

Organic Application Note

Nitrogen in Plastics

Accessories

502-186 Tin Foil Cups, 501-614 Spatula

Sample Weight

0.15 to 0.25 g

Calibration Standard

502-092 EDTA, 502-211 Glycine, or other suitable standard

Furnace Temperature

950°C

Flow Profile

All High

Atmospheric Blank (N)

0.04 (EDTA), 0.00 (plastic sheet), 0.025 (plastic pellets)

Crucible Changing Interval

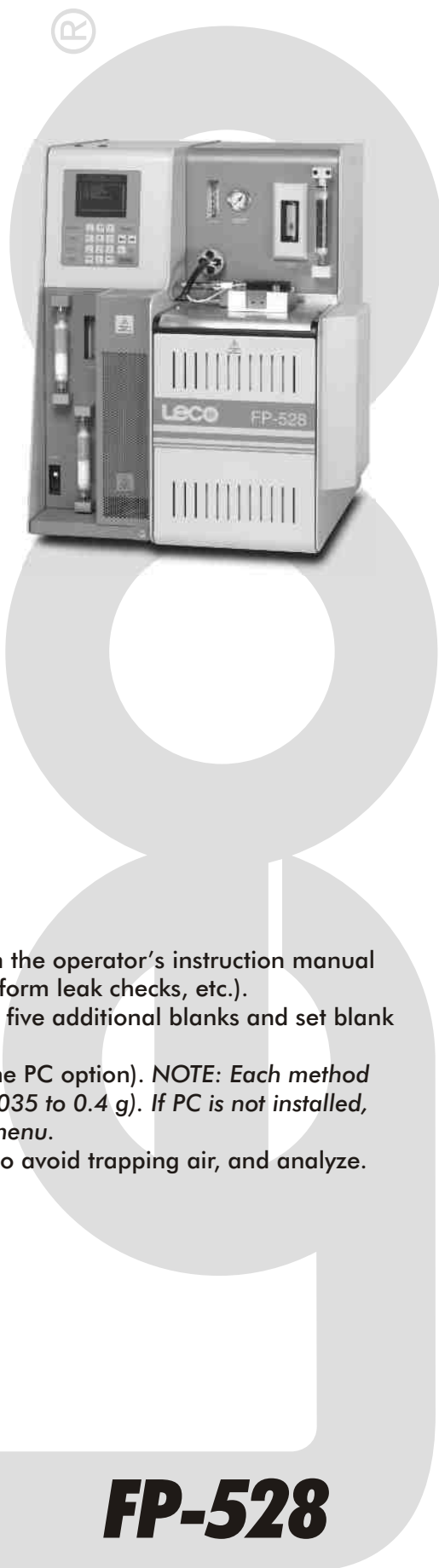
200 to 300 analyses using 614-961-110 Porous Crucible

Analysis Time

~170 seconds

Procedure

1. Prepare the instrument by following the procedure as outlined in the operator's instruction manual (i.e. check gas supplies, perform any required maintenance, perform leak checks, etc.).
2. Analyze blanks (gas) until a plateau is reached. Analyze three to five additional blanks and set blank using these data.
3. Analyze five EDTA standards at 0.2 g and drift correct (if using the PC option). *NOTE: Each method on PC requires prior calibration with multiple weights of EDTA (0.035 to 0.4 g). If PC is not installed, analyze five EDTA standards and calibrate using the DSP screen menu.*
4. Weigh plastic samples into a 502-186 Tin Foil Cup, seal tin foil to avoid trapping air, and analyze.
5. Analyze a standard at end of set to verify calibration.



FP-528

Typical Results

Sample	Weight (g)	% Nitrogen	Sample	Weight (g)	% Nitrogen
Polyurethane/PVC #1	0.1601	1.855	Polyethylene	0.2117	0.499
	0.1635	1.855		0.1907	0.488
	0.1646	1.846		0.2118	0.490
	Average	= 1.852		0.2117	0.493
	Std. Dev.	= 0.005		0.2052	0.512
Polyurethane/PVC #2	0.1628	1.512	EVA/Polyethylene	Average	= 0.496
	0.1741	1.533		Std. Dev.	= 0.010
	0.1749	1.523		0.2287	0.046
	0.1750	1.520		0.2219	0.042
	Average	= 1.522		0.2191	0.041
Std. Dev.	= 0.011	0.2192	0.038		
Polyurethane/PVC #3	0.1659	1.967	Average	= 0.042	
	0.1508	1.950	Std. Dev.	= 0.003	
	0.1826	1.950			
	Average	= 1.956			
	Std. Dev.	= 0.010			



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