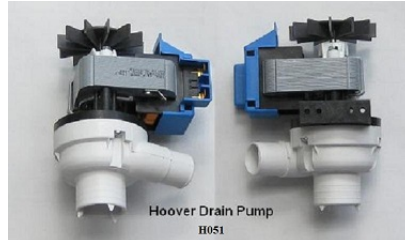


## Drain Pumps General Information

Drain pumps are of two types.

### Shade pole motor drain pumps

These were used in the in early washing machines and dryers but most manufactures now use the next type, see below. They have a shaded pole motor (F8 note1) **with a fan**. The motor shaft goes into the pump through an oil seal. The problem with them is the seal wears and leaks water. Sometimes the seals can be replaced.

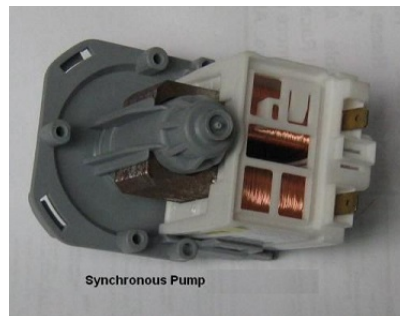


*Illustration 1: Shaded Pole Pump*

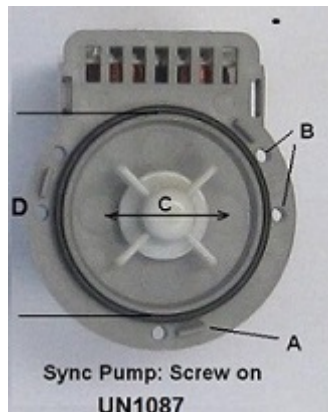
### Synchronous Motor Pumps

Sometimes they are called magnet pumps. (F9 note1)The permanent magnet motor rotator is inside the pump and the small bush bearing run in the wash water. When the bearings wear the pump motor does not always start. If there is any sideways movement the bearing is worn and the pump needs to be replaced. There is no pump seal to leak but they do not have a long life, but are inexpensive. They have **no fan**.

Note 1 See my book Australian Appliance Repairs or wiring and Repair of Washing machine motors, All by Lindsay Alford



*Illustration 2: Synchronous Pump*



*Illustration 3: 'C' test for wear*