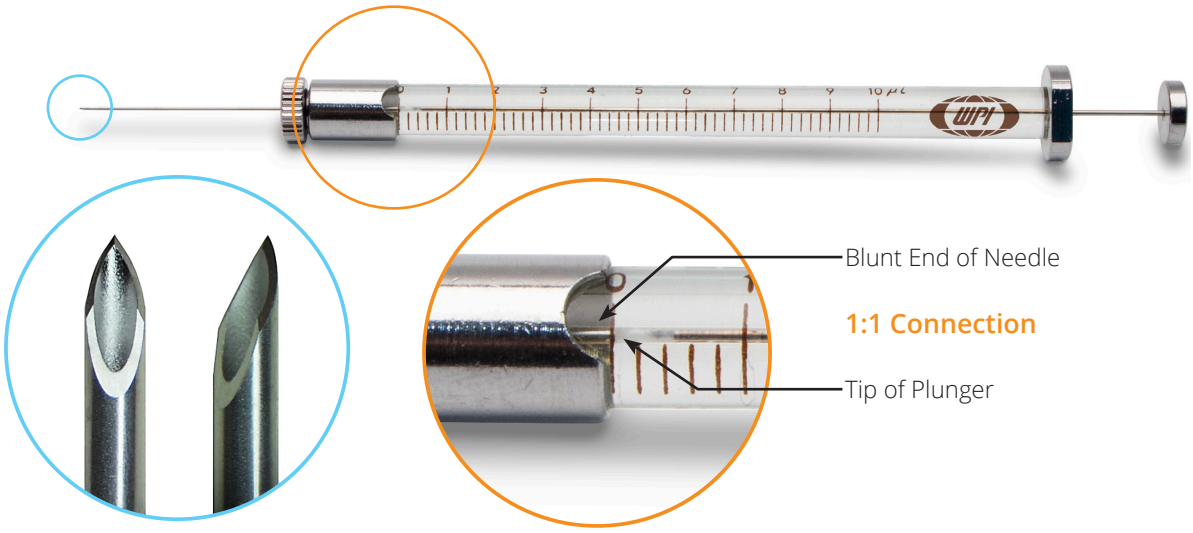
SPEC SHEET

NanoFil™
GAS-TIGHT INJECTION SYSTEM



WPI's NanoFil™ is a specially designed, gas-tight microliter syringe developed specifically for ultra-precise, low-volume fluid transfer that boasts consistency in its performance—with virtually *zero dead volume.* Microliter-level injections with NanoFil™ provide incredible accuracy with results you can trust.

HIGHLIGHTS

- Virtually zero dead volume microinjection syringe
- Strong gas-tight seal providing both repeatability and superior application outcomes
- NanoFil™ needle sizes offered from 26G, down to 36G
- Two needle types available–blunt and beveled
- Versatile for life science research applications requiring precise *in vivo* targeting, low-volume fluid transfer
- Compatible with WPI's UMP3 microinjection system

GAS-TIGHT CONTROL

Gas-tight control is particularly critical for applications requiring utmost accuracy and precision during low-volume fluid handling. Having a quality gas-tight design ensures a vacuum-like seal between the syringe and needle, supplying the necessary force to advance small samples forward during delivery, and upwards during withdraw.

NanoFil's virtual zero dead-volume comes from its thoughtfully designed coupling mechanism, where all WPI NanoFil™ needles insert directly into the syringe barrel, creating a 1:1 connection with the syringe's plunger. Priming your syringe is made effortless with unparalleled control, supported by a sure-seal, gas-tight system.

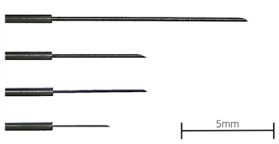
FUNCTIONALITY, VERSATILITY

WPI's NanoFil™ promotes a range of applications, supported by our universal NanoFil™ needles – where all gauges are fully interchangeable and compatible with all NanoFil™ syringes.

NanoFil™ Intraocular (IO) and Retinal Pigment Epithelium (RPE) kits diversify the integration for fine-tuned fluid transfer into sensitive tissue, mitigating user error.

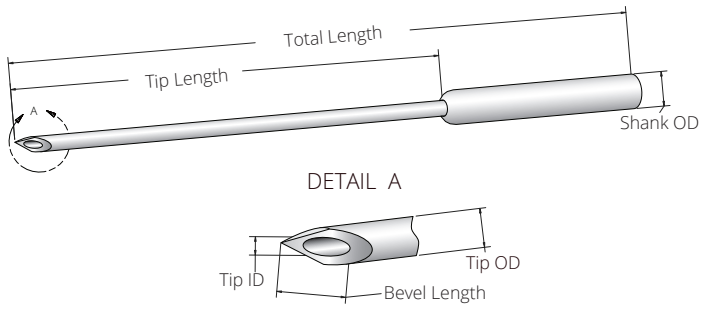
NanoFil™ syringes easily attach to WPI's UMP3 syringe pump paired to a stereotaxic or manipulator-fixed setups for enhanced control.

SELECTING THE CORRECT NEEDLE



NanoFil™ syringes are packaged with a beveled 26G needle, but smaller gauges are usually preferred for *in vivo* applications requiring localized targeting of sensitive soft tissues , as well as tedious ex-vivo low-volume sample dispensing. NanoFil™ needles come in 26G, 33G, 34G, 35G, and 36G blunt or beveled styles. Each needle is handcrafted and individually tested by the WPI team to ensure quality and functionality. *Currently, WPI carries the smallest commercially available needle gauge on the market at 36G.* The sharpness of our unique tri-tip bevel offers a less invasive, smooth entry into tissue compared to single-cut bevels offered by competitors.

NANOFIL™ NEEDLE COMPARISON TABLE



Tip Order Number	Tip O.D.	Tip I.D.	Tip Length	Total Length	Shank O.D.	Bevel Length	Tip Material
NF33BV	210 µm	115 µm	10 mm	40 mm	460 µm	≈348 µm	Stainless Steel
NF34BV	185 µm	85 µm	5 mm	35 mm	460 µm	≈290 µm	Stainless Steel
NF35BV	135 µm	55 µm	5 mm	35 mm	460 µm	≈204 µm	Stainless Steel
NF36BV	120 µm	35 µm	3 mm	33 mm	460 µm	≈156 µm	Stainless Steel
NFQ34-5	160 µm	100 µm	55 mm	75 mm	460 µm	n/a	Quartz
NF33BL	210 µm	115 µm	10 mm	40 mm	460 µm	0	Stainless Steel
NF34BL	185 µm	85 µm	5 mm	35 mm	460 µm	0	Stainless Steel
NF35BL	135 µm	55 µm	5 mm	35 mm	460 µm	0	Stainless Steel
NF36BL	120 µm	35 µm	3 mm	33 mm	460 µm	0	Stainless Steel
Silflex		100 µm		35 cm			
NF26BV	460 µm	140 µm		40 mm	460 µm		Stainless Steel

NANOFIL™ SYRINGE SPECIFICATION TABLE

Syringe Order Code	Volume	Syringe Type	Syringe Body	Autoclavable/ Gas Sterilizable	Plunger Stroke Length	Plunger Cap Dimensions	Syringe Barrel I.D./O.D.*	Qty	MICRO4/ MICRO2T Syringe Type Selection
NANOFIL	10µL	Gas-tight	Borosilicate glass, Stainless Steel, PTFE	Yes ✓ 10°C/50°F to 80°C/176°F, 1000psig max pressure	60mm	O.D.*: 7.90mm (0.311in) Depth: 2.80mm (0.110in)	0.46mm (0.018in)/ 6.40mm (0.252in)	1 EA	L (MICRO4)
NANOFIL-100	100µL						1.46mm (0.057in)/ 7.75mm (0.305in)	1 EA	5 (MICRO2T)

*I.D. = Inner diameter, O.D. = Outer diameter

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