BECKER

BECKER PUMPS CORP. • 100 East Ascot Lane • Cuyahoga Falls, Ohio 44223

Maintenance Walkthrough TLF 2.250

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Vacuum Pumps • Low Pressure Compressors • Combined Vacuum/Pressure Pumps • Regenerative Blowers • Rotary Screw Pumps • Central Systems

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Maintenance:

Preventative Maintenance Schedule:

- Every 40 to 200 Hours
  - Check and clean air intake filter. Every 4 filter cleanings a new filter should be installed and minimally every year.
  - Blow dust and debris off outside of pump

- Every 3000 Hours
  - Grease bearings with pump running. Remove filter cover and place filter over direct inlet to pump and start pump. Remove grease fitting covers and pump gun
    - 25 times in each fitting
  - Check Vanes for minimum width. Replace if necessary.
    - 2.200/250/250SK – 41mm minimum width
    - 2.400/500 – 60mm minimum width
  - Inspect vanes for improper wear (cupping or uneven wear). Replace if necessary.

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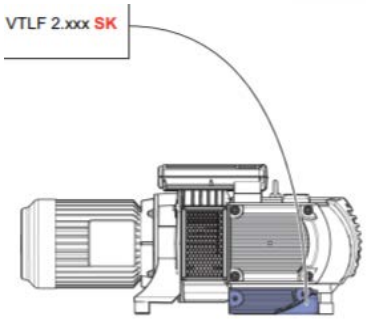
Pump Overview

VTLF 2.200-3.60 *(SK)

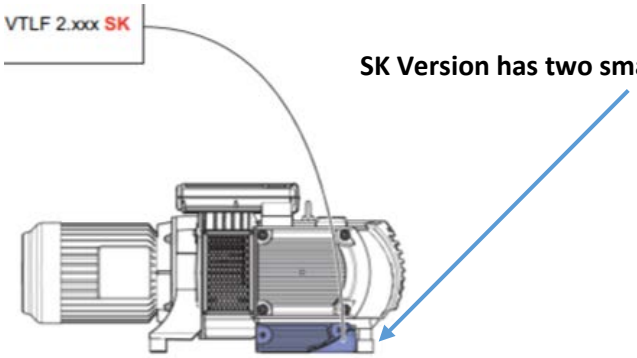
VTLF 2.400-2.500



Changing filters

- Every 40-200 Hours:
  - If installed Check and clean air intake filter.
  - Max of 4 blast air filter cleanings.
    - A new filter should be installed if clogged.
    - A new filter should be installed annually.

Remove the 4 hand knobs



SK Version has two smaller filters below main filter chamber

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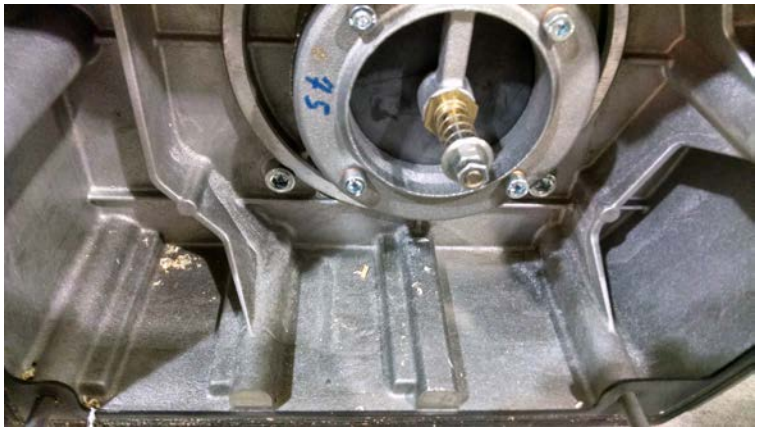
Changing filters

- Remove all air filters and check for contamination.
  - Blowing out the air filter with compressed air is not always enough.
  - Use a flashlight or hold up to a light source. You should be able to see light coming through the filter. If not, exchange immediately.
  - Blow out any debris found in the filter chamber.



Clogged

Clean

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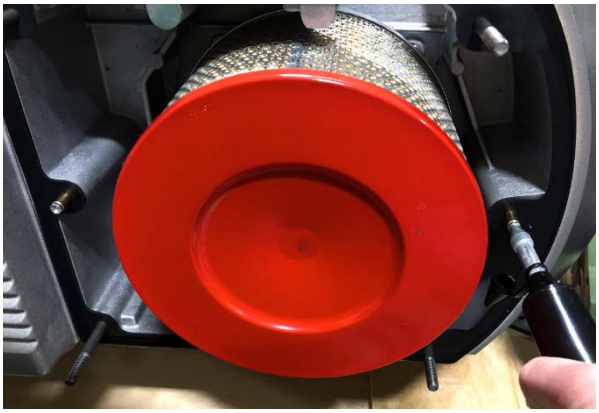
Greasing

- Grease Bearings Every 3000 Hours:
  - Place the filter back over the non-return valve.
  - Remove the plastic caps covering the grease ports.
  - 25 times in each fitting
  - Grease while running



Grease gun part number = **74330500000**

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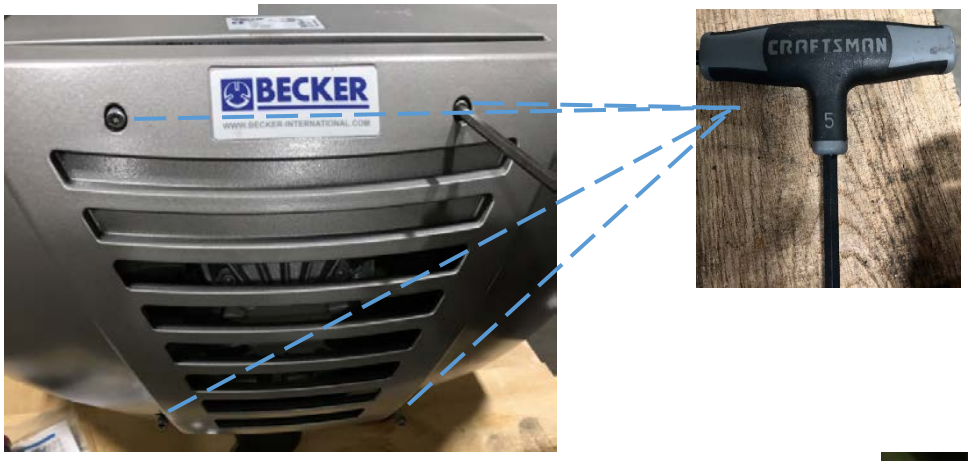
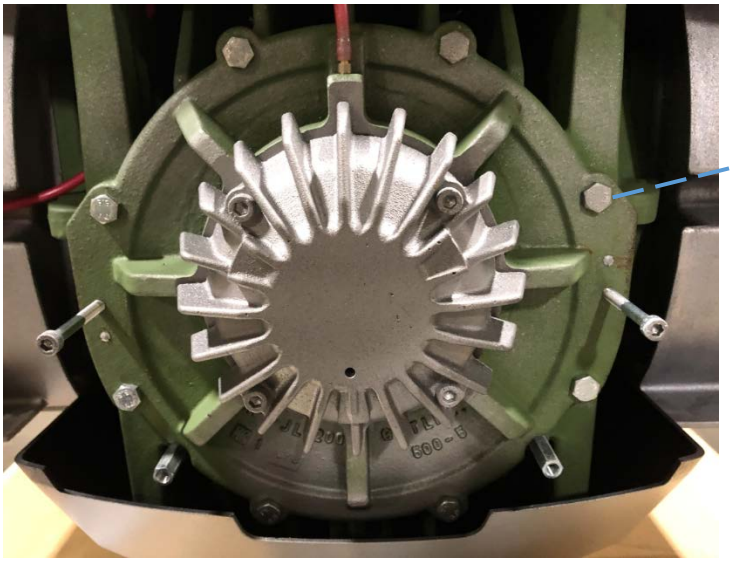
Checking and Changing Vanes

1. Remove the air guide cover.



2. Remove all of the M13 end-shield bolts.

13mm socket



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Checking and Changing Vanes

3. Use 2 of the removed M5 bolts found on the air guide cover and thread them into the empty threaded jack holes.

4. Tighten bolts to pull off the end-shield.

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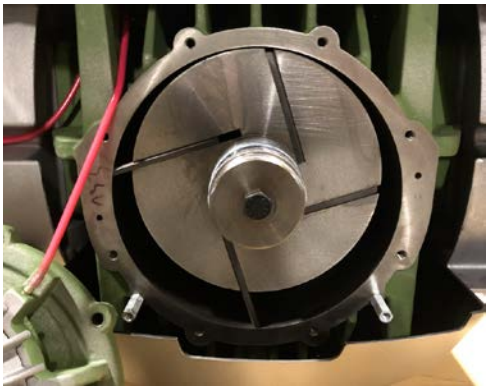
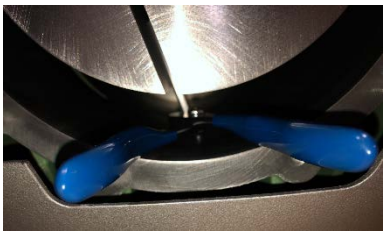
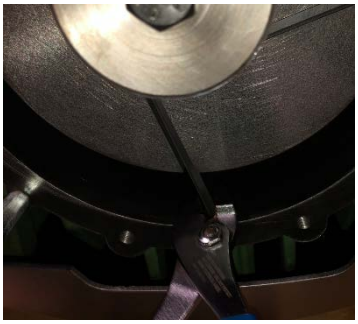
Checking and Changing Vanes

1. Remove the vanes.

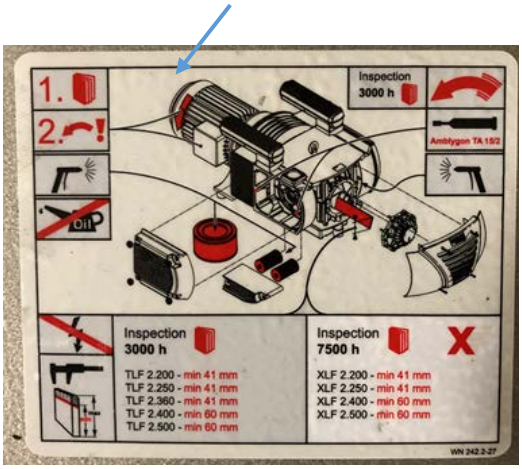


Tip: 2.400-2.500 units have 2 vanes per slot. Gently remove the back sets with long pliers.





2. Measure the height and compare the value against the min spec listed on the maintenance sticker.



3. If the value is close or at the min spec replace the vanes.
   a. If there any signs of improper wear is present, (I.E. Chipping, diagonal wear or cupping,) replace the vanes.

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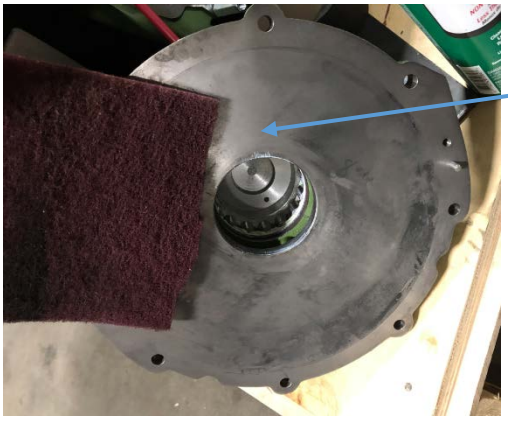
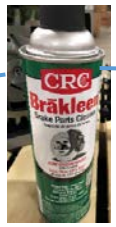
Checking and Changing Vanes

1. Wipe away any grease from the rotor, clean up the end-shield and vane slots.

2. Use Scotch Brite™ to clean surfaces. Do not remove large amounts metal. (No machining.)
3. Brake Cleaner can be used to clean with.





3. Light grit sand paper (220) can be used to clean out the vane slots.

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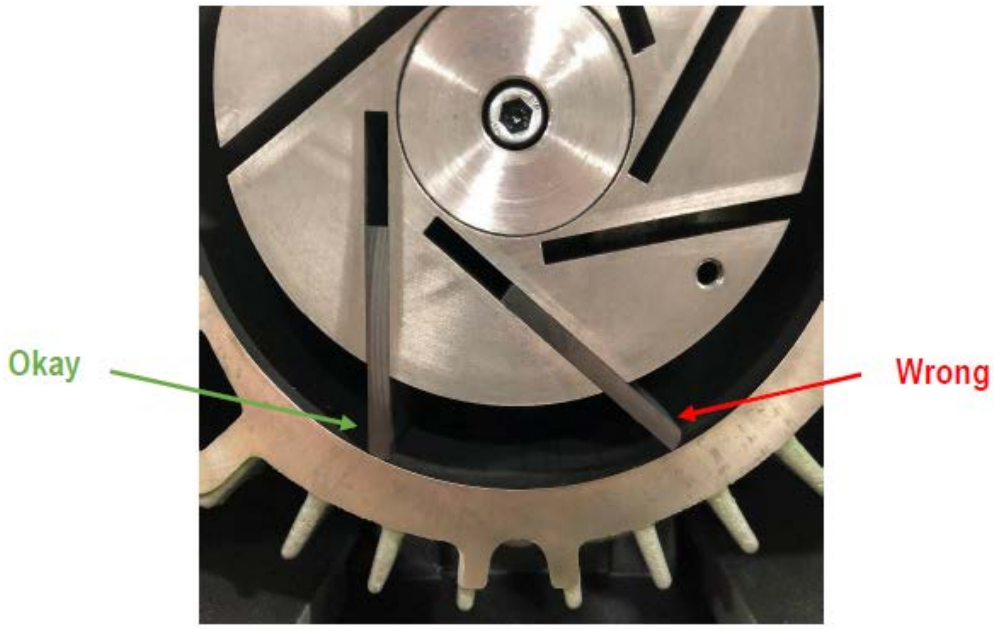
Checking and Changing Vanes

1. Insert the new set of vanes
    a. Align the beveled edge flush with the cylinder
    b. Take care of orientation
        i. If inserted backwards, the vanes can break



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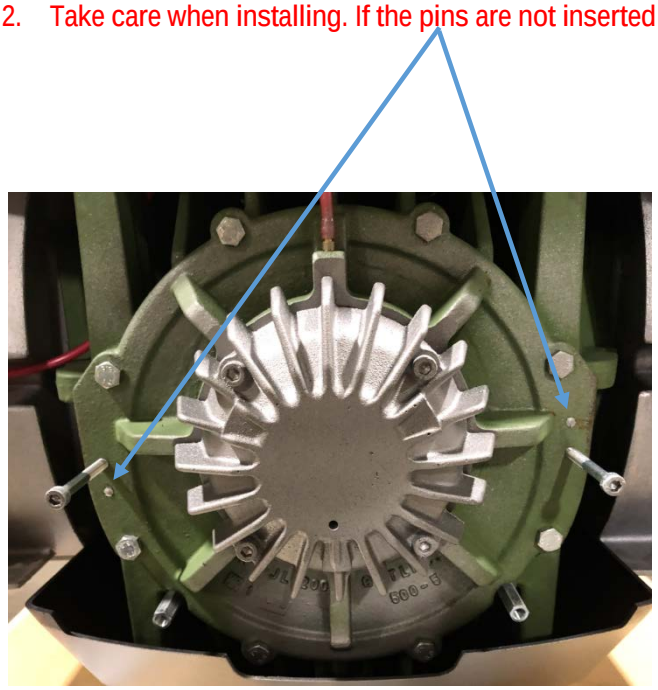
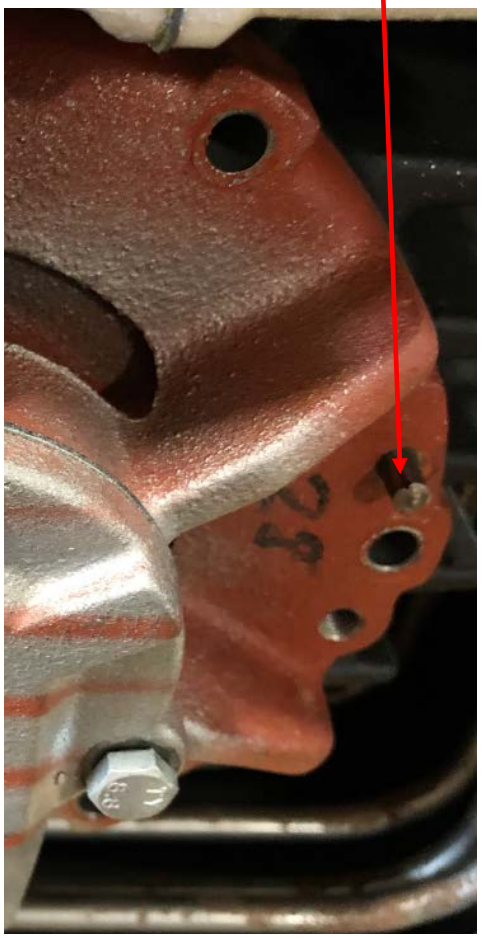
Checking and Changing Vanes

1. Align the guide pins back up and insert them into the tolerance holes.
2. Take care when installing. If the pins are not inserted correctly, the internal components may contact!



Incorrect!



3. Insert all of the End-shield bolts back and fasten the end-shield onto the housing.
4. Install the plastic air guide cover back on to the unit.

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Vane Breakage

- Troubleshooting:
  - Vane breakage after commissioning.
    - Rotor turns backwards. (Check the electrical connection!)
    - Pump has been stored in very humid ambient.
      - Swelling of vanes; corrosion on surfaces.)
  - Vane breakage
    - Too many start/stops.
      - Limit 6 per hour.
    - Rotor turns backwards due to missing check valve.
    - Overload (Clogged filter cartridges).
    - Grease was not removed from the face of the end-shield causing the vane to stick in the slots.
    - Non-Becker Vanes are used.
    - Vanes cupping due to overheating.
    - Blocked Relief valve.
    - Pump was not configured for altitude.
    - Too much discharge plumbing.
    - Rotor has swelled due to overheating and contacted the end-shields.
      - If you see signs of contact, call your Local Becker representative.

End-Shield - contact

Rotor - contact

Cupping

Chipping

ONLY Becker Genuine Vanes are labeled with the Becker Genuine Parts holographic emblem:

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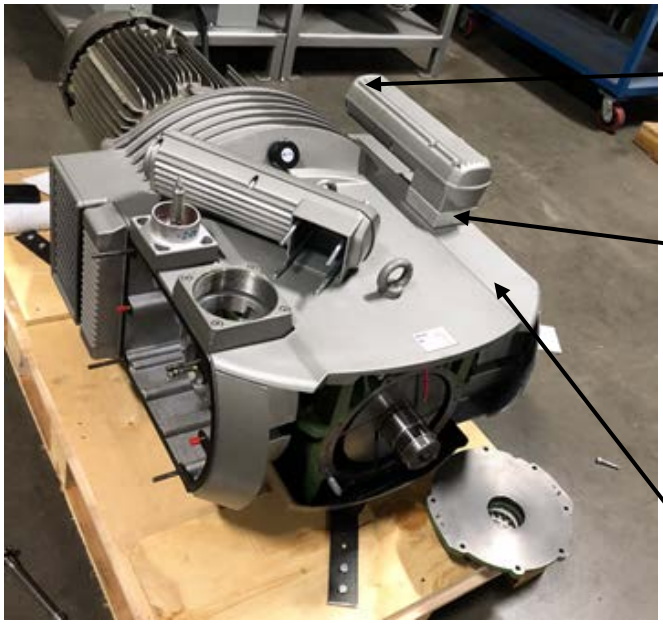
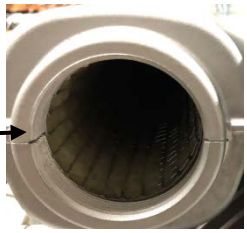
Vane Breakage

Cleaning:

1. Remove all side covers and open the working chamber.
2. Use compressed air and clean out all broken pieces of vanes.
3. Clean out the discharge side and blow off valve.
4. Wipe clean with Brake Cleaner.
5. Install new set of vanes and make sure they fall freely from the slots against their own weight.





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Spare Parts Overview

Maintenance Kits

VTLF 2.200/250 Non SK	338038M0000
VTLF 2.250 SK	338037M0000
VTLF 2.400/2.500	338068M0000

Included in Kit:

- Carbon Vanes
- Grease
- Filters

Click the Becker Logo for Operation instructions and Spare parts lists
Or

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Accessory Options

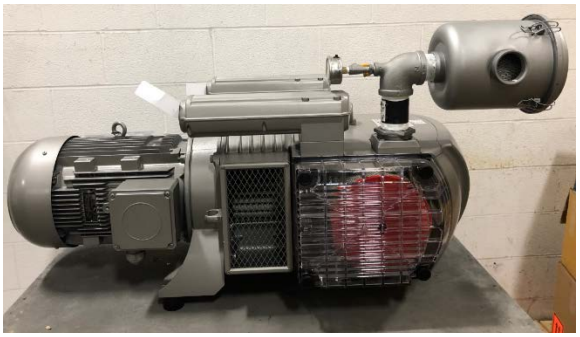
1. Digital Vacuum Gauge:
    a. Becker Digital 0-30” Vacuum Gauge.

2. Liquid Fill Vacuum Gauge:
    a. Becker Liquid Fill 0-30” Vacuum Gauge.

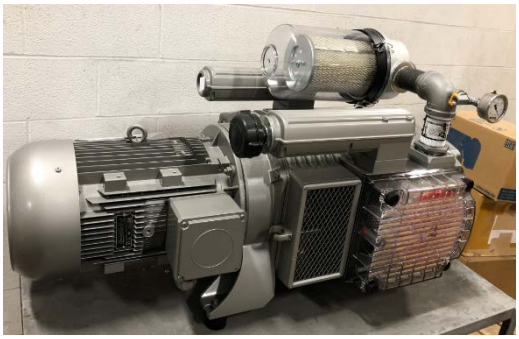
3. Cyclonic Filter:
    a. Relief Valve Filter

4. External Filter Assembly with Check Valve and Gauge:
    a. Check Valve Assembly.
    b. Option 1 = Metal Canister Filter.
    c. Option 2 = Clear Cover Filter.

Metal Canister



Clear Cover Canister



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Accessory Options

5. 1-Phase to 3-Phase Converter:
6. Soft Start / VFD / Motor Protector:
    a. Input = 230V 1-Phase (Phase Converter.)
    b. Input = 230V, 460V, 575V 3-Phase.

7. Manual Motor Starter:
    a. Protects the motor from overload.

8. Zerk Fitting Conversation kit W/ Industrial Grease Gun:

9. Spin Meister for extreme filtration:

Click the Becker Shop Logo below or visit www.Beckerpumps.com/shop

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