





## Fitting Guide for Lionsele® P — hydraulic seal for double-acting pistons

①  For Health & Safety reasons, shut down the hydraulic system before installing your new seal. **Shut off power**

②  Check the seal, seal housing and cylinder bore. Ensure that seal is correct size for piston, and housing is suitable for the seal. **Check sizes of seal, housing & cylinder bore**

③  Remove old seal, then thoroughly clean the housing. **Remove old seal. Clean the housing**

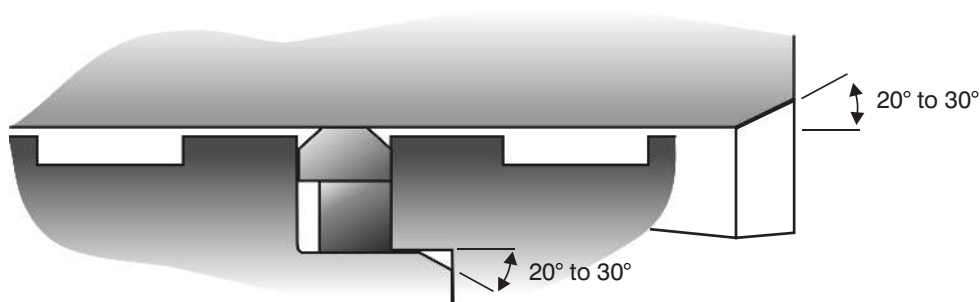
④  Lightly lubricate the rubber and PTFE components of the seal, and the housing, with the hydraulic fluid prior to assembly. **Lubricate seal & housing**

### ⑤ Split-type piston housing

Insert the rubber energiser into the exposed seal cavity. Ensure it is evenly seated around the entire circumference. Then insert the PTFE element and check it is evenly seated. Reassemble the piston and gently lower piston into bore.

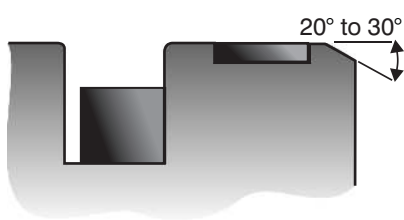
**Insert rubber energiser ring, then PTFE element**

ⓘ **Take care not to scratch the PTFE element.**



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### 6<sub>a</sub> Fully-enclosed housing

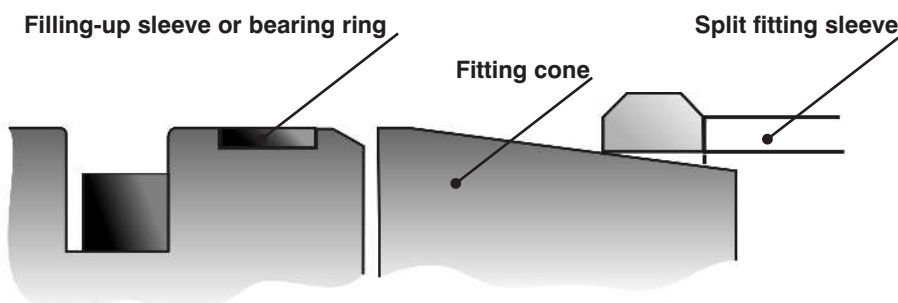


Stretch the rubber energiser over the piston head and into the housing cavity. Ensure the energiser is evenly seated around the entire circumference.

**Stretch rubber energiser into place. Ensure it is seated evenly**

- 6<sub>b</sub> Fit bearing rings or filling-up sleeves in the bearing grooves. Stretch the PTFE element over the piston head and into position. A fitting cone and split fitting sleeve may be needed, or the element may be thermally expanded — see ① below.

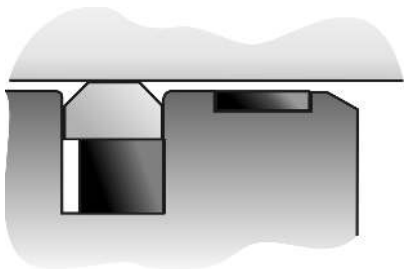
**Fill bearing grooves & stretch PTFE element into position**



- ① To aid fitting, the PTFE element may be expanded by heating to 100°C in a dry oven, water or oil. Wear suitable gloves to handle the hot component. Where the PTFE element cannot be heated, or for seals smaller than 100mm OD, a fitting cone should be used.

- 6<sub>c</sub> Allow PTFE element to recover for 1 - 2 hours after stretching or heating. Then carefully lower piston into bore.

**Allow PTFE element to recover, then fit piston in bore**



**Material Safety Data Sheets are available on request**

**[www.jameswalker.biz](http://www.jameswalker.biz)**

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**Health warning:** If PTFE or fluoroelastomer (eg, FKM, FFKM, FEPM) products are heated to elevated temperatures, fumes will be produced which may give unpleasant effects, if inhaled. Whilst some fumes are emitted below 250°C from fluoroelastomers or below 300°C from PTFE, the effect at these temperatures is negligible. Care should be taken to avoid contaminating tobacco with particles of PTFE or fluoroelastomer, or with PTFE dispersion, which may remain on hands or clothing.

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To ensure you are working with the very latest product specifications, please consult the relevant section of the James Walker website: [www.jameswalker.biz](http://www.jameswalker.biz).

CPC: Lionsele P Level 10 AM09 RC01 IA03 12072013