

19740

VACUUM CLAMPING SYSTEMS

Technical Notes

Easy to install and set up vacuum workholding system.

We recommend use of a coolant trap (optional) when using an external vacuum source.

Tips

1. Receiver base 19740.W0200 is 406 x 355mm, with grid plate design to allow multiple workholding solutions. Textured surface generates additional holding force through friction.
2. Machined with cross slots to form grids

- of 23,6mm square, at 26,9mm spacing. Each grid machined with M6 x 0,8 holes for fixing of stops such as sliding stop 12042. W0200.
3. Cross slots (3,6mm wide x 3,5mm deep) accept sealing gasket around each grid. Flexible receiver base design with 4 vacuum ports allowing holding of 1 to 4 small parts, or 1 large part (vacuum ports can be plugged).
4. Six oversized steel washers machined below bottom surface of receiver means it can be used for grinding operation on a

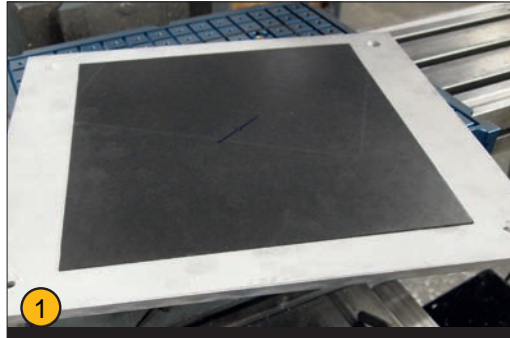
magnetic chuck.

5. Twelve recessed pockets on side of receiver base allow multiple bases to be linked together to make a single large vacuum table.
6. 12mm diameter locating pins on underside of receiver base at 270mm, centre line for easy location.
7. Can be powered with shop air (70-100 psi), or vacuum generator.
9. Eight location ports for vacuum source connection.

Order No.	Description	l_1	h_1	w_1	Weight kg
19740.W0000	Complete System Includes: Multi Vac Pallet, Vac Generator, Coolant Trap and Fittings.	406	31.7	355	15.0
19740.W0050	Coolant Trap with Hose and Fittings	-	-	-	1.5
19740.W0100	Vacuum Generator with Regulator, Filter and Push Fit Connections	-	-	-	1.0
19740.W0200	Multi Vac Plate Only. With Mounting Fittings and Tubing.	406	31.7	355	16.5
19740.W0250	Sacrificial Top Plate with Mounting Screws (406 x 355mm).	-	-	-	4.0



Application 1



- ① A custom "sacrificial plate" was made to cover the multi-power vacuum clamping plate for machining of thin and delicate parts.
- ② Sacrificial plate is easily secured to multi-power vacuum clamping plate via four flat head screws.
- ③ To maximise the flexibility of the machining process, four multi-power vacuum clamping plates have been connected together and are run from one standalone vacuum pump. Here three very different components are being held; one long workpiece even stretches across two vacuum units.

Application 2



- ④ Multi-power vacuum clamping plates are suitable for large and small components. In this application six units have been connected together to achieve a very large clamping area of approximately 1200 x 700mm.
- ⑤ To hold delicate components, a custom pallet has been designed; vacuum ports were accessed through the pallet with a grid pattern to suit the component. Grid is sealed using supplied vacuum gasket to create vacuum seal.
- ⑥ Workpieces are aligned to the vacuum seal and loaded. Air supply is applied and workpieces are clamped ready for machining.

Why use the Multi-Power Vacuum plate?

- Cost-effective, versatile clamping that can be used for many applications.
- Quick setup and very easy to use.
- Minimises the likelihood of damage to the workpiece caused by other workholding methods.
- Compatible with CNC machines.
- Four suction ports allow multi-part clamping or a large surface area.
- Pre-drilled & threaded M6 holes for extra clamps or stops.



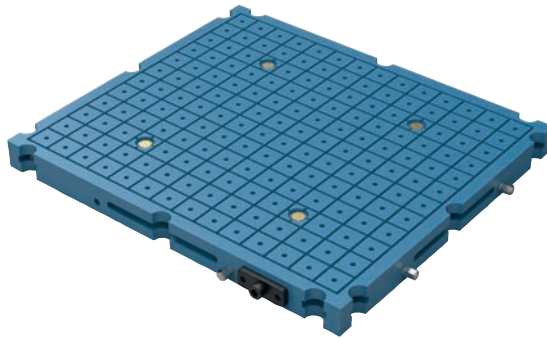
Multi-Power Vacuum Clamping Plate

overview



19740

Clamping & Height Setting



For a unique, universal clamping solution, look no further than Wixroyd's 19740 Multi-Power vacuum clamping plate. Equipped with several innovative features to meet your vacuum workholding needs.

Installation Overview

- Can be powered with our vacuum generator (19740.W0100) or can be run from machine shop air supply (70 psi).
- Base dimensions are 406mm x 355mm.
- 4 Vacuum ports allow up to four small parts or one large part to be held securely (ports can be plugged).
- M6 tapped threads integrated in the grid plate for versatile workholding solutions and / or more aggressive machining conditions.
- Multiple pallets can operate from a single vacuum generator.

Simply mount the pallet using two mounting clamps. The pallet is now ready for the air supply to be connected.

- Place pallet on magnetic chuck.
- Use locating pins & liners to precisely locate pallet onto sub-plate and secure with mounting clamps.
- For larger workholding solutions, link pallets connecting using the supplied washers.

The in-line filter is provided to remove contaminants from the air supply. Adjust the gas regulator (80-95 psi best). Common air connection fittings are provided.

- Base unit is mounted to machine table.
- Air supply pressure is 70-100 psi.
- Air lines are connected and sealed.
- Low vacuum indicator is operating properly.

Very little maintenance is necessary to keep your system up and running. Using general housekeeping practices will ensure your system operates properly for years to come.

Troubleshooting

This is a very simple operating system. Any problems can be easily rectified with the information contained in this manual or by contacting us directly.

- Check air pressure.
- Ensure gasket material is protruding above fixture plate and that there are no gaps between the gasket and the plate.
- Clean brass filters.
- Check Venturi generator inlet for obstructions.
- Ensure that the through hole for the vacuum pallet is a minimum of 1/4 inch in diameter and is chamfered.
- Check air lines for leak.
- Check workpiece for flatness.
- Ensure the exhaust air line is not blocked.

Summary

Preferred Mounting Method

Optional Mounting Methods

Connection of Air Supply

Review Checklist Prior to Use

Maintenance