

ramé-hart instrument co.
Guide to Manual Dispensing Needles

Gauge	Standard Type 304 SS (p/n 100-10-12-xx)	Inverted Type 304 SS (p/n 100-10-13-xx)	Disposable 304 SS (p/n 100-10-15-xx)	OD	ID	Wall Thickness	Plastic Taper Tip (p/n 100-10-16-xx)	Plastic Taper Tip Original ID	PTFE Teflon (p/n 100-10-17-xx)	PTFE OD	PTFE ID
8	✓			0.165	0.135	0.0150					
9	✓			0.148	0.118	0.0150					
10	✓	SO		0.134	0.106	0.0140					
11	✓	SO		0.120	0.094	0.0130					
12	✓	SO		0.109	0.085	0.0120					
13	✓	SO		0.095	0.071	0.0120					
14	✓	SO	SO	0.083	0.063	0.0100	SO	0.063	✓	0.082	0.066
15	✓	SO	SO	0.072	0.054	0.0090					
16	✓	SO	SO	0.065	0.047	0.0090	SO	0.048	✓	0.065	0.053
17	✓	SO		0.058	0.042	0.0080					
18	✓	✓	SO	0.049	0.033	0.0080	SO	0.034	✓	0.054	0.042
19	✓	SO	SO	0.042	0.027	0.0075					
20	✓	SO	SO	0.035	0.023	0.0060	SO	0.024	✓	0.046	0.034
21	✓	✓	SO	0.032	0.020	0.0060					
22	✓	✓	✓	0.028	0.016	0.0060	✓	0.017	✓	0.040	0.028
23	✓	SO	SO	0.025	0.013	0.0060					
24	✓	SO		0.022	0.012	0.0050	SO	0.013			
25	✓	✓	SO	0.020	0.010	0.0050					
26	✓	SO		0.018	0.010	0.0040					
27	✓	SO	SO	0.016	0.008	0.0040					
28	✓	SO		0.014	0.007	0.0035					
29	✓			0.013	0.007	0.0030					
30	✓			0.0120	0.0055	0.0033					
31	SO			0.0100	0.0045	0.0025					
32	SO			0.0090	0.0035	0.0028					
33	✓			0.0080	0.0035	0.0023					

Key: ✓, in stock; SO, Special Order (2-3 days); 22 gauge is standard size; dimensions in inches

Standard Type 304 Stainless Steel Needle p/n 100-10-12-xx replace xx with actual gauge; 22g is standard size; available in all gauges from 08 to 30; all sizes are kept in stock, 2" long

Inverted Type 304 Stainless Steel Needle p/n 100-10-13-xx replace xx with actual gauge; 22g is standard size; available in gauges from 10 to 28, see chart for stock sizes, special order sizes are fabricated in 2-3 days; for captive bubble and liquid/liquid studies with environmental fixture/chamber

Disposable Type 304 Stainless Steel Needle p/n 100-10-15-xx replace xx with actual gauge; 22 gauge is standard and in stock (other sizes, see chart, 2-3 days), 1.5" long

Plastic Taper Tip p/n 100-10-17-xx replace xx with actual gauge, see chart for sizes; 22g is standard size and kept in stock; other sizes 2-3 days, tip can be cut to increase dia, 1.25" long

PTFE Teflon Needle p/n 100-10-17-xx replace xx with gauge, available in 14, 16, 18, 20, and 22 gauge, 22g is standard size, PTFE is flexible and can be cut to length.

Note All needles above use Luer Lock and will work on the ramé-hart Micro-syringe p/n 100-10-20; With adapter p/n 100-22-37, above needles can be used w/ ramé-hart Automated Dispensing System.