

激光焊接作为一种高能束热源，它具有焊接速度快、焊缝深宽比大、焊接变形小、焊缝清洁等优势，在现代工业与新领域中的应用一直不断发展。针对航天、航空、核工业及船舶工业领域的应用需求，我们重点开发了特殊复杂结构件的激光焊接工艺及其系统集成技术，如钛合金蒙皮/骨架式轻量化构件激光精密焊接技术，铝合金与高强钢T型构件的双侧双激光或双复合热源焊接技术，其成套工艺与装备技术已经在航天飞行器、三代核电等关键部件的批生产中成功应用。

The complete laser welding process and system integration technology for special complex components have been developed, for instance, laser precise welding technology for titanium skin/stringer light-weight structure, simultaneous both side welding technology by laser beam or laser-arc hybrid welding for aluminum alloys and high-strength steel T-joints structure. The technologies and equipments developed have been successfully applied in the mass production for key components of aerospace flight vehicle and new nuclear pov

钛合金精密组焊舱体

Titanium chamber by laser precise welding

五轴联动激光焊接系统

Laser welding machine with 5-axis CNC system