

Flame Photometers

Sherwood Models 410, 420 and 425 Flame Photometers

For use in applications examining pharmaceutical and biochemical samples, clinical and biological fluids, industrial processes and environmental testing.

◆ Choice of models:

Model 410 — Single channel emission flame photometer for routine determination of Na, K and Ca (Li and Ba also, using accessory filters).

Model 420 — Dual channel emission flame photometer with features as above but with Li filter instead of the Ca filter and additionally offering simultaneous Na and K results, built-in lineariser for clinical samples, Li internal standard referencing for enhanced accuracy, microprocessor control and monitoring of measurements, continuous or peak mode operation, and built-in RS232 port for result output.

Model 425 — As Model 420 but offering simultaneous Ca with K, or Na, results and without lineariser.

Features common to all models

- ◆ Digital readout with moveable decimal point
- ◆ Auto-ignition of flame
- ◆ Integral 'fail-safe' flame monitoring
- ◆ Automatic air regulation
- ◆ Gas cut-off safety feature
- ◆ Recorder output

General Specifications

Model	410 Classic	420 Clinical	425
Sensitivity	Minimum concentrations producing a display reading of 100 scale units: Na: 0.5ppm, K: 0.5ppm, Li: 2ppm — all models Ba: 1000ppm (optional filter) — 410 only Ca: 5ppm — 410 and 425 only		
Detection limits	Na, K <0.02ppm at 2 x standard deviation		
Specificity	<0.5% to reading from interferent of Na, K, Li equal to the concentration of element under test		
Drift	% 2	<1	<1
Reproducibility	% 1	<0.5 (Peak ref. mode)	<0.5 (Peak ref. mode)
Display channels	1 (LED)	2 (LED)	2 (LED)
Result display	Manual estimation	Auto peak	Auto peak
Result storage	No	Yes	Yes
Outputs	Fixed analogue	Adjustable analogue and RS232 — both models	
Dimensions	mm 390 x 345 x 510 — all models		
Weight	kg 9.5	10	10

Services required

Electrical	198-264V 50/60Hz single phase
Air	Moisture and oil free 6 litres/minute at 1kg/cm ²
Gas	High grade propane, butane or propane/butane mixture. Fuel should be free from heavy hydrocarbon deposits and regulated to approx. 30 p.s.i. at the cylinder. Model 410 only is also suitable for use with natural gas at 3"– 10" W.G. (Specify correct regulator when ordering). Model 425 requires propane/air mixture only for Ca tests.

Flame Photometer, Model 410 Classic*

With Na, K and Ca filters, fuel and air connection, 1000ppm standard solutions for Na, K and Ca and instructions. Requires but does not include an air compressor of the correct type and gas regulator. For 198-264V 50/60Hz single phase supplies.

FH300-10 Model 410 Classic

*Clinical version available - details on request.

Flame Photometer, Model 420 Clinical**

With Na, K and Li filters, fuel and air connection, 1000ppm standard solutions for Na, K and Li, software and instructions. Requires but does not include an air compressor of the correct type and gas regulator. For 198-264V 50/60Hz single phase supplies.

FH305-20 Model 420 Clinical

**Industrial version available - details on request.

Flame Photometer, Model 425

With Na, K, Ca and Li filters, fuel and air connection, 1000ppm standard solutions for Na, K, Ca and Li, software and instructions. Requires, but does not include, an air compressor of the correct type and gas regulator. For 198-264V 50/60Hz single phase supplies.

Note: cannot be operated using natural gas.

FH305-30 Model 425

Accessories for Model 410 only

- FH317-10** Calcium filter[†]
- FH317-12** Barium filter
- FH317-14** Lithium filter
- FH324-10** Natural gas regulator kit

[†]Accessory for instruments built before December 2003.

Accessories for all models

Air compressor for temperate conditions 220-240V 50/60Hz single phase.

FH319-12 Air compressor[#]

[#]Free of charge when ordering FH305-series.

Air compressor for conditions of high temperature and humidity. 184-264V 50/60Hz single phase.

- FH319-18** Air compressor, high-temp
- FH324-12** Propane regulator
- FH324-14** Butane regulator



FH300-10



FH305-20, FH305-30 is similar