

EW seal-wiper ring

Use in pneumatic cylinders at high temperatures and risk of dirt



The EW seal-wiper combines the properties of the time-tested E9 high-temperature seal with a metallic wiper for environments that are particularly prone to dirt. The EW profile, in addition to the known functions of sealing and fixing, thus offers an extended wiping range.

The metallic wiper permanently protects the piston rod against firmly adhering abrasive particles and the seal from excessive wear. A significantly prolonged service life is achieved through the combination of a metallic wiper and a wear-resistant sealing compound.

Due to the application-optimised geometry and compounds this design can be used both in oiled and oil-free compressed air (after initial lubrication). Suitable selection of the compound provided, extensive temperature resistance can be achieved.

The housing, which is identical for all sealing elements of the EU system (see blue box), allows easy refitting of the pneumatic cylinders for different requirements. The seals are installed into the open housings by means of a handling tool.

Application examples

Aluminium extraction

In the aluminium production process a crust consisting of alumina and various fluoride compounds forms on the melt. The crust breaker cylinder has to break up the crust so that the melt can be supplied with other reaction agents. During this process melt and slag substrates deposit on the piston rod. The multifunctional EW sealing element has been developed to achieve a continuous crust breaking process. It removes the crust from the rod by means of the metallic lamella wiper. Due to the use of the metallic wiper versus conventional polyurethane wipers service life can be significantly extended.

Industrial enamelling furnaces

Further fields of application are all dry and porous-crystalline media such as brick dust, ceramic particles or cement dust that easily deposit on and adhere to the piston rod and would cause permanent wear.

Automotive industry

For interior sealing of automotive bodies waxes are applied by means of robotics. During the application process these waxes deposit and crystallise on the rod. The metallic wiper in front of the seal continually wipes these deposits

One groove – unlimited potential

Modular kit for rod-side seal-wiper elements in pneumatic cylinders

Parker-Prädifa offers a large number of combined pneumatic seals and wipers for the open groove of the EU system. By installing the right type of seal a wide range of applications can be covered with just one cylinder.

- Standard seal-wiper:
- Dry running, aggressive chemicals, extreme temperatures:
- Harsh application conditions:
- High temperatures:
- High temperatures and risk of contamination by dirt:
- Hygienically sensitive applications:

Profil EU
Profil E7
Profil E8
Profil E9
Profil EW
Profil EN

off the piston rod to create a proper working environment for the seal. Without this metallic wiper the seal is exposed to the risk of wear and sticking to the piston rod.

Coolant/refrigeration industry

The EW seal-wiper in these applications is primarily used on piston rods that are exposed to regular temperature changes, which can cause the rods to freeze. Pneumatic cylinders on refrigeration machines or doors is a classic application example. When opening the door of a refrigerator truck or room the resulting condensation deposits and freezes on the rod. The metal wiper in front of the seal removes the ice from the rod, which makes it possible to achieve clearly prolonged service life compared to standard wipers.

Materials

The sealing element of the EW seal-wiper set consists of an FKM-based special elastomer with a hardness of approx. 81 Shore A. It is combined with a lamella wiper made of metal.

For low temperatures NBR compound versions are available on request as well.



Installation guidelines

The EW seal-wiper set is installed in the seating hole with a recess for round wire circlips according to DIN 7993 (type B). The seal-wiper element is pushed in and fixed in position by the metal wiper set that easily snaps in. During installation care should be taken not to push the wiper or the seal lip across sharp edges that would cause them to be damaged.

Performance data

Operating pressure	≤ 16 bar
Operating temperature	-10 to +150 °C
Sliding speed	≤ 1 m/s
Media	Compressed air, both oiled and oil-free (after initial lubrication)