

# Klüber Summit Varnasolv HV

Synthetic cleaning concentrate for use in wind turbine gearboxes



## Your benefits at a glance

- Low costs for maintenance and cleaning due to effective deposit removal
- High viscosity formulation matching gearbox operational requirements in wind turbines
- No gearbox downtime required for cleaning as product is used during normal turbine operation
- Klüber Summit Varnasolv HV is neutral towards seals if the maximum recommended concentration of 10 % is not exceeded
- Cost-saving operation and maintenance of the cleaned gearbox due to longer oil life

## Your requirements - our solution

Due to its sufficiently high viscosity matching the gear oil, Klüber Summit Varnasolv HV can be added to the oil to clean gears during operation. Klüber Summit Varnasolv HV is a fluid cleaning concentrate designed to dissolve sticky residues, varnish and carbon build-up during operation and keep them suspended in the oil. At the end of the cleaning process, the used oil is drained to flush out the unwanted residues and fresh, clean oil is applied.

## Application

Klüber Summit Varnasolv HV was especially developed for cleaning enclosed gears in wind turbines. Further possible applications are for example filter housings and tubes containing carbon build-up or aged oil residues where higher viscosity is essential for operation. Klüber Summit Varnasolv HV can be used in combination with mineral, synthetic hydrocarbon and ester oils.

## Application notes

Klüber Summit Varnasolv HV is added to the oil fill at a concentration between 5 and 10 % depending on the condition of the equipment, i.e. a corresponding quantity of the gear oil has to be drained from the system prior to adding Varnasolv.

The gearbox is then operated at its normal service temperature for 40 to 60 h. In case the system is equipped with a thermostatic valve which directs the oil to the cooler or directly to the main gearbox, the operating temperature has to be high enough to activate the thermostatic valve and to allow the oil to flow to the cooler. Any residues, varnish or carbon build-up are dissolved in the process. The oil fill is drained after a maximum of 80 hours.

Please make sure to remove all oil from the gearbox, pipes, filter housings and any dead spots in the system as the used oil might cause deterioration of the new oil fill. Then change the filters and fill the gearbox with fresh oil.

## Material safety data sheets

Material safety data sheets can be requested via our website [www.klueber.com](http://www.klueber.com). You may also obtain them through your contact person at Klüber Lubrication.

| Pack sizes    | Klüber Summit Varnasolv HV |
|---------------|----------------------------|
| Canister 20 l | +                          |
| Drum 200 l    | +                          |



# Klüber Summit Varnasolv HV

Synthetic cleaning concentrate for use in wind turbine gearboxes

| Product data   | Klüber Summit Varnasolv HV     |
|--|--------------------------------|
| Article number   | 050135                         |
| Appearance   |                                |
| Chemical composition, type of oil  | ester oil                      |
| Density, DIN 51757, 20 °C  | approx. 0.94 g/cm <sup>3</sup> |
| Colour space   | yellow                         |
| Flash point, DIN EN ISO 2592, Cleveland, open-cup apparatus  | >= 220 °C                      |
| Kinematic viscosity, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 40 °C  | approx. 200 mm <sup>2</sup> /s |
| Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx. | 60 months                      |

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Innovative tribological solutions are our passion. Through personal contact and consultation, we help our customers to be successful worldwide, in all industries and markets. With our ambitious technical concepts and experienced, competent staff we have been fulfilling increasingly demanding requirements by manufacturing efficient high-performance lubricants for more than 80 years.

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