1.4 Pillow Plate CNC Welding Machines

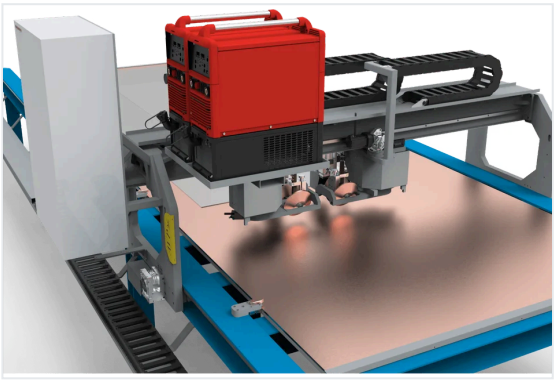
KTV 1

KTV 1: portal CNC machine for dimple jacket (pillow plate) heat exchanger panels – spot, longitudinal and transverse welding on a 2,000 × 6,000 mm table. Available in a TIG or a laser version.

Applications Dimple jacket cooling and heating jackets for tanks and heat exchangers.



KTV 1 (front)



KTV 1 (rear)

Description

The KTV 1 CNC sheet metal welding machine is used for spot, longitudinal and transverse welding. It is designed specifically for welding dimple jacket (pillow plate) panels, which are used as heat exchangers. The gantry construction lets the operator pre-position the entire workpiece. The machine takes up only as much floor space as the size of the sheet – no space is needed for feeding and ejection. The workpiece is fixed on the table, which eliminates the possibility of incorrect positioning.

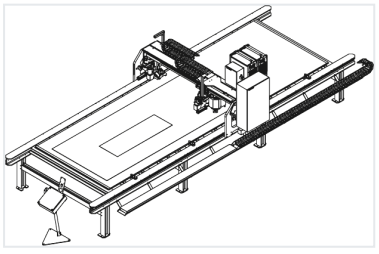
The welding process is fully automatic, and the welded joints are strong enough to withstand high inflation pressure. The program for the whole surface is generated from just a few parameters. The machine is available in a TIG or a laser version, and welds directly at the edge of the top sheet.

> ***Automatic operation – the entire surface can be welded even without an operator present***

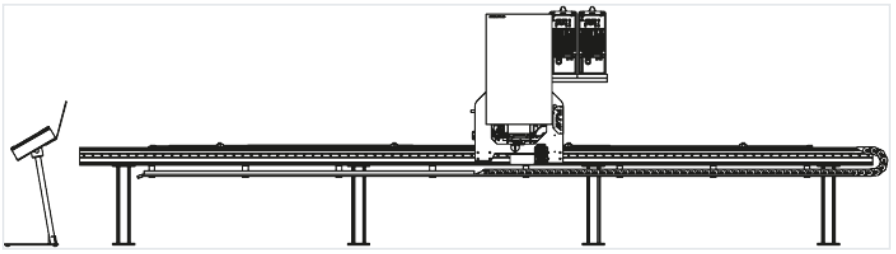
Options

- TIG or laser welding version
- Video systems – welding cameras
- AVC system (TIG version only)

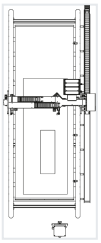
Layout drawings



Isometric view



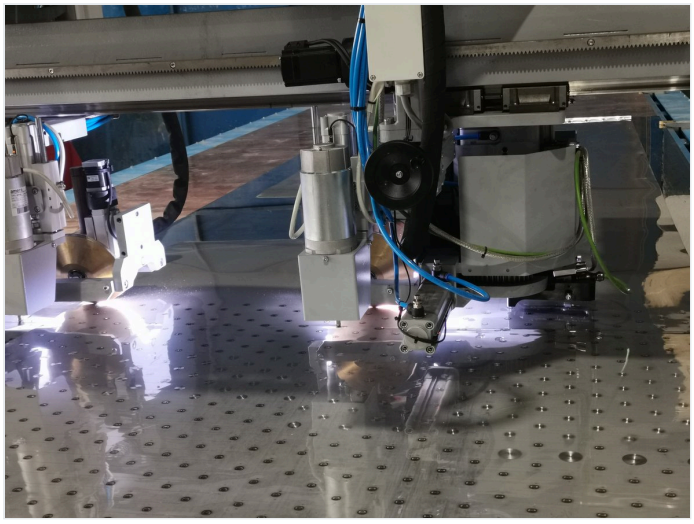
Side view



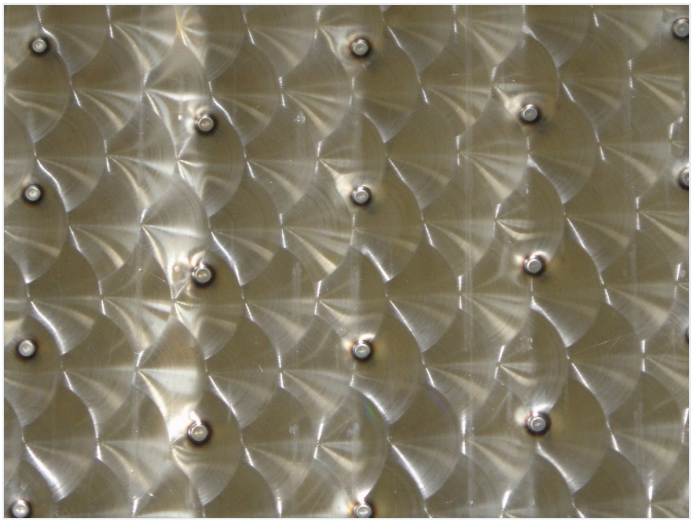
Top view

1.4 KTV 1 – features

Pillow Plate CNC Welding Machines



KTV 1 (welding process)



Sample of welding and grinding

Equipment

- Basic work table with copper backing, 2,000 mm × 6,000 mm
- Two welding heads (TIG or laser version), each with an AVP-developed wheel assembly that presses the sheet to the table – pressure and inclination are adjustable so that it sits firmly on the surface, and the wheels rotate by 90°
- Each welding head has its own welding power source
- Each welding head has a torch with motorized height adjustment (also during welding)
- Full control from a touchscreen console – voltage, speed, etc.
- Two servo motors (one for each welding head) move the welding heads transversely
- Two synchronized servo motors move the welding gantry longitudinally
- Two grinding heads clean the weld spots (and create the marbling pattern)
- Grinding pressure and pressure of the wheels on the table are adjustable separately on regulators
- Simple pneumatic sheet clamping system
- Control panel, numerical programming and program storage

Technical data

Working table	2,000 mm × 6,000 mm
Welding process	TIG or laser version
Welding heads	2, each with its own welding power source
Longitudinal travel	2 synchronized servo motors
Transverse travel	2 servo motors (one per welding head)
Surface finishing	2 grinding heads
Control	Touchscreen console, numerical programming, program storage