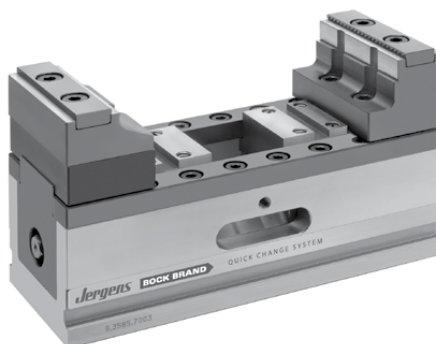


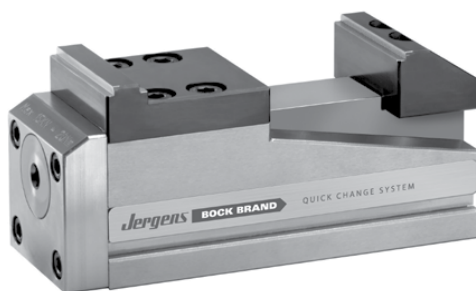
Operating Manual

Including installation and assembly instructions

80000f/L5-Axis 60mm Self Centering Vise
80100f/L5-Axis 100mm Self Centering Vise



80300 5-Axis 40mm Fixed Jaw Vise
80400 5-Axis 60mm Fixed Jaw Vise
80500 5-Axis 60mm Fixed Jaw Hydraulic



Jergens Inc.
15700 S. Waterloo Rd.
Cleveland, OH 44110-3898
Phone: 877.426.2504
Fax: 216.481.6193
E-Mail: workholding@jergensinc.com
www.jergensinc.com

5-Axis Vises

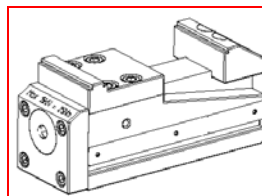
TABLE OF CONTENTS

			Page
1. General	1.1	Product lines	2
	1.2	Description	3
	1.3	Safety information	3
	1.4	Scope of supply	4
	1.5	Technical data	4
2. Operation	2.1	Fastening to the machine bed	5
	2.2	Power Unit, e.g. hydraulic unit	5
	2.3	Hydraulic oil port and bleeding	6
	2.4	Adjusting the clamping range	6-7
	2.5	Clamping and unclamping	7
3. Appendix	3.1	Troubleshooting, hydraulic version	8
	3.2	Maintenance and care	8
	3.3	Service / Maintenance	9
	3.4	Spare parts	9-12

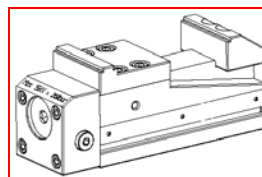
In order to ensure safe and appropriate operation, read this operating manual thoroughly prior to installation and commissioning !

1.1 Product lines

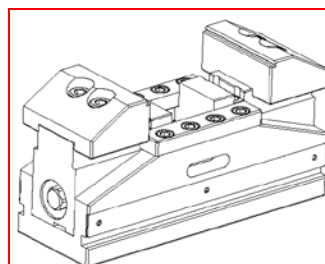
Fixed



Hydraulic Fixed



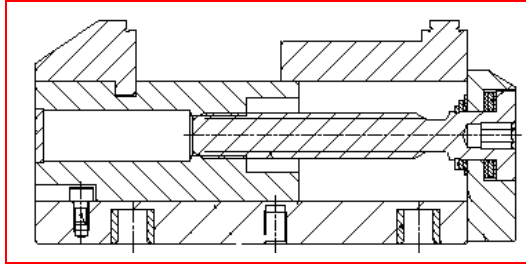
Self Centering



5-Axis Vises

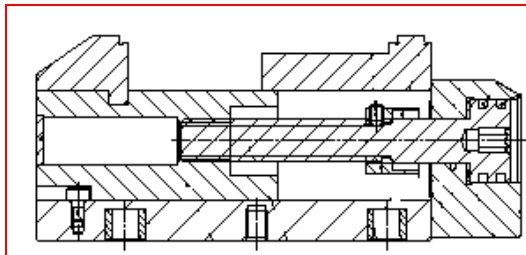
1.2 Description

Fixed Jaw



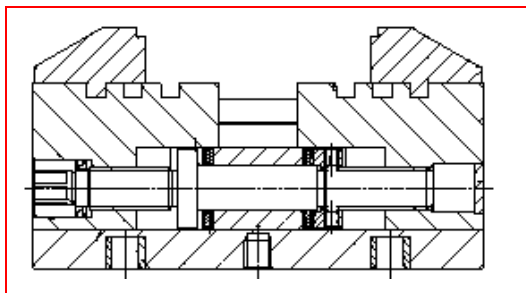
- Spindle drive
- Build-up of the clamping force using a torque wrench

Hydraulic Fixed Jaw



- Adjusting the clamping range by means of the spindle
- Hydraulic clamping, single-acting

Self Centering



- Spindle drive right-handed or left-handed thread
- Build-up of the clamping force using a torque wrench

1.3 Safety information

- Before commission the system, take into account the working area of the machine to make sure that there is no possibility of collision.
- Fasten the machine vice firmly to the machine bed using screws
- The work piece clamping forces must be such as to ensure that there is no possibility of the work piece being moved by machining forces.
- Use of a torque wrench for clamping of a manual vise is recommended. (observe max. values, see 1.5)
- When using hydraulic versions, only part of the hydraulic stroke must be used as clearance for work piece insertion in order to ensure safe clamping (see 2.4).
- Check the clamping force at regular intervals using a load cell.
- Remove the torque wrench after the clamping process is complete.

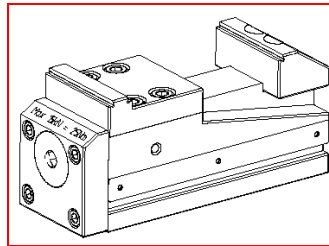
5-Axis Vises

1.4 Scope of supply

- Machine vice **80300, 80400, 80500, 80000, 80100** with appropriate handle. (torque wrench is not part of the supply)

1.5 Technical data

Fixed Jaw



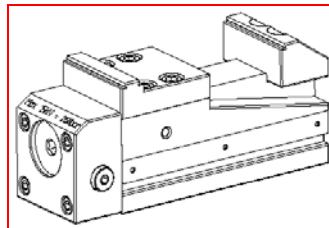
80300

- Jaw width: 40 mm
- Max. clamping force: 8 kN
- Max. torque: 15 Nm
- Clamping stroke: 26 mm

80400

- Jaw width: 60 mm
- Max. clamping force: 15 kN
- Max. torque: 25 Nm
- Clamping stroke: 51 mm

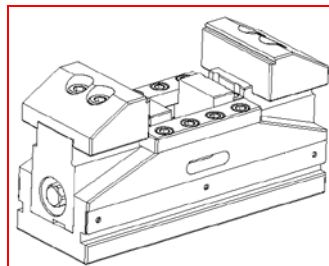
Hydraulic Fixed Jaw



80500

- Jaw width: 60 mm
- Max. clamping force: 15 kN
- Max hydraulic pressure: 260 bar
- Hydraulic stroke: 4 mm
- Oil consumption per stroke: 5,8 cm³
- Mechanical stroke: 51 mm

Self Centering



80000ff/L

- Jaw width: 60 mm
- Max. clamping force: 15 kN
- Max. torque: 50 Nm
- Clamping stroke: 30 mm

80100ff/L

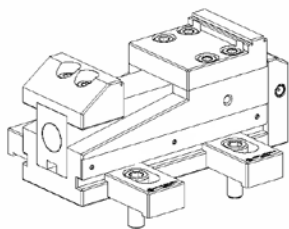
- Jaw width: 100 mm
- Max. clamping force: 25 kN
- Max. torque: 80 Nm
- Clamping stroke:
 - Version 0301: 74 mm
 - Version 0302: 50 mm
 - Version 0303: 50 mm
 - Version 7003: 50 mm

5-Axis Vises

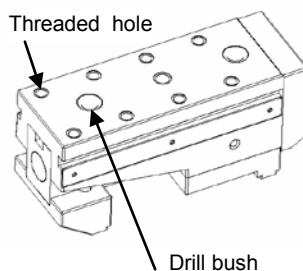
2.1 Fastening to the machine bed

The machine vice must be fastened in such a way that the work pieces cannot be moved by the machining forces.

- Before commissioning the system, take into account the working area of the machine to make sure that there is no possibility of collision
- Remove any unevenness and any debris which may be present between the locating surface and the base.



Fastening using claws (available as accessories)



Fastening through threaded holes -

Aligning the drill bushes in the lower part

2.2 Pressure transducer, e.g. power unit

The power unit operates intermittently with pressure switches for automatic pressure control and for machine protection. If the pressure drops by 10% below the set value the pressure switch for automatic pressure control causes the motor to start again. If the clamping pressure drops by more than 15% the machine is stopped by the pressure switch in the interest of protecting the machine.

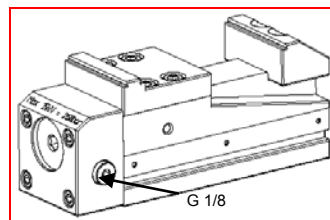
5-Axis Vises

2.3 Hydraulic oil connection and bleeding

The machine vice is connected to the power unit through one of the oil ports G1/8 using a high-pressure hose. The second oil port is used to bleed the system at low pressure until the oil emerging is free from bubbles.

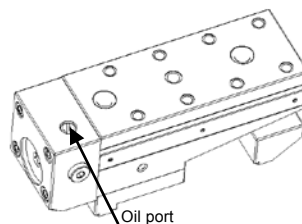
Oil recommendation: HLP32 or HLP46 according to 51524

Hydraulic



- Hydraulic oil port G 1/8. (2X), lateral

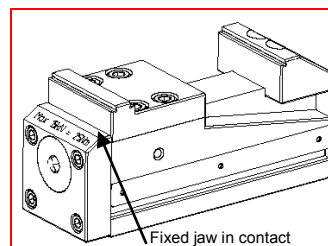
Hydraulic



- Hydraulic oil port from below
Plug-in connection part no.. 8.0530.0023
required, available as accessory

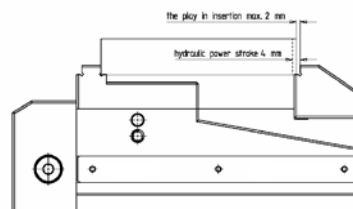
2.4 Adjusting the clamping range

Fixed Jaw



- To overlap of the clamping range:
rotate the fixed jaw
- Note:
Make sure that the jaw is in contact
with the work piece

Hydraulic



- To overlap of the clamping range:
turning of the fixed jaw.
- Adjust the insertion clearance of the
work piece by turning the spindle

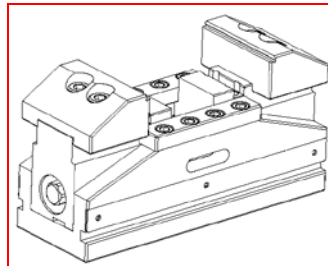
Attention:

Do not use the full power stroke as insertion clearance. During clamping, this would cause the clamping slide to make contact with the inner stop and the work piece will not be clamped. In the case of flexible work pieces it may be necessary to close the slide before clamping using a wrench.

5-Axis Vises

2.4 Adjusting the clamping range, continued

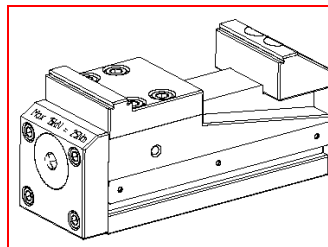
Self Centering



- To overlap of the clamping range: Reposition the movable jaw.

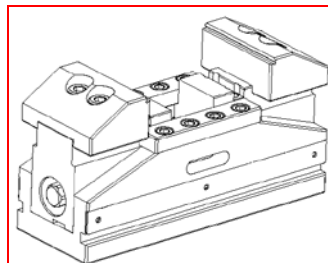
2.5 Clamping and unclamping

Fixed Jaw

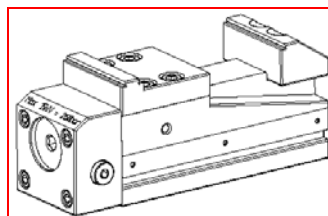


- By turning the spindle clockwise using a torque wrench, clamping force is applied according to the selected torque.
- Observe maximum values, see technical data
- For unclamping, turn the spindle counter-clockwise.

Self Centering



Hydraulic Fixed



- By switching on the power unit, the work piece is clamped with a force proportional to the adjusted pressure, see technical data. For unclamping, a directional valve is actuated, and the integral spring resets the slide into its home position.

5-Axis Vises

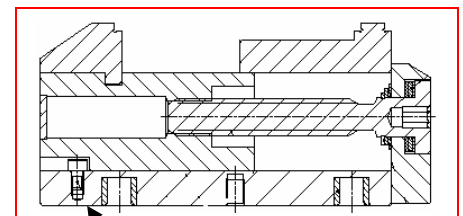
3.1 Trouble shooting, hydraulic version

Failure	Cause	Remedial action
The work piece is not clamped at all or not sufficiently clamped.	The slide moves against the inner stop.	Reduce the insertion space, see 2.4.
	The operating pressure is too low	Adjust to a higher pressure on the power unit
When pressure is relieved, the clamping slide does not return to its home position or returns very slowly to its home position.	Too much resistance in the return line.	Increase the cross section of the line or reduce its length.
	Directional valve is dirty or defective.	Clean the directional valve or replace it if necessary.
	Hydraulic oil is too viscous.	Use hydraulic oil HLP32 or HLP46 acc. to DIN 51524.
	Return spring is defective.	Replace the return spring
	Clamping slides jammed due to an accumulation of dirt	Clean the machine vice. Check the guideways for surface damage, repair them if necessary.

3.2 Maintenance and care

Depending on the nature of the use, the clamping element should be subjected to basic cleaning as may be required.

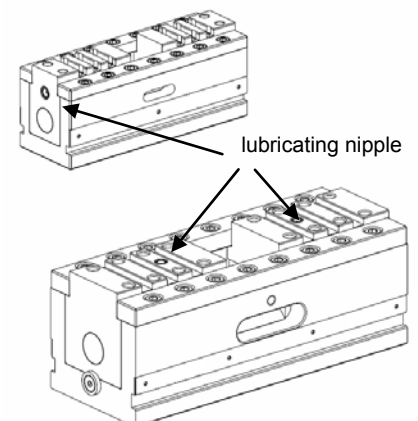
- Undo the stop screw
- Remove the slide by turning the spindle
- Remove the fixed jaw
- Clean the components
- Rework the slide faces if necessary
- Oil the spindle and the slide faces
- Make sure that the spindle and the slide move smoothly



Stop screw

Please note: Information on concentric clamping elements

Concentric clamping elements are **not** to be dismantled. Maintenance and cleaning work is limited to surfaces and components which are accessible from the outside. Oil the slides at regular intervals (once a week 2 strokes) through the two lubricators using slideway oil. To do this, move the slides back up against the stop (max. clamping width). In the case of sizes 100 and 125, dismantle the clamping jaws.



lubricating nipple

5-Axis Vises

3.3 Service / Maintenance

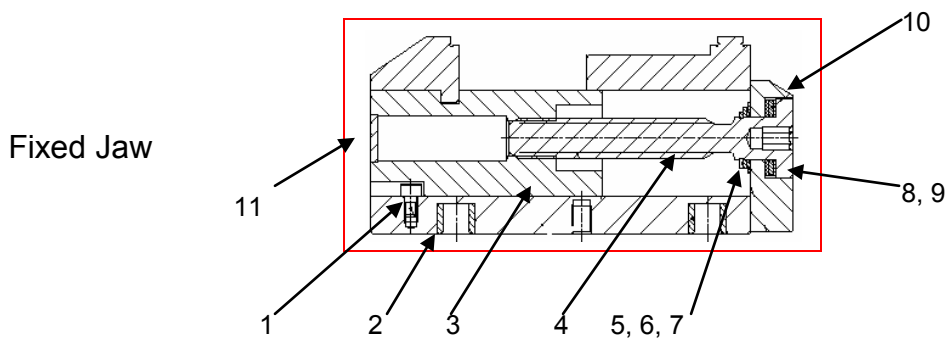
-

SERVICE HOTLINE + 887.426.2504

Customers abroad

- Please contact the JERGENS INC. general importer or your local dealer.

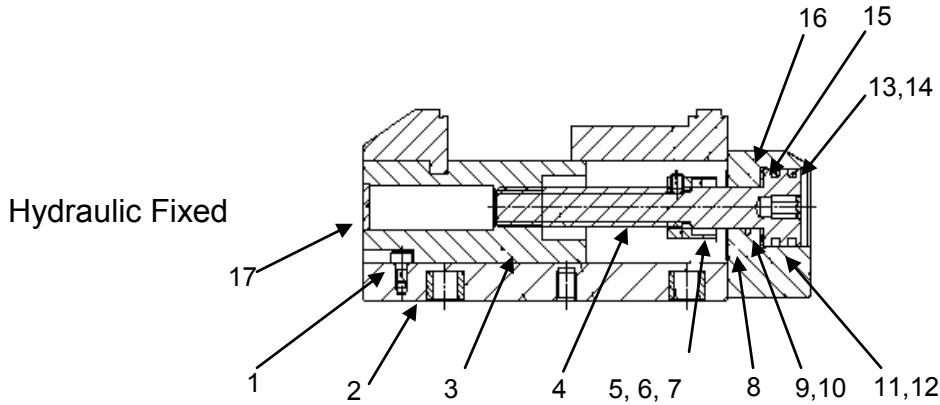
3.4 Spare parts



Item	Designation	Qty.	Spare part no. 80300	Spare part no. 80400
1	Stop screw	1	1.0085.0046	1.0912.0037
2	Drill bush	2	-----	1.0179.0010
3	Slide	1	5.2040.0444	5.2040.0308
4	Spindle	1	5.2043.0219	5.2043.0149
5	Circlip	1	1.0471.0012	1.0471.2017
6	Supporting ring	1	1.0988.0037	1.0988.0017
7	Belleville spring	1	5.3080.0012	5.3080.0006
8	Axial washer	2	1.2065.0008	1.2065.0023
9	Axial needle cage	1	1.5405.0004	1.5405.0017
10	Bearing cover	1	5.2041.0062	5.2041.0027
11	Screw plug	1	5.1215.0962	5.1215.0834

5-Axis Vises

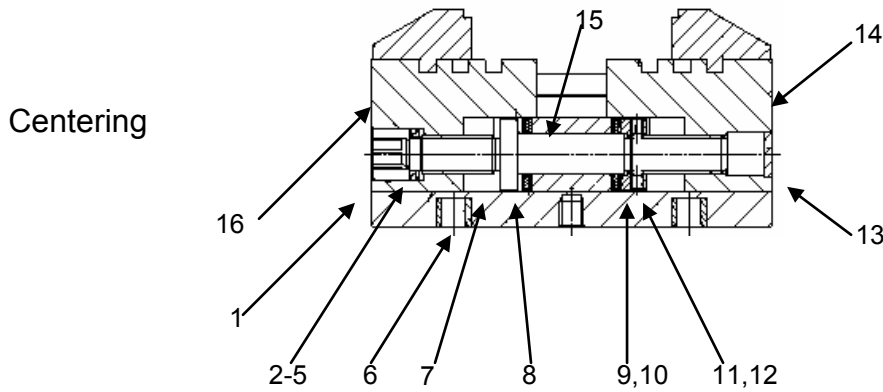
3.4 Spare parts, continued



Item	Designation	Qty.	Spare part no. 80500	from year of construction 03/2007
1	Stop screw	1	1.0912.0037	
2	Drill bush	2	1.0179.0010	
3	Slide	1	5.2040.0308	
4	Spindle	1	5.2043.0161	5.2043.0232
5	Sleeve	1	5.3002.0070	5.3002.0116
6	Set screw	1	1.0914.0005	
7	Pressure spring	1	1.2098.0404	
8	Axial washer	2	1.2065.0023	
9	Step seal	1	1.9604.0011	
10	O-Ring	1	1.9500.0209	
11	Step seal	1	1.9604.1020	
12	O-Ring	1	1.9500.0186	
13	Glyd ring	1	1.9602.2030	
14	O-Ring	1	1.9500.0186	
15	Axial needle cage	1	1.5405.0017	
16	Housing	1	5.2041.0029	5.2041.0069
17	Screw plug	1	5.1215.0834	

5-Axis Vises

3.4 Spare parts, version 0301



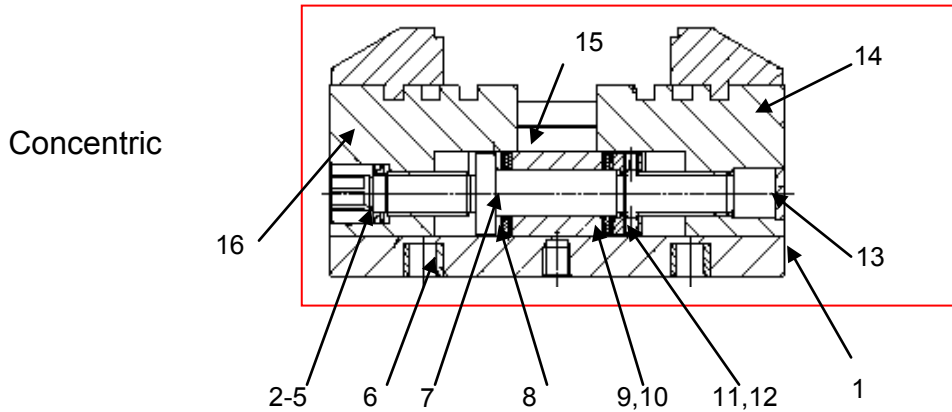
Item	Designation	Qty.	Spare part no. 80000(1)	Spare part no. 80100(1)
1	Stop screw	1	1.0912.0037	1.0912.0076
2	Circlip	1	1.0471.0013	1.0471.0016
3	Washer	1	5.1022.0237	5.1022.0240
4	Glyd ring	1	1.9602.2033	1.9602.2034
5	O-Ring	1	1.9500.0237	1.9500.0209
6	Drill bush	2	1.0179.0010	-----
7	Spindle	1	5.2043.0162	5.2043.0164
8	Belleville spring	2	5.3080.0006	5.3080.0009
9	Axial washer	4	1.2065.0023	1.2065.0006
10	Axial needle cage	2	1.5405.0017	1.5405.0003
11	Sleeve	1	5.30020071	5.3002.0073
12	Set screw	2	1.0914.0005	1.0914.0022
13	Screw plug	1	5.1215.0834	5.1215.0861
14	Slide	1	5.2040.0309	5.2040.0314
15	Bearing	1	5.2041.0030	5.2041.0031
16	Slide	1	5.2040.0311	5.2040.0315

Note:

Repair of the Centering Vise line must be carried out by the manufacturer.

5-Axis Vises

3.4 Spare parts, short version 9.3585.0302 + 0303 + 7003



Item.	Designation	Qty.	Spare part no. 80000(1)
1	Stop screw	1	1.7991.0029
1	Washer	1	5.1022.0268
2	Circlip	1	1.0471.0016
3	Washer	1	5.1022.0240
4	Glyd ring	1	1.9602.2034
5	O-Ring	1	1.9500.0209
6	Drill bush	-	-----
7	Spindle	1	5.2043.0196
8	Belleville spring	2	5.3080.0009
9	Axial washer	4	1.2065.0006
10	Axial needle cage	2	1.5405.0003
11	Sleeve	1	5.3002.0073
12	Set screw	2	1.0914.0022
13	Screw plug	1	1.9606.0094
14	Slide	1	5.2040.0374
15	Bearing	1	5.2041.0066
16	Slide	1	5.2040.0375

Note:

Repair of the Centering Vise line must be carried out by the manufacturer.