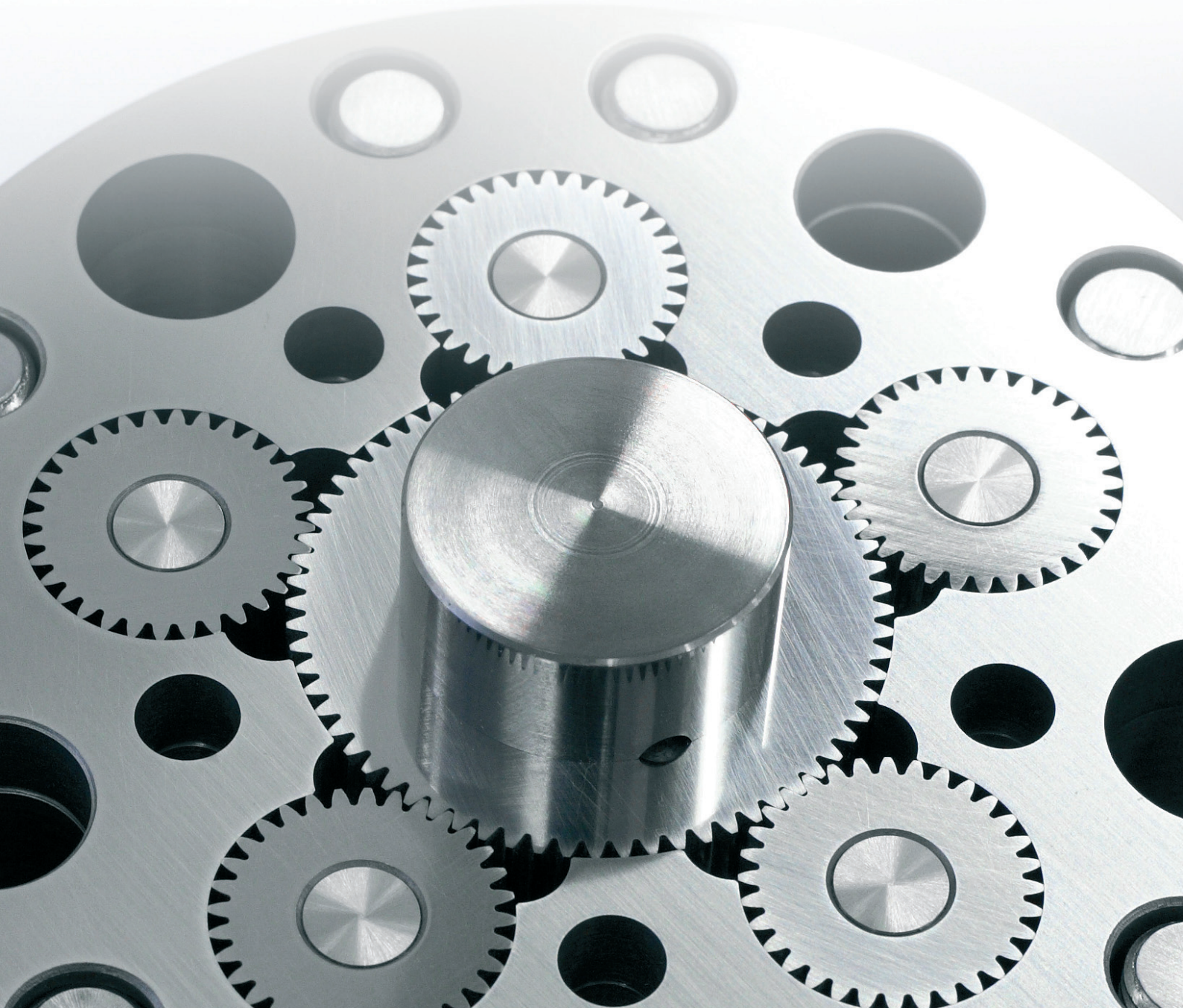
BARMAG

Planetary melt spinning pumps

For manmade fibers



Invest in progress
Planetary melt spinning pumps

Many years of experience, innovative ideas, and modern manufacturing methods, coupled with a steadfast quality philosophy, continue to ensure that Barmag maintains a leading position among pump manufacturers.

Barmag has been manufacturing precision gear pumps for the man-made fiber industry since 1922. From pump generation to pump generation, trendsetting innovations have constantly set new standards.

The special advantages of Barmag's planetary gear spinning pumps include:

- optimal melt flow due to rheologically advantageous melt channels
- high-precision manufacturing methods, allowing for excellent running performance and stable melt exchange
- specially designed relief grooves in the melt outlet area of the gears, for minimized compression forces and operation with few fluctuations in the flow.

Together, these advantages translate into uniformity of the melt streams.

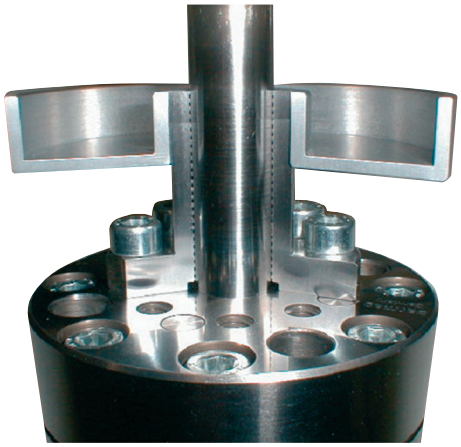


Keep up with the future
Features

Polymer seal

As an alternative to the well known systems, stuffing box and coupling seal, all of Barmag's planetary gear spinning pumps can also be equipped with the polymer seal, which, essentially, consists of a sealing bushing with feed thread. The rotation of the pump drive shaft generates resistance in the feed thread which, in turn, acts on the melt pressure in the pump interior.

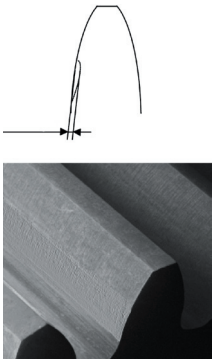
This self-sealing mechanism ensures low-maintenance operation of the spinning pump with minimum wear.



The alternative sealing system: the patented Barmag polymer seal

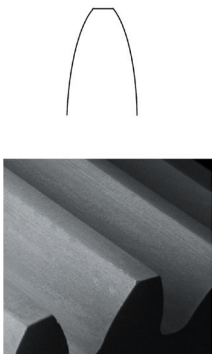
Highly wear-resistant steel

The melt spinning pump is among the key components in a spinning line. Durability is of utmost importance in ensuring consistent yarn quality even after several years in operation. Nevertheless, normal wear is unavoidable. In the case of the standard material (pictured on the right) the wear of the gear flank becomes visible after longer operation.



High speed tool steel

Alternatively, Barmag offers melt spinning pumps made of highly wear-resistant steel (HPS-40), which shows wear only after considerably longer running times. Comparison tests have shown that the excellent wear performance of standard pumps can be further improved by using components made of HPS-40.



Barmag HPS-40

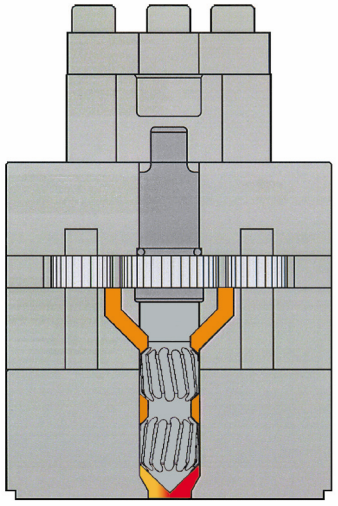
Your future - our partnership
PROMIX and PROMIX AC*

Barmag not only provides „just“ the pump, but also solutions for special customer requests and requirements.

Such as these two models of planetary melt spinning pumps, for example.

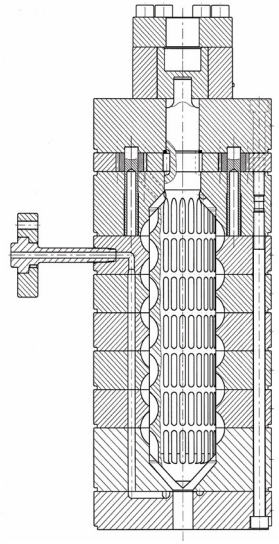


PROMIX
Melt quality is an essential factor in a cost-effective spinning operation. Barmag offers the PROMIX planetary gear spinning pump to meet these exacting requirements. Through intensive mixing, this spinning pump with integrated dynamic mixer equalizes temperature and viscosity differences in spinning polymers and supplies the individual pumps in the system with homogenous melt. This results in a reduced yarnbreak rate which again makes the investment a profitable one.



PROMIX AC
Planetary gear spinning pump for mixing in of additives and colors. For even more demanding requirements, such as mixing additives into the spinning polymer, Barmag developed the PROMIX AC and PROMIX VS planetary gear spinning pumps based on its widely proven PROMIX pump model. In this pump, the additive is fed into the spinning polymer through a separate feed channel. The well established 3DD principle of the mixer ensures homogenous blending of the additive into the spinning polymer with minimized residence time.

In PROMIX AC pump and mixer are driven with the same speed. In PROMIX VS speeds can be varied independently.



* PROMIX, PROMIX AC and PROMIX VS are Barmag patents.

Our engineering for your machines
Design

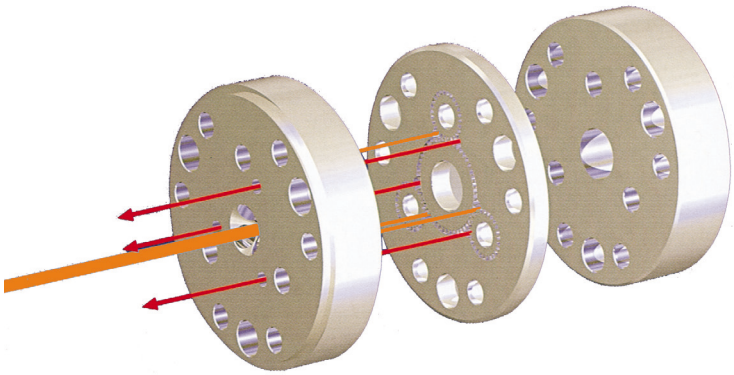
Calculation of the pump size

$$F = \frac{T \cdot v}{10.000 \cdot \rho}$$

F = feed volume (cc/min) per outlet
T = spinning titer (dtex)
v = take-up speed (m/min)
ρ = melt density (g/cc)

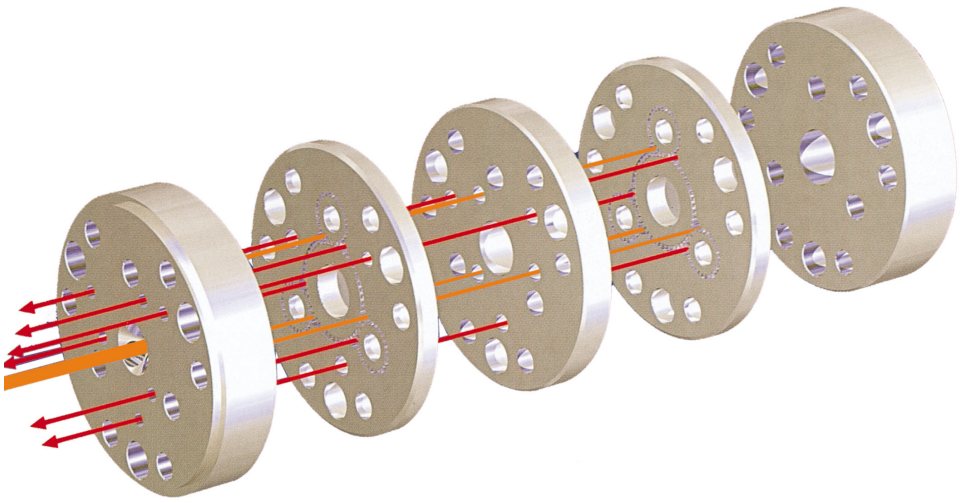
Result F must be divided by the recommended number of revolutions (see data sheets), which will then yield the feed volume (cc/rev) for the gear pump.

Planetary gear spinning pump with one gear level



number of pump outlets	3-fold	4-fold	5-fold	6-fold	8-fold
feed volume (cc/rev)	0.3 - 30.0	0.3 - 50.0	0.3 - 7.5	0.3 - 15.0	0.6 - 6.5

Planetary gear spinning pump with two gear levels



number of pump outlets	6-fold	8-fold	10-fold	12-fold	14-fold	16-fold
feed volume (cc/rev)	0.3 - 5.5	0.4 - 15.0	0.3 - 15.0	0.3 - 15.0	1.2 - 6.5	0.9 - 3.5

The information supplied in this brochure is for guidance only. We reserve the right to modify it at any time. BBA 115 e / 09/2026.

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