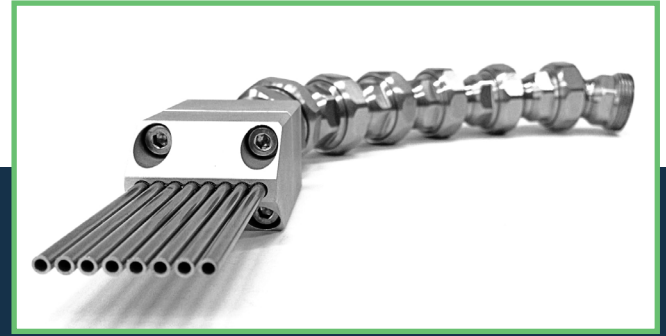


Lubricoolant Supply Systems

FLEXO ND



Enhance your Productivity
Reduce your CO₂ Emissions

Flexo ND (Needle Nozzle) - The combination of a flexible metal or joint tube and our Grindaix nozzles optimizes your lubricoolant consumption even in applications with frequently changing grinding wheel geometries and free nozzle positioning.

Example Calculation for Needle Nozzle ND-40-FLE_X_S

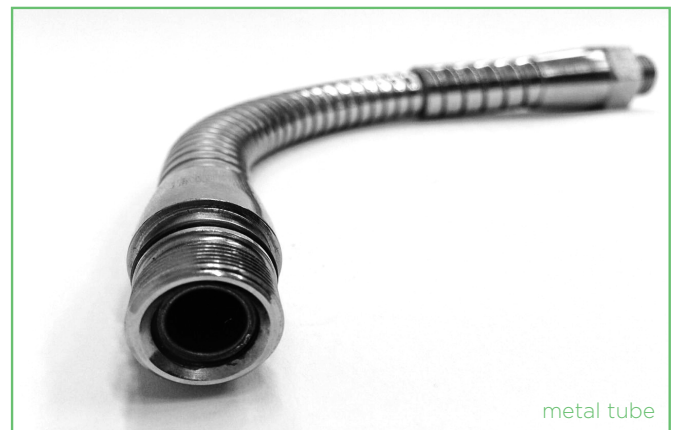
Pressure	Nozzle Width	Flow Rate	Lubricoolant Exit Speed
4 bar	10 mm	15 l/min	18 m/s
4 bar	25 mm	29 l/min	18 m/s
4 bar	40 mm	43 l/min	18 m/s
4 bar	60 mm	65 l/min	18 m/s

At a pressure of 4 bar, and a nozzle width of 40 mm, the nozzle consumes 43 l/min of lubricoolant. The lubricoolant exit speed lies at 18 m/s. Lubricoolant requirements may increase depending on the nozzle width.

Please refer to our nozzle characteristic lines to determine the associated pressure and the necessary lubricoolant volume for the desired lubricoolant exit speed.

Pressure losses in the supply line between the pump and nozzle as well as the effects of any other coolant discharge along the same supply line are not taken into account. These factors can be recorded and evaluated in one of our **Coolant audits**. Only this allows your system to be optimized with respect to consumption.

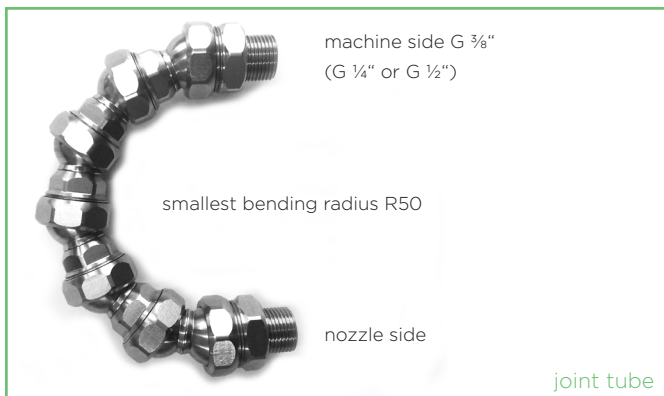
Flexo ND (Needle Nozzle) is available with a characteristic line and, upon request, may be equipped with a **compressed air connector** to the nozzle cleaning system and/or a connector for a **pressure sensor** as well as a **wear protection sheet**.



metal tube

Properties of the metal tube

- + Absolutely pressure tight
- + Kink-proof
- + Positional stability up to 5 bar
- + Wear-resistant
- + Small bending radius
- + Precise positioning, without tools
- + Fatigue- and vibration-resistant
- + Resistant to coolants, oils, grease, hot chips



Properties of the joint tube

- + Positional stability up to 50 bar
- + High flexibility
- + Absolutely stiff due to bolted connections
- + long service life
- + Resistant to lubricoolants, oils, grease, hot chips
- + Standard length 190 mm; each piece may be fitted in a modular way

AS MUCH AS NECESSARY, AS LITTLE AS POSSIBLE!

Our Grindaix nozzles introduce only as much lubricoolant to your machining site as necessary. More targeted lubricoolant supply increases your tool life and enhances the cooling effect in the grinding zone. Cycle times become shorter, so there is no chance of grinding burn. This has a direct effect on productivity.

ECONOMIC OPTIMIZATION OF YOUR PROCESSES

By reducing the entire lubricoolant consumption of your machine, you not only make cost savings but also free up reserves for your lubricoolant filtration, leading to an increase in filtration quality.

The scaling down or multiple use of peripheral units, such as pumps, coolers, etc. allows you to considerably reduce other resources (oil, water, energy) as well as the CO₂ emissions from your production. The CO₂ emissions are calculated as an equivalent directly from your energy and resource consumption. Thus you also protect the environment.

ORDER INFORMATION

Flexo ND (Needle Nozzle) with metal tube

Item No.	Nozzle Width	Connecting System	Tube Length
ND-60-Flex_S	60 mm	G 3/8"	250 mm, 320 mm, 400 mm
ND-40-Flex_S	40 mm	G 3/8"	250 mm, 320 mm, 400 mm
ND-25-Flex_S	25 mm	G 3/8"	250 mm, 320 mm, 400 mm
ND-10-Flex_S	10 mm	G 3/8"	250 mm, 320 mm, 400 mm

other nozzle widths available on request

Flexo ND (Needle Nozzle) with joint tube

Item No.	Nozzle Width	Connecting System	Tube Length
ND-60-Flex_G	60 mm	G 3/8" (G 1/4" or G 1/2")	Standard 190 mm; fittable in a modular way (26 mm)
ND-40-Flex_G	40 mm	G 3/8" (G 1/4" or G 1/2")	Standard 190 mm; fittable in a modular way (26 mm)
ND-25-Flex_G	25 mm	G 3/8" (G 1/4" or G 1/2")	Standard 190 mm; fittable in a modular way (26 mm)
ND-10-Flex_G	10 mm	G 3/8" (G 1/4" or G 1/2")	Standard 190 mm; fittable in a modular way (26 mm)

other nozzle widths available on request