

# DEPA<sup>®</sup>

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## ASSEMBLY INSTRUCTIONS

### DEPA<sup>®</sup> Closed Surface Diaphragms Series Nopped E4<sup>®</sup>



**CRANE<sup>®</sup>**

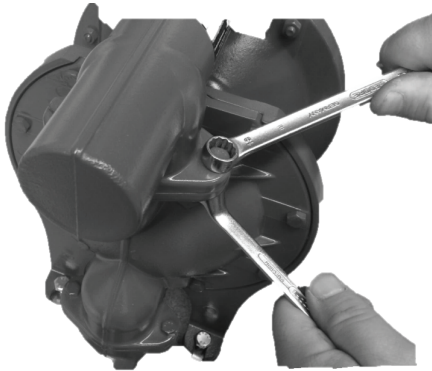
[www.cranecpe.com](http://www.cranecpe.com)

## Replacing the diaphragms

In addition to the following assembly steps, please also refer to the information contained within the DEPA® Installation, Operation and Maintenance Manual (IOM).

### 1. Disassembling the old diaphragms

Disassemble suction- and discharge manifolds.



Pic. 1: Disassembling of the manifolds

Disassemble pump chambers. For DH pump series untighten the screws and bolts, for the DL pump series release the clamp bands.



Pic. 2: DH pump series



Pic. 3: DL pump series

After disassembling of the pump chambers, the diaphragms can be disassembled. First pump side: Disassemble the outer piston (diaphragm with piston fixture). The piston rod

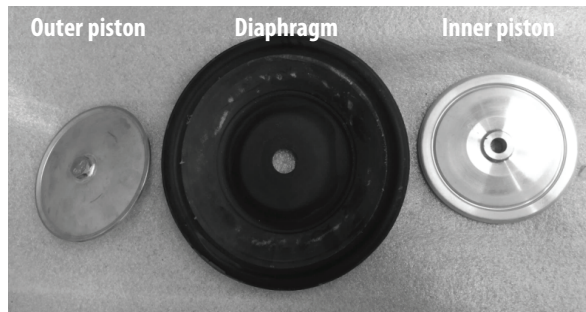
features a wrench attachment point. Hold it in place with a wrench (pic. 4 and 5). Remove the assembly consisting of outer piston, diaphragm and inner piston (piston rod is exposed). On the opposite side take out the assembly consisting of the diaphragm, inner piston, outer piston and piston rod, from the center block (w/o picture). Detach piston rod from the second diaphragm by clamping in an exposed side of the piston rod in a bench vise. Disassemble the outer piston and remove from piston rod. Diaphragm and inner piston can be disassembled.



Pic. 4: Diaphragm disassembly



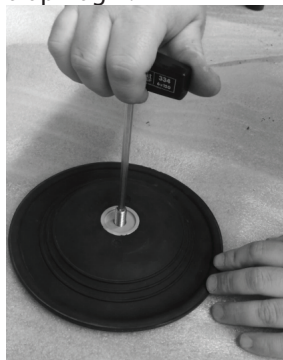
Pic. 5: Hold it in place with wrench



Pic. 6: Diaphragm with piston fixture

### 2. Assembling the nopped E4® diaphragms

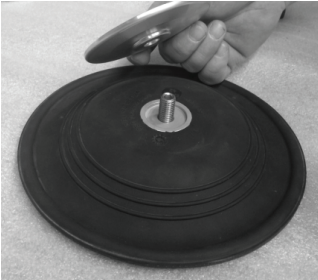
Screw threaded pin with hex wrench into the nopped E4® diaphragm.



Pic. 7

## Replacing the diaphragms

Place switch disc on top. The radius or the chamfer is mounted in the direction of the diaphragm's air side.  
(Pic. 8)



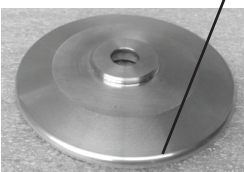
Pic. 8

Screw piston rod onto set screw and tighten by hand (nopped E4® assembly unit including the piston rod, see Pic. 9)



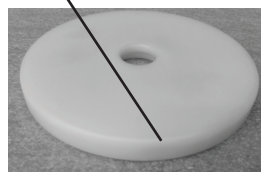
Pic. 9

Chamfer radius



Pic. 10

Aluminium switch disc



POM switch disc

Before assembling the diaphragm unit, check whether other parts of the center block need to be exchanged (e.g. defective or dirty seals, piston rod bearings, defect air valve, pilot rod or silencer). If required, exchange these accordingly.

Slide in the nopped E4® assembly unit into the center block (picture 11) and fix the second diaphragm with switch disc on the opposite side (mount the threaded pin in the second nopped E4® diaphragm as shown in picture 7). Tighten the second diaphragm by hand (picture 12). At the same time, lock the piston rod with a wrench.

Install pump chambers, insert valve seats and balls (check for any damages and if required replace), mount suction and discharge manifolds as per the DEPA® IOM.



Pic. 11

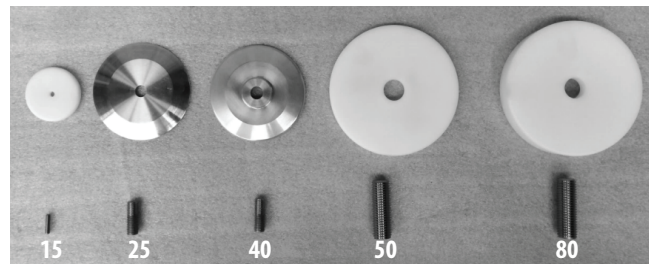


Pic. 12: Tighten by hand

### The DEPA® nopped E4® starter kit contains

- 2 diaphragms
- 2 switch discs
- 2 set screws
- Sealings for air control area of pump

**Note:** The DEPA® nopped E4® starter kit includes switch discs and set screws in the matching sizes. Switch disc material for sizes 15, 50 and 80 is POM, for the sizes 25 and 40 aluminium. Each switch disc has a different thickness. The set screws are available in three sizes (15, 25 & 40 and 50 & 80)



Pic. 13: Switch discs and set screws

**Note:** For DEPA® pumps with nopped E4® diaphragms a new pump coding system is used. To recognize a retrofitted DEPA® pump, please use the sticker enclosed in this manual and attach it, next to the nameplate area. Upon request we can supply you with a new nameplate.

# DEPA®

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