



VACGEN

Assembly Guide

Omniax Z Bellows Replacement

AS0021

VGS03-02T21



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DISCLAIMER

This Assembly Guide should be used in conjunction with the owner's manual where available, and is intended as a guide only as there may be variations between versions and therefore must be used at the Owner's Risk. For more detailed assistance, please contact our Support desk +44 (0) 1323 379 335 or support@vacgen.com.

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Revision	Date	Comment	Initials
1	31/03/2020	New Document	DM
2			
3			

Unit A, Swallow Business Park
Diamond Drive, Lower Dicker
Hailsham, East Sussex
BN27 4EL, UK



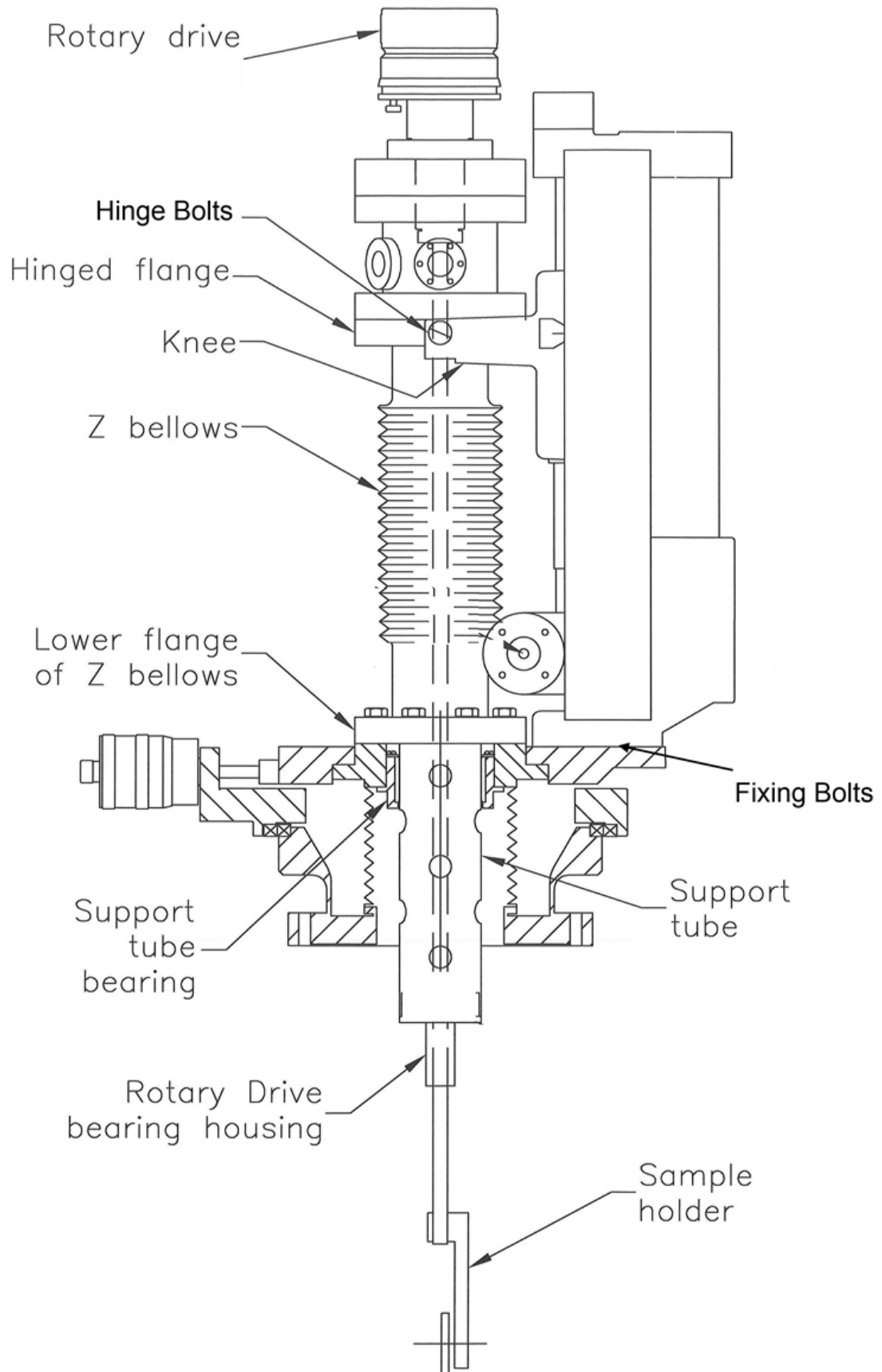
Omniax Z Bellows Replacement Serial Number from MX97 (1997)

Once the manipulator is removed from system, great care should be taken to support it while on the bench.

1. If Cooling is fitted, remove Cooling Box from the Sample Holder.
2. Remove Sample Holder from Drive Shaft (And Azimuthal if fitted), but leave the wires attached. Support the Sample Holder while the Rotary Drive is removed (if fitted)
3. Remove the Power/Thermocouple Feedthroughs, carefully noting the wiring positions, especially the Thermocouple wire.
4. Check for clips at Sample End of the Support Tube, holding the Power and Thermocouple Wires in place where they come out of the Support Tube. Remove as required and very carefully pull the wires out, still attached to sample holder.
5. Remove the Rotary Drive (if fitted) with Chamber Adaptor Flange. (You can now see into the feedthrough chamber)
6. If cooling is fitted, undo the six Clamp Ring Screws (Just a couple of turns) on the Cooling Exhaust/Inlet Flange
7. Unscrew and remove the Locking Ring.
8. Push the cooling into the chamber space. This may require moderate force and a slight bending of the Cooling tube.
9. Release the two screws holding the Horse Shoe Clamp, holding the Cooling Downpipe Tubes at the sample end.
10. Undo the Counter Sunk Screws holding the Nose Housing at the end of the Support Tube and pull out until free. NOTE: You will need to pull the Cooling Tubes down with the Nose Housing, until the Nose Housing is free from the Support Tube.
11. Carefully pull the Cooling Coil Assembly up and out of Support Tube through the Feedthrough Chamber. NOTE: If you have a 32mm Support Tube, then you need to coil the Cooling Coil up slightly, to get it up the bore of the Support Tube.
12. Remove feedthrough chamber.
13. You will now see the Top Flange and the top of the Support Tube



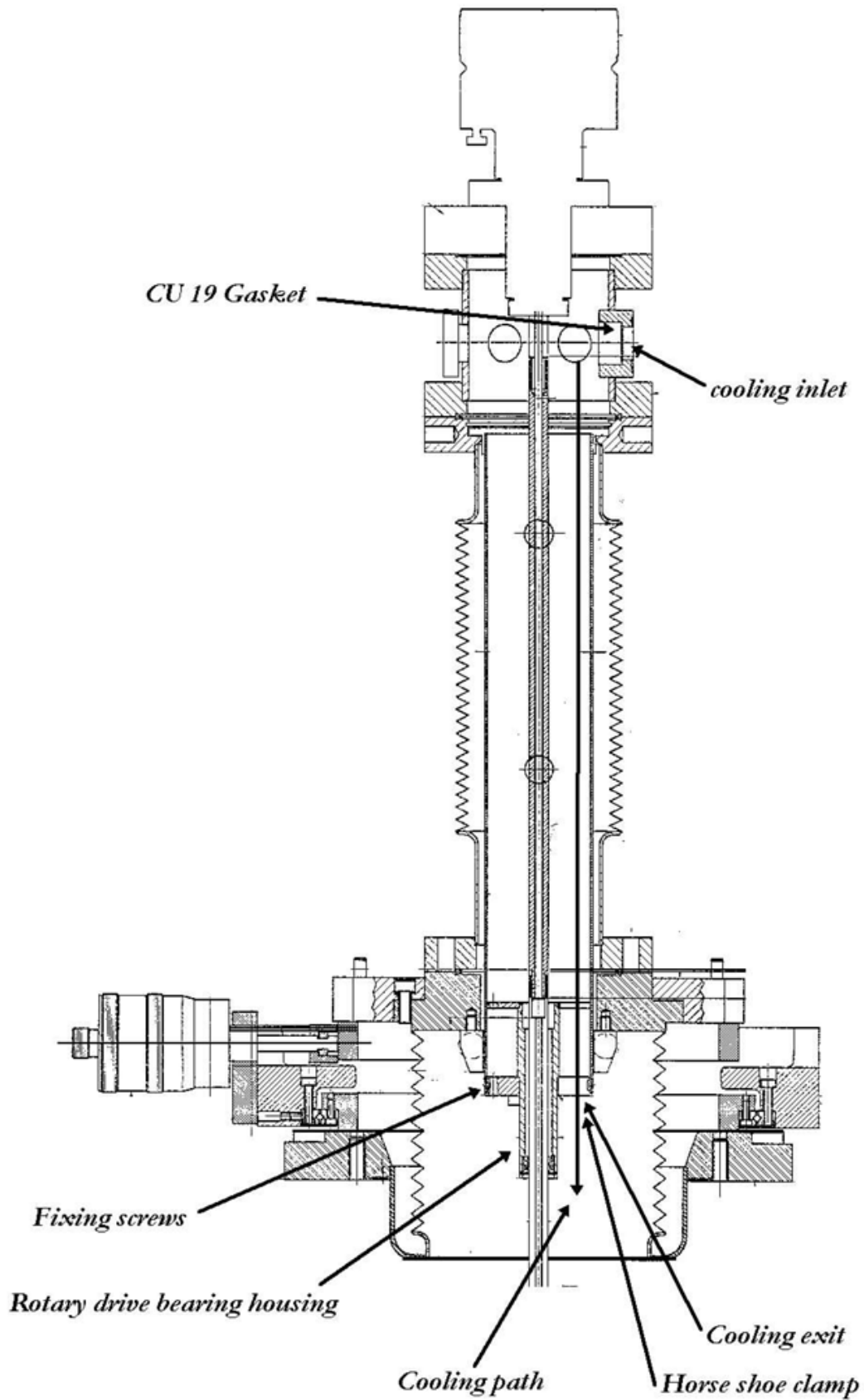
14. Loosen all the grub screws. NOTE: Mark the orientation of the tube, as it must go back in, in the same orientation, so the Cooling Downpipes can be fitted.
15. With the Support Tube free to move, remove the large Spiral Ring Clip.
16. The support tube can now be removed, carefully pull up and out of the Bellows.
17. Remove the M8 nuts holding the Bellows Flange to the X&Y Table Flange.
18. Remove the two bolts holding the Top Flange to the Knee. NOTE: Some Top Flanges are dowel pinned at the back of the flange to the knee. If dowel is fitted, carefully lever off using a large flat blade screwdriver.
19. Refit in reverse. NOTE: YOU MUST REPLACE THE COOLING GASKET.
Using a punch, carefully push the gasket (ZCU19) into the chamber.
20. The PTFE Bearing needs to be opened up to allow support tube to pass back through. It may be easier to fit on the support shaft and slide PTFE bearing into place and then fix.
21. NOTE: Note the orientation of the support bearing housing, the fixed shell is positioned to the back of the manipulator. When fixing Thermocouple wire, the wire must be wrapped around the loop of the feedthrough, to make a good continuity connection.





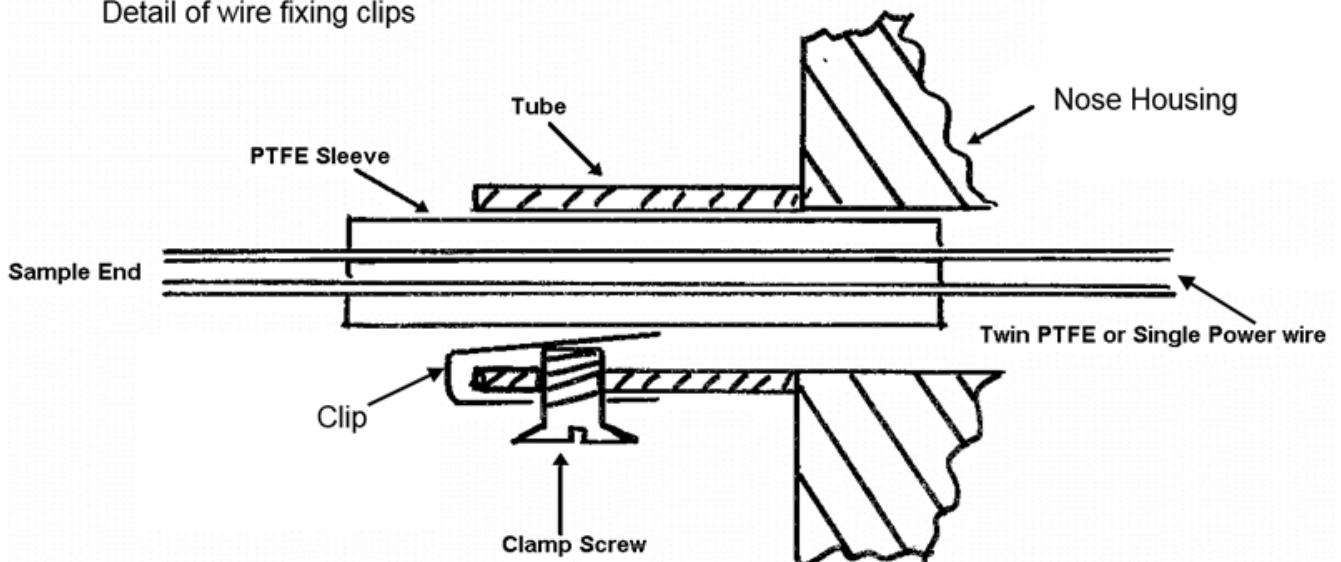
DRAWINGS

REAR VIEW

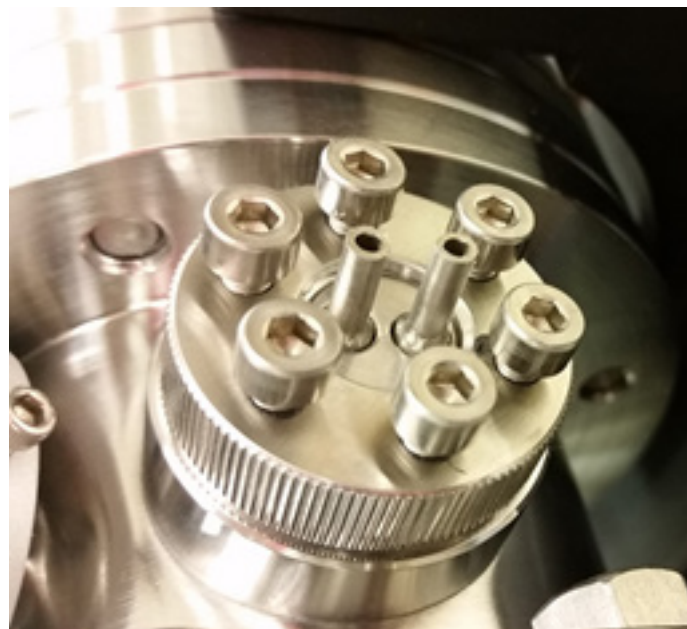




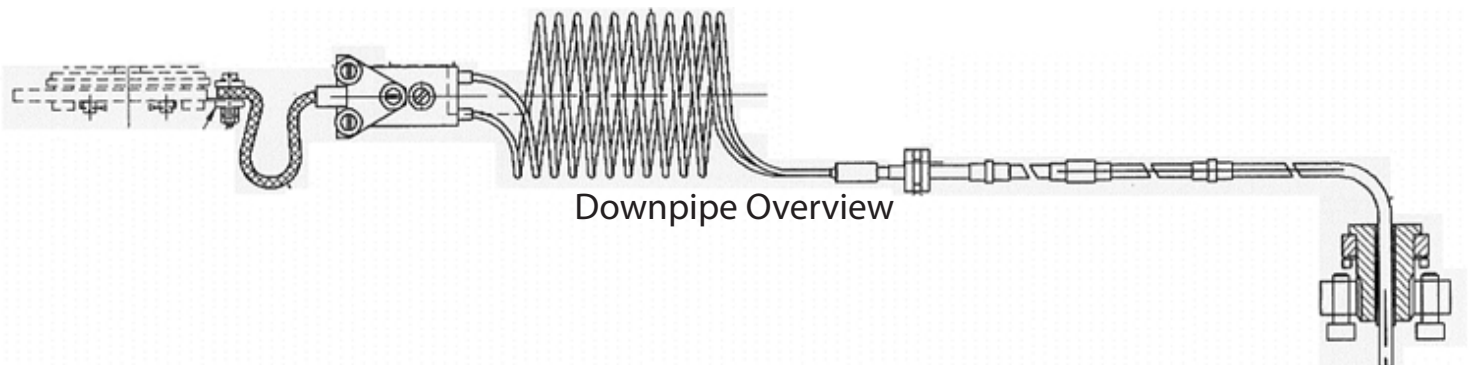
Detail of wire fixing clips



Showing the wires coming out of the support tube and the clip



Exhaust/Inlet for Cooling



Downpipe Overview

