

Exhaust oil mist filter service for Becker U4.20 vacuum pump

A very fine filter is fitted inside the exhaust cavity of the Becker vacuum pump. This has the Becker part number 965413 00000 and is shown as item #34 on the exploded parts drawing provided in the machine instructions. In heavy use, with insufficient oil changes, or with contamination in the incoming air stream this filter may block. Blockage of the filter may show up in the following ways:

- Electric motor overload tripping out (especially on start-up)
- Oil becoming black and replacement oil discolouring rapidly.

Exhaust oil mist filter replacement

Refer to illustrations G and H below or the exploded parts drawing following (with the item numbers below being positions on the exploded drawing).

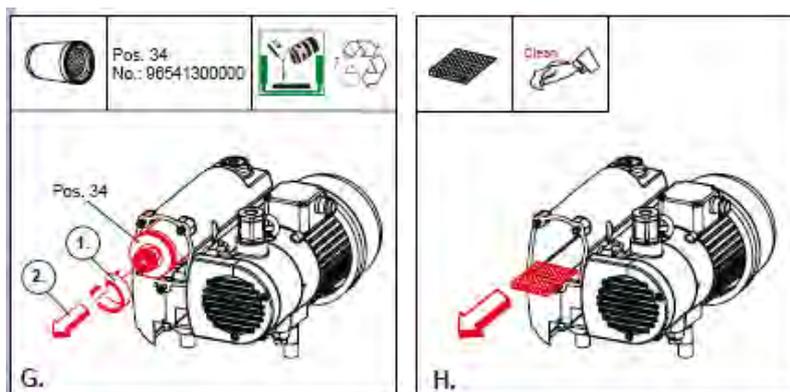
1. If the pump oil is dirty, first run the pump until hot - ideally about 1 hour. Stop the pump and drain the oil by removing the drain plug (#206). This plug is likely to be tight. To loosen, fit the Allen key securely then give it a sharp anti-clockwise blow with a soft faced hammer.
2. To maximise oil drainage of dirty oil, lock the castors at the pump end of the machine and raise the handle side of the machine approximately 150 mm to 200 mm (6" to 8"), using a block of wood, or similar.
3. Barely loosen the three cap screws (#61 and #63) on the exhaust box cover plate (#60)
4. Give the cover (#60) a sharp sideways tap with a soft faced hammer to break the paint film over the gasket which seals the cover to the exhaust box casting. This will reduce the risk of breaking the gasket when the cover plate is removed. If the gasket is damaged, the replacement part is Becker part # 003000 40300.
5. Completely remove the 3 cap screws (#61 and # 63)
6. Remove the cover plate (#60), taking care not to damage the gasket
7. Unscrew the knob (#93) visible inside the exhaust cavity
8. Remove the cap (#85) and the exhaust oil mist filter (#34)
9. Discard the old filter. (It is not cleanable.)
10. Remove, clean and refit the wire mesh screen visible below the filter (if dirty).
11. Fit a new exhaust oil mist filter and replace the cap (#85) and the knob (#93)
12. Replace the exhaust box cover plate (#60) and fit the 3 cap screws – NOTING THAT THE BOTTOM ONE (#63) HAS THE COPPER SEALING WASHER
13. If the oil has been previously drained, fill the pump with clean oil as follows:

In ambient temperature range	Use oil viscosity grade
10 ⁰ C to 30 ⁰ C (50 ⁰ F to 86 ⁰ F)	ISO68 or SAE20
20 ⁰ C to 40 ⁰ C (70 ⁰ F to 100 ⁰ F)	ISO100 or SAE30

The machine should now be ready for use.

Regular oil changes are important

Regular oil changes will help prolong the service life of the exhaust oil mist filter. The oil should be changed whenever it is noticeably discoloured, or every 500 hours, whichever is the sooner.



Gas ballast filter service for Becker U4.20 vacuum pump

Mounted on top of the Becker U4.20 pump is a small external filter. Its purpose is to introduce a small flow of filtered air into the pump to help discharge contaminating vapours such as water vapour and styrene vapour from the pump. In dusty atmospheres, this external filter may block. When the gas ballast filter becomes blocked the pump oil will contaminate more quickly. In most environments, the gas ballast filter should be changed annually. In very dusty atmospheres, more frequent changing may be necessary.

There are two types of gas ballast filter used on the Becker pump. Older models have a paper filter element in a clear plastic housing. Current models use a sintered plastic or sintered metal filter..



Changing the ballast filters

Paper element type

Loosen the gland nut securing the old filter element to the small pipe on top of the pump. Pull out the old element and push in in the new one. Note that the larger diameter end of the filter housing goes toward the gland. The smaller diameter end of the housing is open to atmosphere.

Note that with some pumps it may be necessary to shorten the stem of the plastic filter to allow the stem to be fitted into the gland. If necessary, cut off the small diameter part of the stem with a hacksaw – taking care to remove all cutting particles with compressed air before inserting the element into the gland.

Sintered plastic or metal type

Unscrew the old element. When it comes free of the metal housing it may bring a rubber valve with it. Make sure this rubber valve is reinserted into the housing facing the same way as originally fitted. Screw in the new filter element.

U 4.20
Standard

Variante

U 4.20/XX

①

/09

- mit Gasballastventil
- with gas ballast valve
- avec l'este d'air
- con valvola di zavoratrice
- con válvula de lastre de gas

② ③ ④

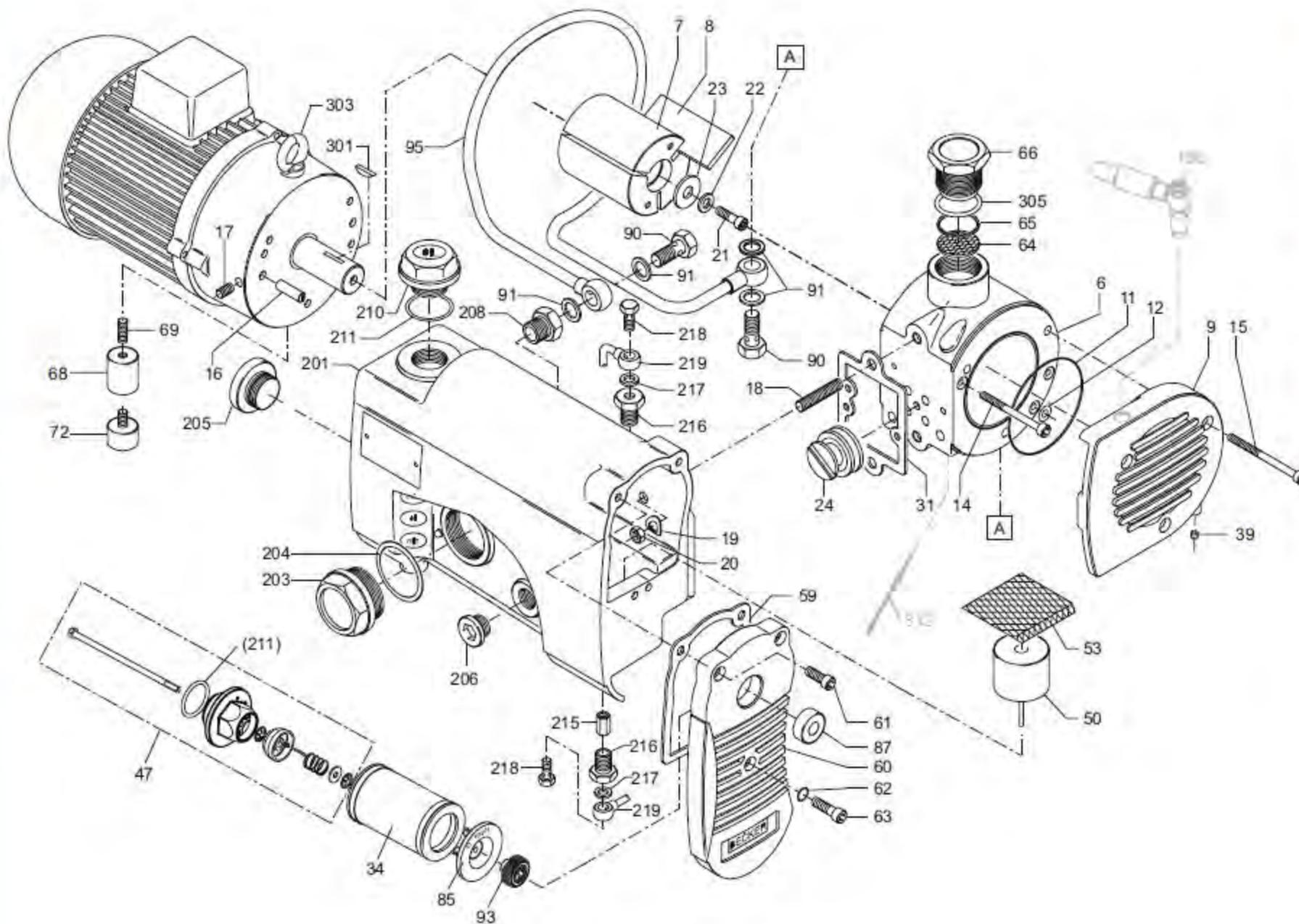
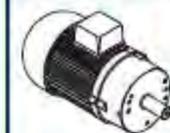
/53 + /53.1 + /59

- mit Wasserkühler
- with water radiator
- avec radiateur d'eau
- con radiatore d'acqua
- con radiador de agua

⑤

/55

- mit Doppelrückschlagventil
- with double-check valve
- avec double valve de retenue
- con doppia valvola di ritenuta
- con doble válvula de retención


SERVICE

 C=11F
U=7V
