A RIPPLED TAMPER BASE TO IMPROVE ESPRESSO EXTRACTION?

THE FORCE TAMPER + DE1 PRO V1.1 DECENT ESPRESSO MACHINE

STÉPHANE RIBES – NOVEMBER 2019

RIPPLED TAMPER BASE
MAIN RESULTS

- **Lower puck resistance** with the rippled tamper base
- **Quicker puck wetting** and **earlier first drop,** even after compensation of the puck resistance with a higher dose

- **No** visible **benefits** on the **extraction uniformity** (bottomless portafilter)

- A little **less crema** when the rippled base was used
- After extraction, no impact on the puck compactness or dryness

- With the rippled tamper base**, less tasty espresso shots** (higher astringency, lower acidity)

- Slight but consistent **Extraction Yield increase** (ca. + 0.5 to +1.0 point)

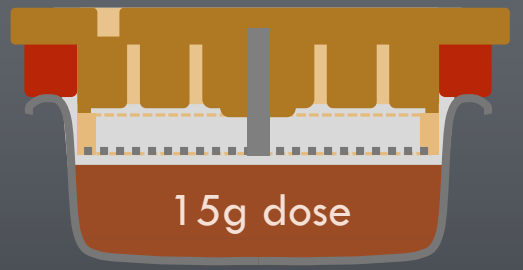
RIPPLED TAMPER BASE TEST PROTOCOL (1/3)

Flat tamper base – 58.5 mm

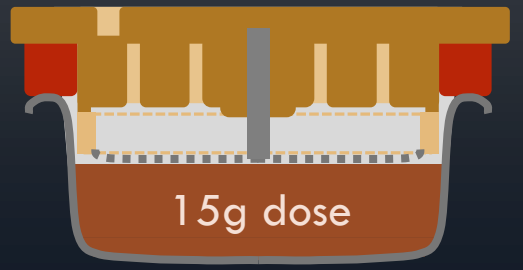
Rippled tamper base – 58.5 mm

Brass spacer with 2 different shower screens

IMS CI 200 IM screen + spacer:
additional 3.8 mm protrusion in the basket



IMS CI 35 WM screen + spacer:
ca. 5 mm protrusion



RIPPLED TAMPER BASE TEST PROTOCOL (2/3)

- **Decent Espresso Machine DE1PRO v1.1** with a Cafelat 8.0 mm silicone gasket
- 3.8 mm brass spacer + IMS CI 35 WM or IMS CI 200 IM screens

- Mahlkönig EK43 S grinder – SSP burrs "High Uniformity" with Silver Knight coating **Same grind setting for all recorded and presented shots (EK 1.1)**

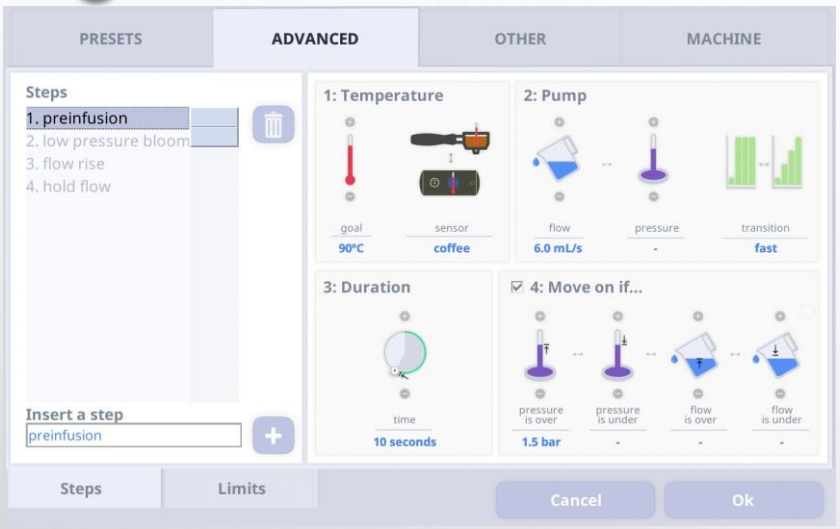
- Montille water (Le Mont Dore, France) – **adjusted to 50 ppm eq. $CaCO_3$ alkalinity and 100 ppm eq. $CaCO_3$ total hardness,** with sodium carbonate and Epsom salts

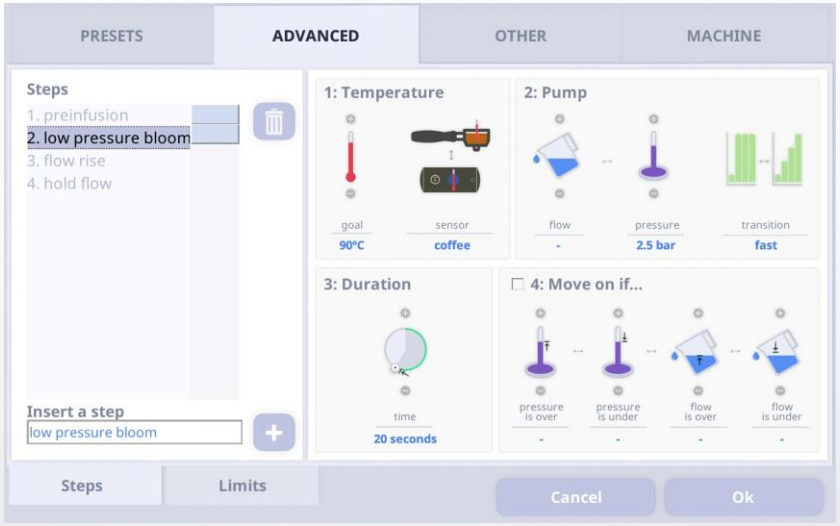
- Thorough drying of the basket and of the shower screen before each shot, with a clean tissue

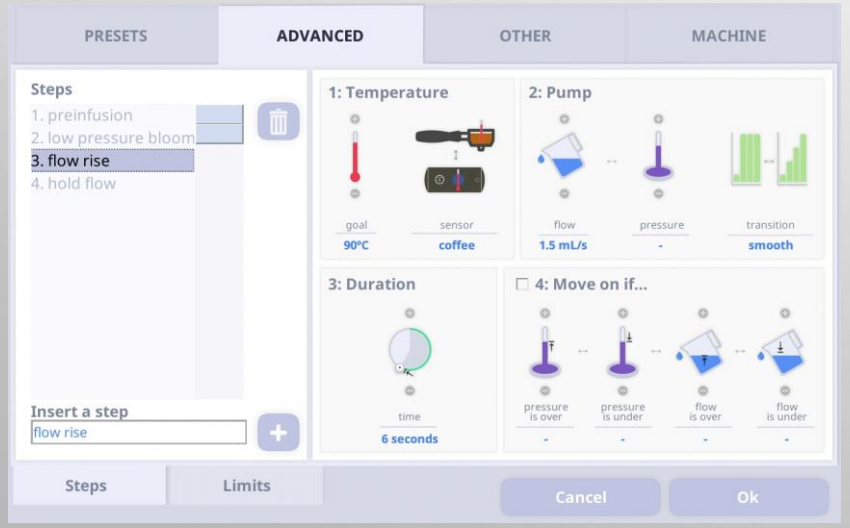
- Single dozing of frozen beans ground in a double wall stainless steel cup
- WDT in a 15g VST basket with a Londinium tool (and a Decent funnel) – no taps
- **The Force Tamper with a 58.5 mm flat or rippled base – used twice in a row**

- TDS measurements: Atago PAL zeroed with SCAA water – no additional filtering of the coffee samples – all samples measured at room temperature after thorough agitation – 1 data point = average of 3 to 5 measurements of each coffee sample

RIPPLED TAMPER BASE TEST PROTOCOL (3/3)







- Mix between a Londinium profile and a blooming shot
- The objective of the low pressure bloom (step 2) is to maintain a constant volume of the air pocket above the puck in order to limit further damages to the puck surface during the water flow increase (step 3)

RIPPLED TAMPER BASE – RESULTS (1/3)

Flat

IMS CI 35 WM + spacer

14g in
28g out

Max P:
6.0 bar

EY: 18.2%

IMS CI 200 IM + spacer

14g in
28g out

Max P:
5.8 bar

EY: 18.4%

14.5g in
29g out

Max P:
6.9 bar

EY: 18.7%

Rippled

IMS CI 35 WM + spacer

14g in
28g out

Max P:
5.1 bar

EY: 19.3%

IMS CI 200 IM + spacer

15g in
30g out

Max P:
5.9 bar

EY: 19.3%

14.5g in
29g out

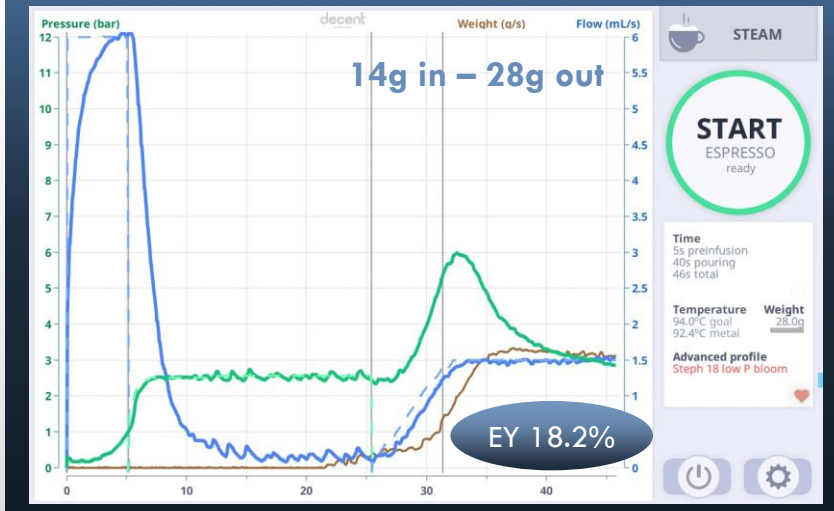
Max P:
4.4 bar

EY: 19.0%

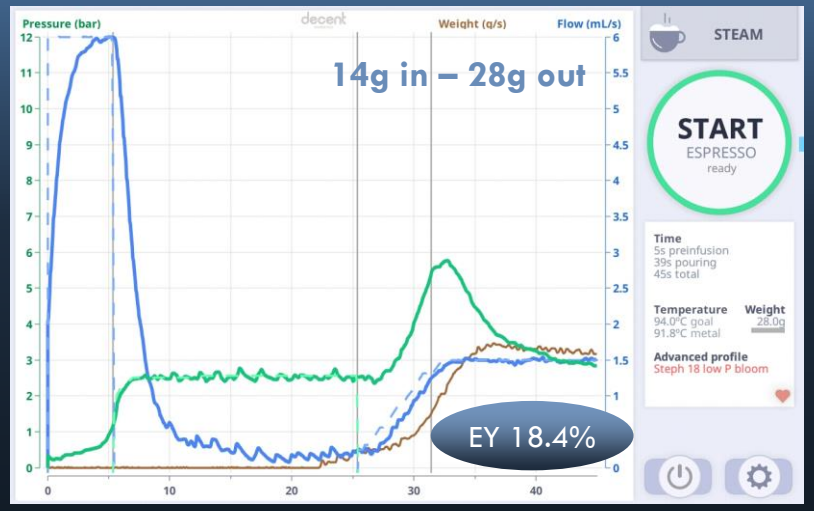
RIPPLED TAMPER BASE – RESULTS (2/3)

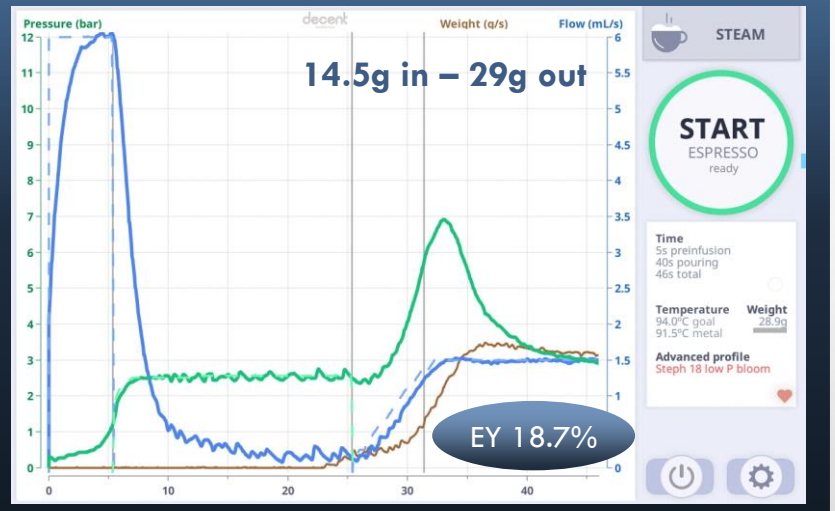
Flat

IMS CI 35 WM + spacer



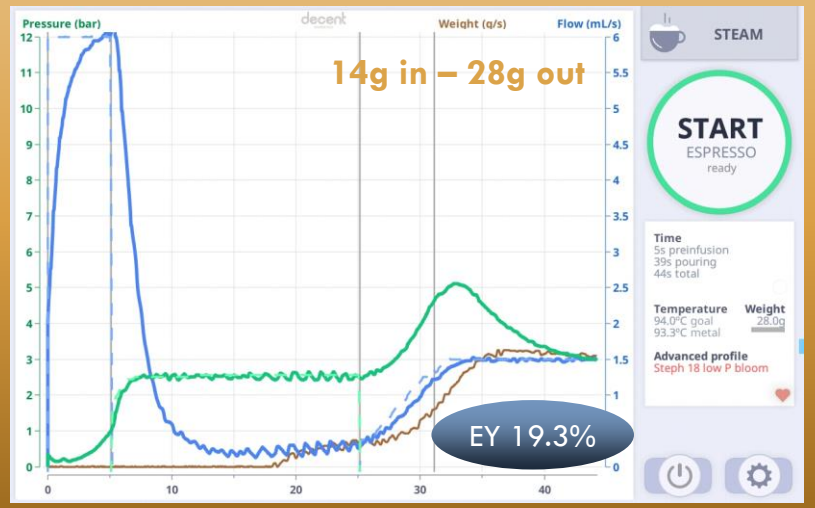
IMS CI 200 IM + spacer



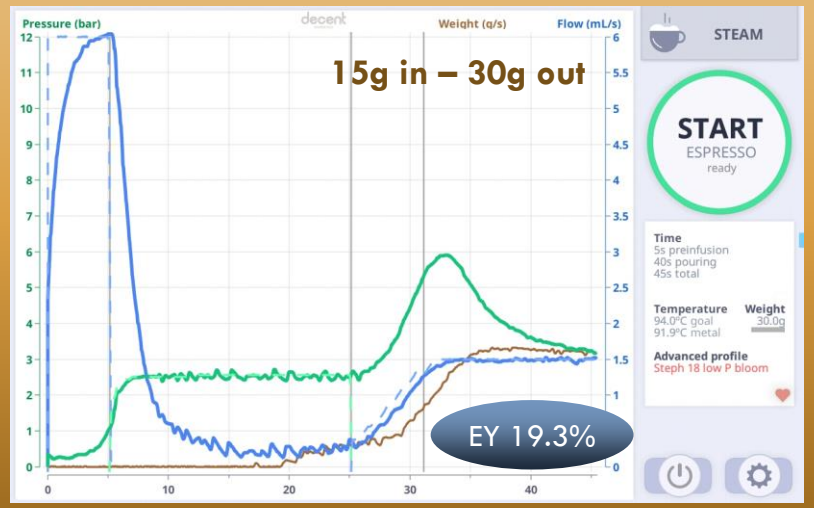


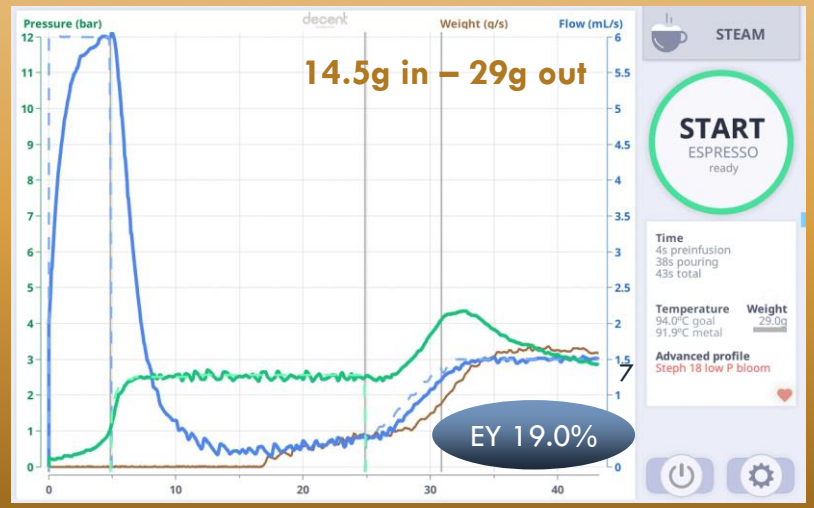
Rippled

IMS CI 35 WM + spacer



IMS CI 200 IM + spacer





RIPPLED TAMPER BASE – RESULTS (3/3)