

Fast and Accurate Preparation of Fused Beads for XRF Analysis – DCF820 and DCF830

Benefits:

The DCF units prepare fused beads for XRF analysis, including the dosing, weighing and mixing of flux and sample, as well the cleaning of the crucibles. The DCF820 is capable of making 10 beads per hour, while the DCF830, which has two furnaces, can make 20 beads per hour. The unit is designed to operate in automated laboratory.

XRF analysis of fused beads is unaffected by analytical errors associated with mineralogy, segregation or particle size. The preparation technique ensures a homogenous matrix with an even distribution of analytes.

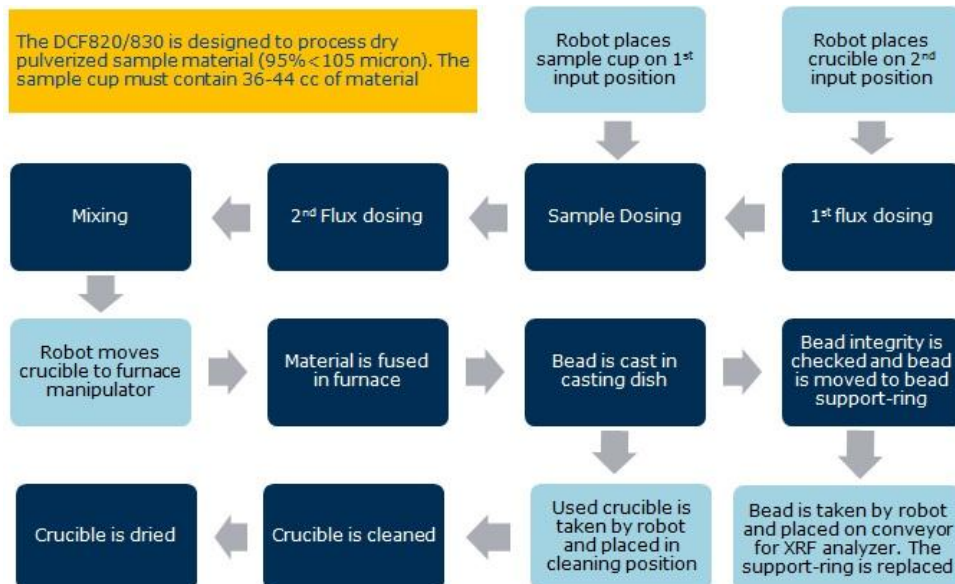
Automation of the dosing and weighing tasks ensures optimal reproducibility and analytical quality and increases the capacity of the laboratory. Automated fusion preparation is faster than the manual process and thus gives faster access to data.

Dilution ratio and flux type can be adjusted from sample to sample according to recipe. Adjustable gravimetric dosing of both sample and flux allows the DCF820 to achieve dilution ratios with an accuracy of +/-0.15%. The catch weight is read with a resolution of 0.0001g. Dosing accuracy can be adjusted in accordance with capacity requirements.



DCF 830

Functionality:



Technical Data:

The DCF is designed with three separate sections with dosing, fusion or cleaning functionality. The electrical panels and control units are arranged in a separate internal cabinet. There is easy maintenance access to all sections both from the front and the back.

Fusing section		
Fusion instrument	Eagon 2, PANalytical	
Furnace temperature	300-1200 °C	
Fusion capacity	DCF820: 10 beads/hour, DCF830: 20 beads/hour (this may vary with fusion time)	
Bead orientation	Configurable – right or reverse side up	
Dosing section		
Sample material	Dry, non-sticky, max. 5 % residue on a 105 micron sieve	
Sample input	via a steel/aluminium sample cup, Ø 50 mm, height 55 mm	
Sample quantity	36 – 44 cc	
Flux capacity	Standard: 1 removable stainless steel container, 1500 cm ³ . Option: 2 independent containers, each 1500 cm ³	
Flux material	Dry, crystalline, non-sticky	
Operational dosing performance		
	DCF820 "high accuracy"	DCF830 "high capacity"
Weight of dosed sample	0.5 – 3.0 g	0.5 – 3.0 g
Weight of dosed flux	0 – 10.0 g	0 – 10.0 g
Sample dosing accuracy	< ±40 mg	< ±80 mg
Dilution ratio accuracy (sample / [sample + flux])	< ±0.15 %	< ±0.75 %
Sample dosing capacity	10 per hour	20 per hour
Cleaning section		
Cleaning method	Heated, ultrasonic bath with cleaning reagent with subsequent washing by tap or distilled water	
Number of simultaneously cleaned crucibles	Up to 6 crucibles can be cleaned at the same time.	
Cleaning reagents	'Tickopur R27' (5 % solution), Citric acid (5-10 % solution) or equivalent	
Crucible drying	Crucibles are dried by hot air	
Other data		
Power supply	Line 1: 230 V AC, L, N, PE, 50 Hz, max. 1.8 kVA Line 2: 230 V AC, L, N, PE, 50 Hz, max. 4.6 kVA Other can be specified.	
Compressed air supply	Clean, dry, oil-free, 0.6-1.0 MPa	
Dedusting	Vacuum level: -16 to -31 kPa; air flow: 0.5m ³ /min	
Operational environment	Temperature: 15 – 35 °C, Humidity: 30 – 75 %	
Weight	655 kg	
Dimensions (H x W x D)	DCF820: 1933 x 900 x 900 mm DCF830: 1933 x 1650 x 900 mm	



DCF 820



Sample Processing and Analysis
 FLSmidth spol. s r.o.
 Ripska 4a
 62700 Brno
 Czech Republic
 Tel: +420 548 425 111
 Fax: +420 548 217 675
 E-mail: brno-sales@flsmidth.com

www.flsmidth.com/quality