CONNECTOR MATE® ASSEMBLY VISE

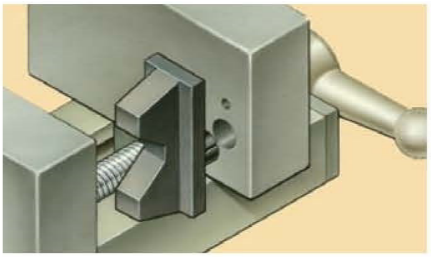
ALL WIRE MATERIAL BY WEIDNER

CONNECTOR MATE®

The continuing demands of electrical system designers have imposed such rapid development in the field of interconnection technology that new and different hardware is emerging to meet those demands. Along with the introduction of these new, and often more complex connectors and accessories, the challenge for versatile and reliable production tooling becomes apparent. To this end, DMC has accepted the challenge by developing the assembly station vise which provides a reliable and repeatable holding method for countless combinations of connectors and accessories. The use of removable soft-grip jaw inserts allows the vise to easily accommodate all popular connector diameters.

This is a reliable method of retaining circular parts, which avoids damage to critical platings and retains the circular shape of delicate parts.

AWM Weidner
Kettemerstr. 25
70794 Filderstadt
Tel.: 0049 711 7009503
Fax: 0049 711 7009504
info@awm-weidner.de
www.awm-weidner.de



HOW THE ASSEMBLY VISE WORKS

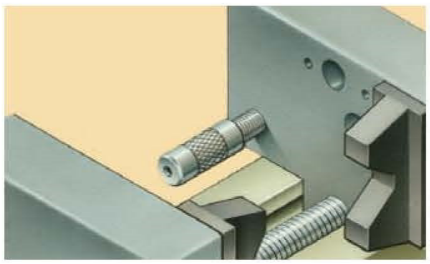
The system consists of non-marring jaw inserts and a specially designed vise to hold them. They can be used to hold any circular part within the size range available, including connectors, backshell accessories and adaptor tools.

In a conventional vise, one jaw is stationary, while the other moves on the thread mechanism. The assembly station vise is different in that it employs an *opposing thread design* — that is, both jaws move in synchronization. This design has several advantages for connector assembly:

FAST TIGHTENING: A part can be secured faster, which is a benefit to production procedures.

HIGH STRENGTH: A substantial increase in strength and thread life is achieved by the double-thread arrangement.

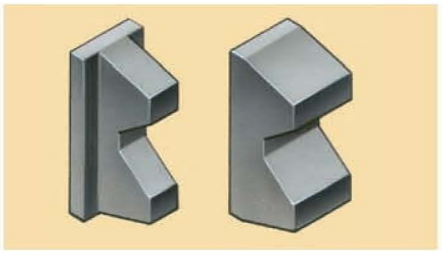
SELF-CENTERING: Because the jaws move towards each other, the work is always centered in the vise, and therefore, lateral stress and unnecessary movement of the work pieces are not introduced into the process.



ADJUSTABLE STOP: An added feature for convenience and efficiency of operation is the adjustable stop on the vise. This provides for extra gripping stability and a repeatable reference for production line applications.

JAW SETS

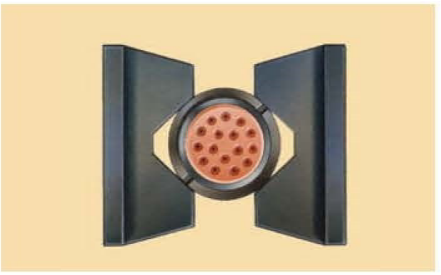
A set of jaws is designed to accommodate diameters from .375″ to 3.00″ (3/8″ to 3″), within six different jaw sizes. This provides for flexibility of application — the same system can be used for most or all of the circular connectors and accessories in a cable assembly operation.



Jaws are available in two gripping widths — .400″ and 1.000″. The narrow jaws allow access to accessories which are smaller in diameter than adjacent components, whereas the wider jaws allow for a large grip area when higher torque values are required.

Jaws are made from high-friction material which will not damage connectors or accessories, yet will provide sufficient grip for most operations.

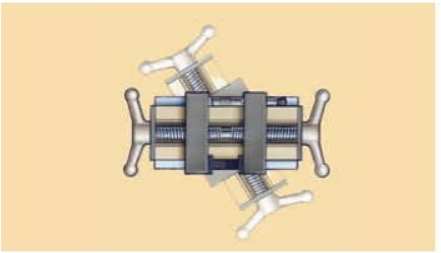
Prevents deformation of circular connectors and accessories by applying holding pressure evenly at four points on the circumference. That is, the jaws apply a force radially at four points equally spaced around the circumference such that the circular part readily accepts it without deformation.



If the force is applied on opposite sides (only two pressure points), the circular part will tend to collapse, and this will produce false torque readings because of increased friction between the components where the threads have been forced together.

A square drive on the thread handle allows the use of a torque device to minimize the possibility of overtightening.

The position of the jaw inserts in the vise can be changed to hold the work in the most convenient location for assembly.



The jaw inserts come packaged in a convenient metal container which keeps them clean, orderly and readily available for use. Instructions are also provided for their proper use. There are twelve pairs of jaw inserts in the container which accommodate diameters from 3/8″ to 3″.

ASSEMBLY VISE	
BT-VS-511	ASSEMBLY VISE WITH 24-PIECE SET OF JAW INSERTS
BT-VS-500	ASSEMBLY VISE ONLY (WITHOUT JAW INSERTS)
BT-S-550	24-PIECE SET OF JAW INSERTS, FOR USE WITH VISE BT-VS-500

PRODUCTION STATION APPLICATIONS

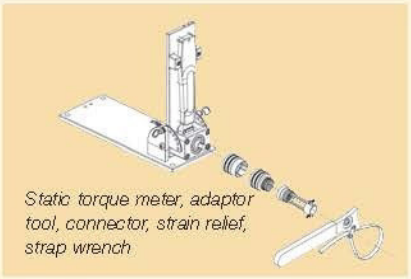
When the measurement of torque is a requirement of a particular cable assembly operation, this can be easily accomplished with the use of the digital torque wrench.

Digital torque wrench, adaptor, connector, strain relief

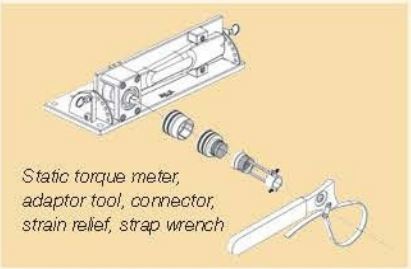
Digital torque wrench, handle-less strap wrench, connector, strain relief

If a static torque meter is needed, the digital torque wrench can be placed in a static mount base. The adaptor is then attached to the square drive on the torque meter, and this arrangement holds the connector while the backshell accessory is torqued onto the connector, with a strap wrench.

When the torque reaches the pre-set value, a signal light advises the operator that the desired torque value has been applied.

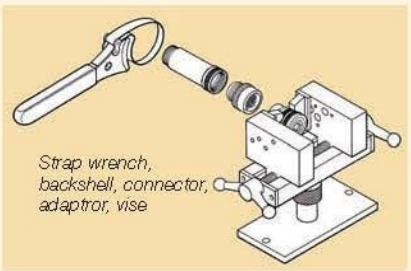


Static torque meter, adaptor tool, connector, strain relief, strap wrench



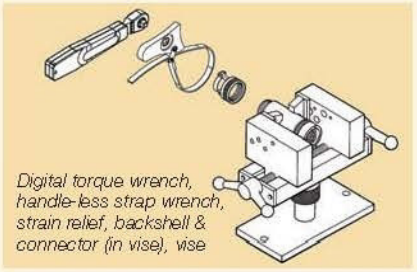
Static torque meter, adaptor tool, connector, strain relief, strap wrench

When optimum repeatability and production efficiency demand, the assembly station vise can be used to complement the ability of adaptor tools to stabilize the connector. As shown, the vise is being used to firmly hold the adaptor tool, while a strap wrench is being used to tighten the backshell onto the connector.



Strap wrench, backshell, connector, adaptror, vise

On multi-piece backshells, the correct torque on each accessory can only be achieved by efficiently holding adjacent parts. In the example shown, the assembly station vise is being used to hold the backshell segment already torqued onto the connector, while the strain relief is tightened with a strap wrench and a torque meter. Thus, the correct torque can be applied to the backshell segments without affecting the torque value already applied to prior connector/ accessory components.



Digital torque wrench, handle-less strap wrench, strain relief, backshell & connector (in vise), vise

Handle-less strap wrench, digital torque wrench, strain relief, backshell (in vise jaws), connector, vise