

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

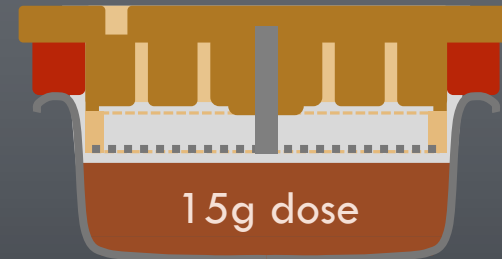


Rippled tamper base – 58.5 mm

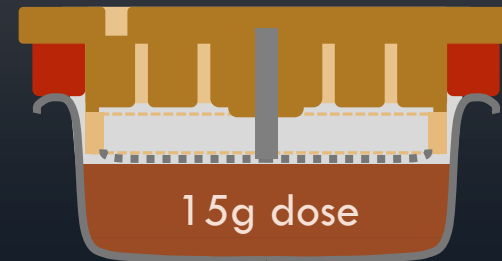


Brass spacer with 2 different shower screens

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)

PRESETS ADVANCED OTHER MACHINE

Steps

1. preinfusion
2. low pressure bloom
3. flow rise
4. hold flow

Insert a step
preinfusion

1: Temperature
goal: 90°C
sensor: coffee

2: Pump
flow: 6.0 mL/s
pressure: -
transition: fast

3: Duration
time: 10 seconds

4: Move on if...
pressure is over
pressure is under
flow is over
flow is under

Steps Limits Cancel Ok

PRESETS ADVANCED OTHER MACHINE

Steps

1. preinfusion
2. low pressure bloom
3. flow rise
4. hold flow

Insert a step
low pressure bloom

1: Temperature
goal: 90°C
sensor: coffee

2: Pump
flow: -
pressure: 2.5 bar
transition: fast

3: Duration
time: 20 seconds

4: Move on if...
pressure is over
pressure is under
flow is over
flow is under

Steps Limits Cancel Ok

PRESETS ADVANCED OTHER MACHINE

Steps

1. preinfusion
2. low pressure bloom
3. flow rise
4. hold flow

Insert a step
flow rise

1: Temperature
goal: 90°C
sensor: coffee

2: Pump
flow: 1.5 mL/s
pressure: -
transition: smooth

3: Duration
time: 6 seconds

4: Move on if...
pressure is over
pressure is under
flow is over
flow is under

Steps Limits Cancel Ok

PRESETS ADVANCED OTHER MACHINE

Steps

1. preinfusion
2. low pressure bloom
3. flow rise
4. hold flow

Insert a step
hold flow

1: Temperature
goal: 90°C
sensor: coffee

2: Pump
flow: 1.5 mL/s
pressure: -
transition: fast

3: Duration
time: 45 seconds

4: Move on if...
pressure is over
pressure is under
flow is over
flow is under

Steps Limits Cancel Ok

- 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%

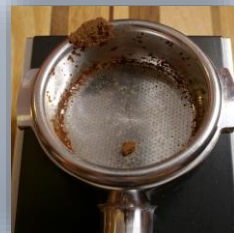


IMS CI 200 IM + spacer

14g in
28g out

Max P:
5.8 bar

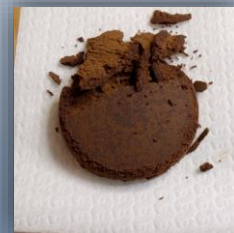
EY: 18.4%



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

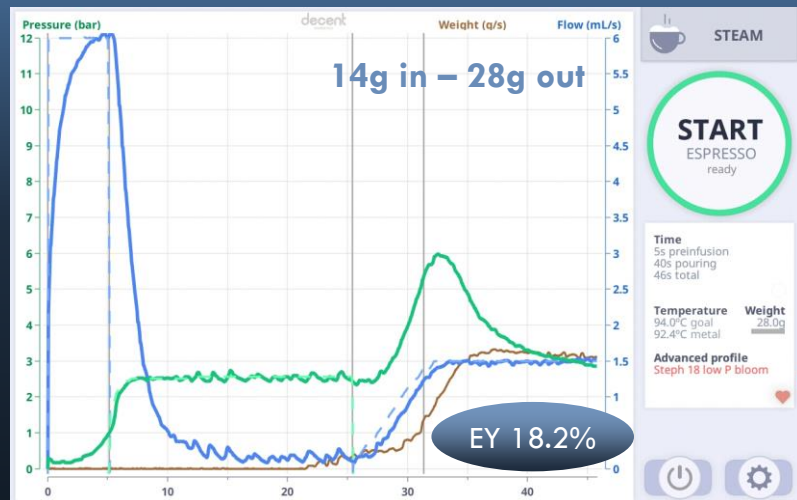
EY: 19.0%



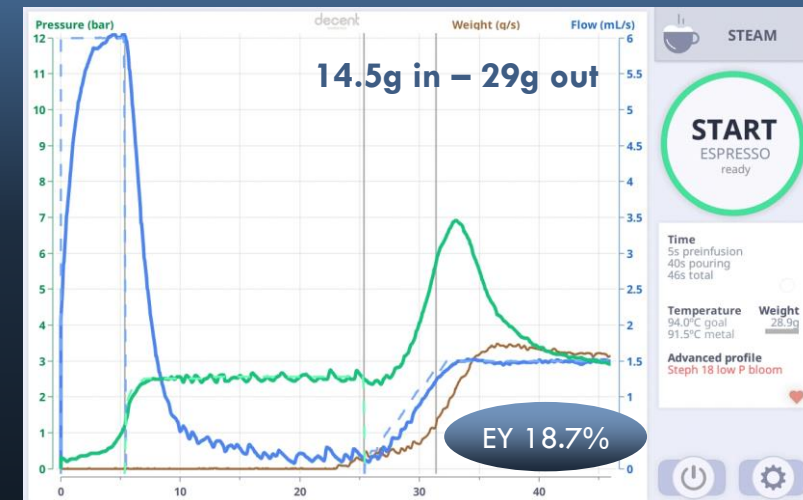
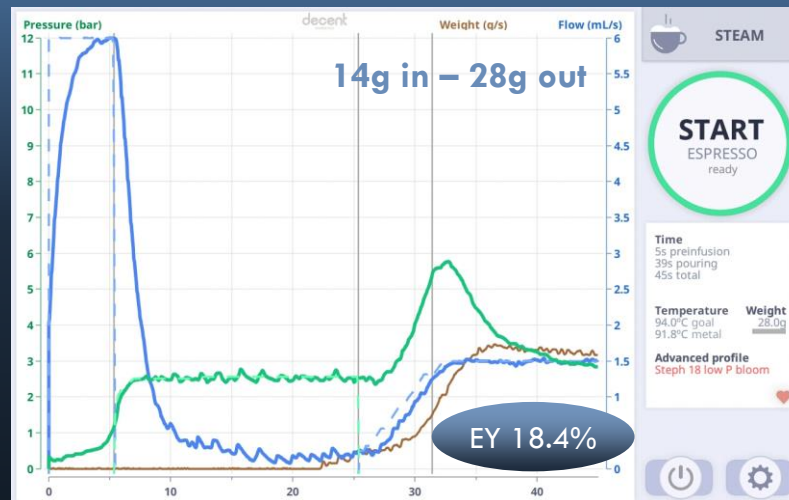
RIPPLED TAMPER BASE – RESULTS (2/3)

Flat

IMS CI 35 WM + spacer

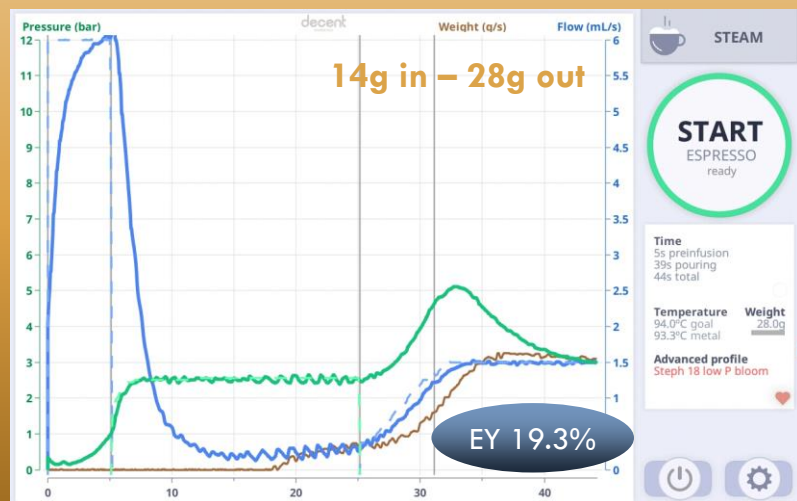


IMS CI 200 IM + spacer

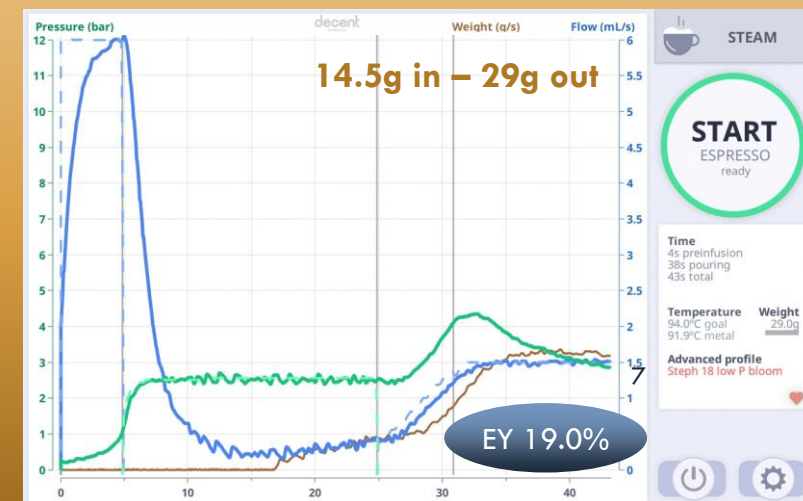
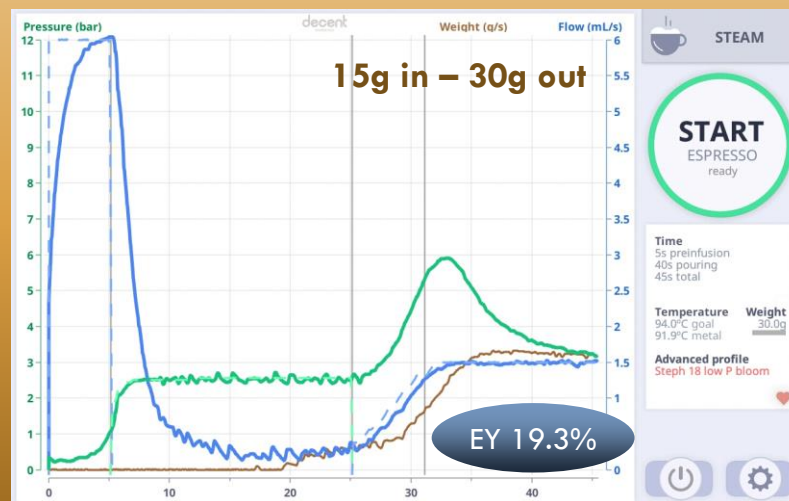


Rippled

IMS CI 35 WM + spacer



IMS CI 200 IM + spacer



RIPPLED TAMPER BASE – RESULTS (3/3)

Flat

IMS CI 35 WM + spacer

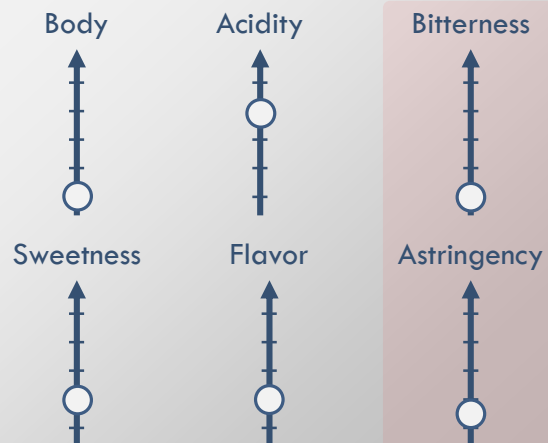
Taste assessment (intensity)



Taste score



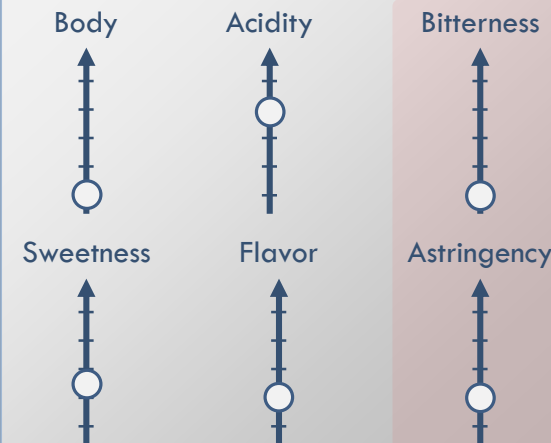
Taste assessment (intensity)



Taste score



Taste assessment (intensity)



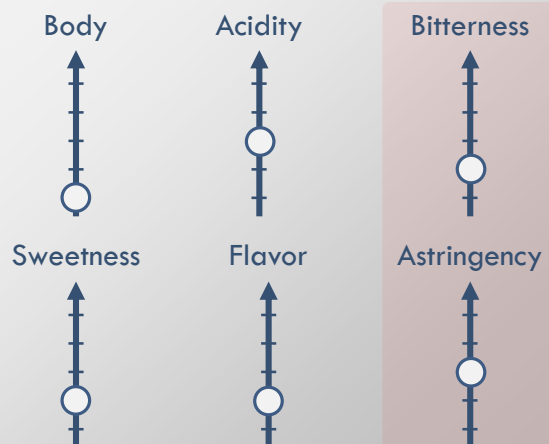
Taste score



Rippled

IMS CI 35 WM + spacer

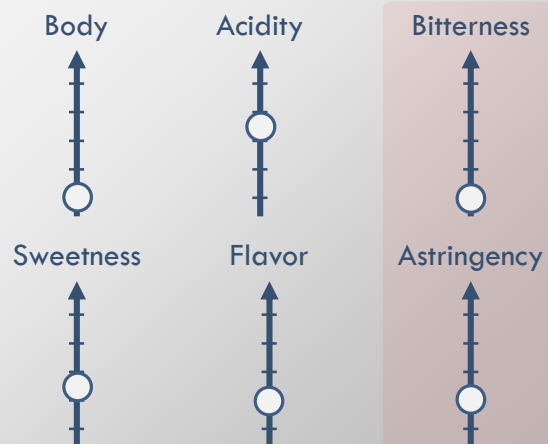
Taste assessment (intensity)



Taste score



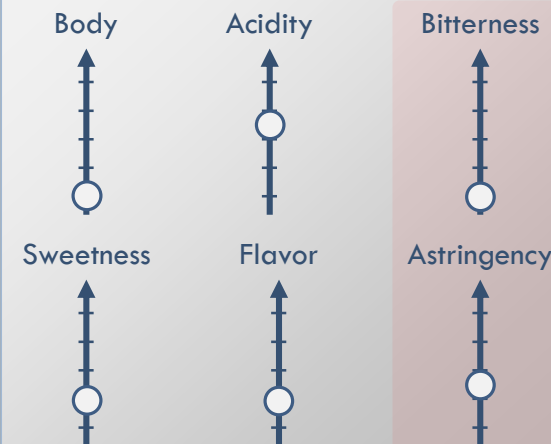
Taste assessment (intensity)



Taste score



Taste assessment (intensity)



Taste score

