

Nozzles for Electromagnetic Encapsulation Units with Sapphire



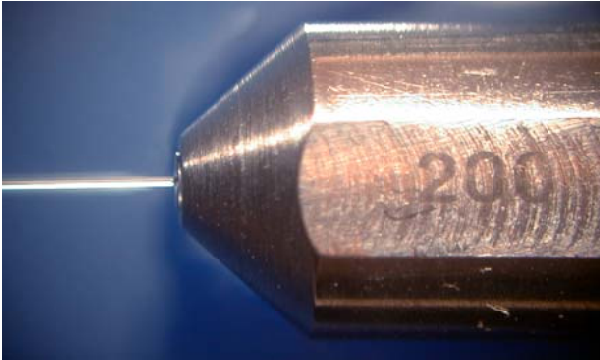
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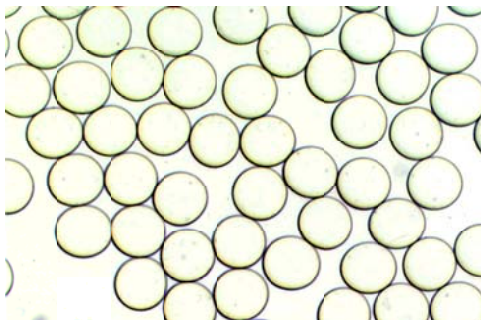
The nozzle holder is made of stainless steel 1.4435 (AINSI 316L). For the nozzle itself we use a polished sapphire. The reason for this you see in the next picture: Just look at the perfect surface of the hole and compare it with the stainless steel surface! The manufacturing of such perfect sapphire nozzles is based on the renowned Swiss watch maker tradition, which helps us to reach this perfectly smooth surface. This is essential for the generation of an absolutely perfect laminar jet as shown below.

Make your own opinion about the quality of



beads that you can generate by using Nisco Microencapsulation Systems.

2% Alginate (Sigma, low viscosity), sterile filtered



Diameter D (µm)	Hole Surface (µm ²)	Typical flow rate per nozzle (ml/min) 3)	Note
80	5027	0.7	1)
100	7854	1.1	1)
125	12272	1.7	2)
150	17671	2.5	2)
175	24053	3.4	2)
200	31416	3.7	1)
225	39761	4.7	2)
250	49087	5.8	2)
275	59396	7.1	2)
300	70686	8.5	1)
350	96211	11.6	2)
400	125664	16.0	1)
450	159043	20.3	2)
500	196350	24.0	1)
550	237583	29.0	2)
600	282743	35.0	1)
650	331831	50.00	2)
700	384845	58.0	2)
750	441786	68.9	2)
800	502655	75.0	2)
850	567450	86.5	2)
900	636173	97.0	2)
950	708822	108.3	2)
1000	785398	120.0	2)

- 1) restricted amount on stock
- 2) non stock items will be produced on order
- 3) typical for low viscosity alginate (2%)

Some technical details:

The hole of the sapphire is drilled with a laser. Thereafter it is polished with a special tool. The smallest polishing tool fits into the 100mm hole. Thus for manufacturing reasons the 100mm nozzle is the smallest available with the sapphire technology.