

Full Metal Jacket Bellows Seal

Service Sheet 3a

These instructions apply to the following mechanical seal kits:-

D Range	D150	(Pt No. 1311129000)
	D200	(Pt No. 1311129000)
H Range	H100	(Pt No. 1311129000)
	H125	(Pt No. 1311129000)
	H150	(Pt No. 1311129000)

Important Pre Changeover Checks

Before the new seal is installed certain requirements must be met otherwise the integrity of the new seal will be compromised.

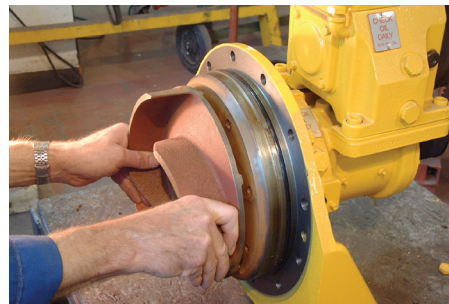
- A. Condition of main lip seals and shaft surfaces must be good.
- B. Seal chamber must be clean, free of grit and silt deposits, otherwise oil properties will be impaired.
- C. Shaft bearings must be in good condition and have no more than 0.152mm axial movement. Check with a dial indicator. Reset if excessive or replace bearings.
Clearance new 0.05mm - 0.076mm.
- D. Size and condition of seal stationary recess in pedestal must be checked. 92.075mm is maximum diameter permissible. If oversize a new pedestal or new wear repair ring "must" be fitted. The seal face will spin in an oversize recess.
- E. Wear plates if excessively worn should be replaced to regain the running clearance of 0.5mm +/- 0.1mm.
- F. An old corroded impeller cannot be used unless the size and surface finish of the rear drive boss is as new. Size 69.926mm – 70.053mm clean, unpitted surface with a generous lead chamfer at the spacer end.
- G. Older versions of these units have a spacer behind the impeller. This is now incorporated into the impeller hub.

Replacement Procedure for Full Metal Jacket Bellows Seal

If all 'Pre Changeover Checks' have been made then the pedestal assembly with drive shaft/bearing housing assembly fitted to it is ready to accept the new seal.



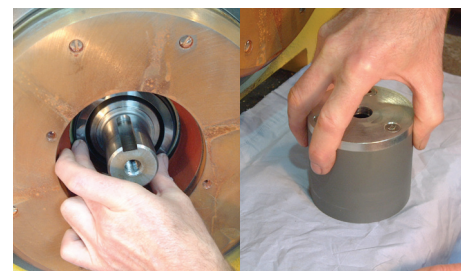
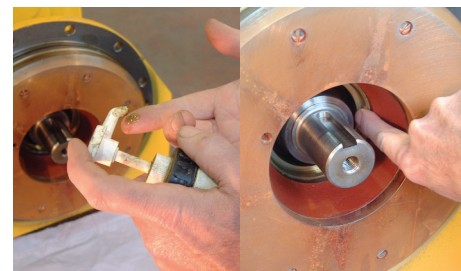
- First inspect the lead in chamfer on the pedestal stationary face recess – this should be smooth, clean and rust free.



- The new or 'cleaned up' impeller should be checked for a tight but sliding fit on the shaft and key.



- Slide the impeller on the shaft and put in place to determine the rear vane clearance. Shims should be added to the boss behind the impeller until a clearance of 0.5mm +/- 0.1mm is achieved.
- The impeller should be removed and placed to one side to allow access for the stationary seat assembly and fitting tool.

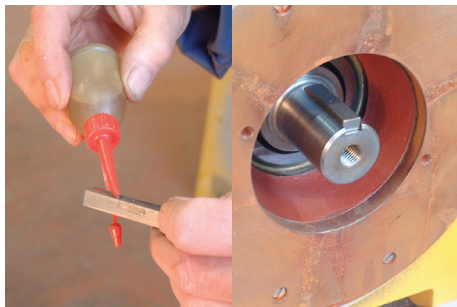


- Lubricate the stationary seal recess and lead with a very diluted solution of soft soap. Lubricate the outside of the stationary face assembly with clean water only and using tool 1596131000 push the seal face firmly to the base of the recess. The use of the tool will ensure that the face is fitted square to the shaft axis.



Service Sheet 3a *Full Metal Jacket Bellows Seal*

- Check face is clean when tool is removed.



- Lubricate impeller key with oil and fit to shaft.



- Lay the impeller blade side down on a firm surface. Lightly oil the bore and keyway.



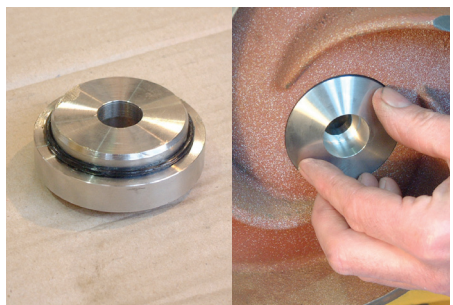
- 'With clean hands' apply soap to the outside of the impeller boss and lead. Lightly soap inside the back of the rubber bellows.



- With an even load applied push the bellows onto the impeller boss. Ensure that the bellows is fully located against the back of the impeller.
- Check that no dirt or contamination has got onto the seal surface. Apply a couple of drops of 'clean' oil to the face and spread to a thin film with a 'clean' finger.



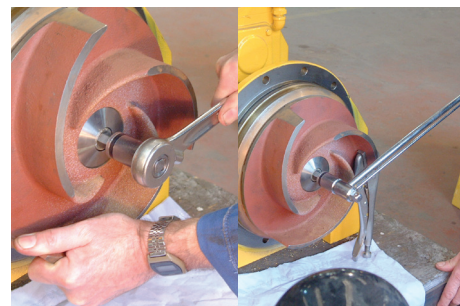
- The impeller/seal assembly can now be mounted on the shaft taking great care not to contact the seal face on the shaft or key whilst locating the shaft in the bore. Keep pushing the impeller forward until the seal faces contact.



- Grease the 'O' ring and fit to impeller collar. Fit collar into impeller.



- Fit the M16 cap screw with a new Dowty washer and grease the face of the washer. Apply Locktite nutlock 242 to free end of the thread.



- Push impeller back against seal spring and locate and tighten cap screw. Using a 14mm hex socket adaptor torque to 122Nm by jamming the impeller with a wooden block against the drain tap recess in the volute.



- The front clearance should then be checked and adjusted. Rebuild all further components using new 'O' rings and gaskets. Refill flushing chamber to plug with oil prior to running unit.

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