

# Klübersynth AR 34-401, AR 34-402

Special synthetic lubricating greases for pneumatic drives and sealing elements



## Your benefits at a glance

- Reduces friction and wear in pneumatic components
- Low breakaway torque, even after longer periods of standstill ("Monday morning effect")
- Suitable for all types of pneumatic components, preferably those made of NBR but also of PU materials
- Wide piston speed range from approx. 0.01 to 1m/s and much more in individual cases
- Light colour, adhesive

## Your requirements - our solution

Klübersynth AR 34-401 and -402 are synthetic wide-range greases based on a special calcium soap thickener. They are free from raw materials containing heavy metals and solid lubricants. The special additives contained in these greases provide utmost performance along with operational reliability and long service life. The pneumatic components consisting of the sealing elements and the opposing friction bodies, such as piston rods or cylinder barrels, can therefore be used in a relatively wide service temperature range. This is the result of a close cooperation between Klüber Lubrication, manufacturers of pneumatic elements and joints and university research centers.

Klübersynth AR 34-401 is NSF H1 registered and therefore complies with FDA 21 CFR § 178.3570. The lubricant was developed for incidental contact with products and packaging materials in the food-processing, cosmetics, pharmaceutical or animal feed industries. The use of Klübersynth AR 34-401 can contribute to increase reliability of your production processes. We nevertheless recommend conducting an additional risk analysis, e.g. HACCP.

## Application

Besides many other applications, Klübersynth AR 34-401 and -402 are mainly used for pneumatic control and sealing elements, such as ISO single-acting and double-acting pneumatic cylinders with and without piston rod, pneumatic rotary actuators, short-stroke and compact cylinders, for valves and corresponding sealing elements. Wide piston speed ranges from approx. 0.01 m/s to > 1 m/s can be

achieved. Other advantages of Klübersynth AR 34 401 and -402 are low breakaway torque even after longer periods of standstill and reduced tendency to stick-slip at very low piston speeds. This special grease is preferably used in combination with various types of piston, rod and damping seals made of NBR or PU elastomer materials.

## Application notes

Klübersynth AR 34-401 and -402 are applied by brush, sponge, spatula, grease gun or other conventional metering systems. For the lubrication of cylinder faces the use of round brushes or automatic greasing pistons has proven effective. It is important that after assembly the piston is moved several times over the full stroke length in order to ensure adequate wetting of the sealing elements on both sides if, for example, only one-sided lubrication was possible. A similar procedure applies to valves. Excessive lubrication of the piston seal after several piston strokes – depending on the size and circumference – may provide a more uniform grease layer. The lubricant should be applied on to a cleaned, grease-free surface.

For more details on MOSH/MOAH and their assessment in H1 lubricants, please visit our website or contact your Klüber representative.

## 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	Klübersynth AR 34-401	Klübersynth AR 34-402
Cartridge 400 g	+	
Can 1 kg	+	+

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Pack sizes	Klübersynth AR 34-401	Klübersynth AR 34-402
Bucket 25 kg	+	+

  

Characteristics	Klübersynth AR 34-401	Klübersynth AR 34-402
Article number	017153	017033
Colour space	beige	beige
Service temperature, lower limit	-40 °C	-30 °C
Service temperature, upper limit	120 °C	140 °C
NSF H1 registration number	144020	-
Density, Klüber method: PN 024, 20°C	approx. 0.9 g/cm <sup>3</sup>	approx. 0.9 g/cm <sup>3</sup>
NLGI grade, DIN 51818	1	2
Worked penetration, DIN ISO 2137 / ASTM D217, 25°C, lower limit	310 0.1 mm	265 0.1 mm
Worked penetration, DIN ISO 2137 / ASTM D217, 25°C, upper limit	340 0.1 mm	295 0.1 mm
Shear viscosity, Klüber method: PN 008@DIN 53019-1, equipment: rotational viscometer, 25°C, 300 s <sup>-1</sup> , lower limit	2000 mPas	8000 mPas
Shear viscosity, Klüber method: PN 008@DIN 53019-1, equipment: rotational viscometer, 25°C, 300 s <sup>-1</sup> , upper limit	8000 mPas	20000 mPas
Kinematic viscosity of the base oil, DIN EN ISO 3104 / DIN 53000-1, based on standard / ASTM D445 / ASTM D7042, 100°C	approx. 40 mm <sup>2</sup> /s	approx. 40 mm <sup>2</sup> /s
Kinematic viscosity of the base oil, DIN EN ISO 3104 / DIN 53000-1, based on standard / ASTM D445 / ASTM D7042, 40°C	approx. 400 mm <sup>2</sup> /s	approx. 400 mm <sup>2</sup> /s
Copper corrosion, DIN 51811, 24 h, 100°C	≤ 2 - 100 - 24 corrosion degree	≤ 2 - 100 - 24 corrosion degree
Oil separation, DIN ISO 22285, 168 h, 40°C	≤ 3.5 % by weight	≤ 3 % by weight
Dropping point, DIN ISO 22286 / IP 396	≥ 200 °C	≥ 220 °C
Mineral Oils associated with, MOAH (Mineral Oil Aromatic Hydrocarbons), (Information based on recipe. The presence of impurities, cannot be ruled out.)	No component of recipe	-
Mineral Oils associated with, MOSH (Mineral Oil Saturated Hydrocarbons), (Information based on recipe. The presence of impurities, cannot be ruled out.)	No component of recipe	-
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	24 months	24 months

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## **Klüber Lubrication – your global specialist**

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 95 years.

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