

The background of the slide is a light gray gradient, decorated with numerous realistic water droplets of various sizes. Some droplets are at the top, some at the bottom, and others are scattered across the sides, creating a clean, fresh aesthetic.

# **BRASS SPACER BETWEEN THE GROUP HEAD SHOWER AND THE WATER DIFFUSION SCREEN**

EVALUATION OF A 3.8 MM BRASS SPACER – MICHAEL STEWART

DE1 PRO V1.1 – DECENT ESPRESSO MACHINE

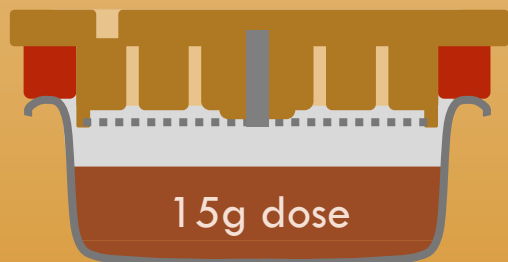
STÉPHANE RIBES – NOVEMBER 2019

# SPACER AND VARIOUS SHOWER SCREENS

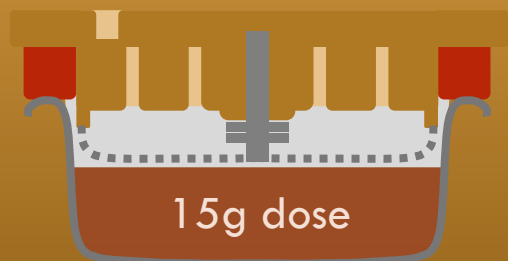
## 4 TESTED CONFIGURATIONS

Standard setup (no spacer)

IMS CI 200 IM screen

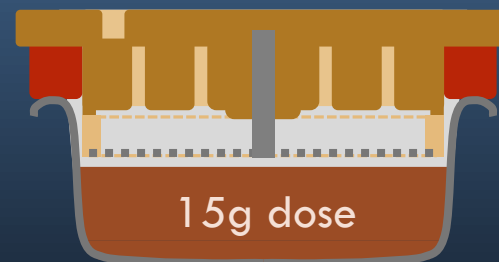


IMS SI 200 IM screen:  
ca. 4.5 mm protrusion

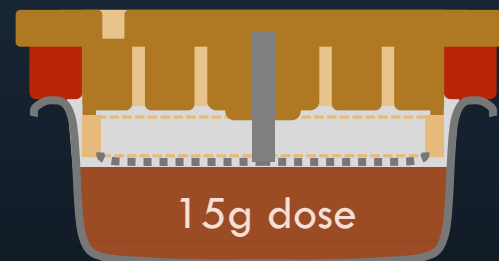


Brass spacer

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



IMS CI 35 WM screen + spacer:  
ca. 5 mm protrusion (most  
reduced puck-to-screen distance)



# SPACER AND VARIOUS SHOWER SCREENS RESULTS (1 / 5)

Standard setup (no spacer)

IMS CI 200 IM screen



IMS SI 200 IM screen



Brass spacer

IMS CI 200 IM screen + spacer



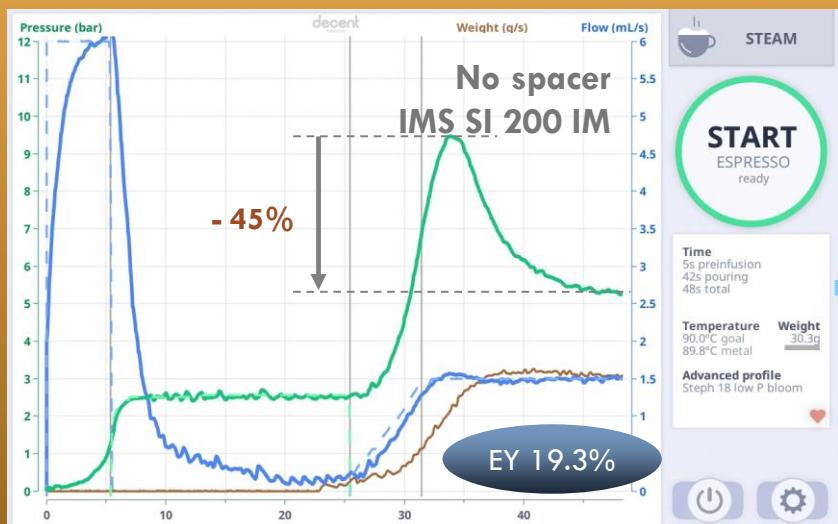
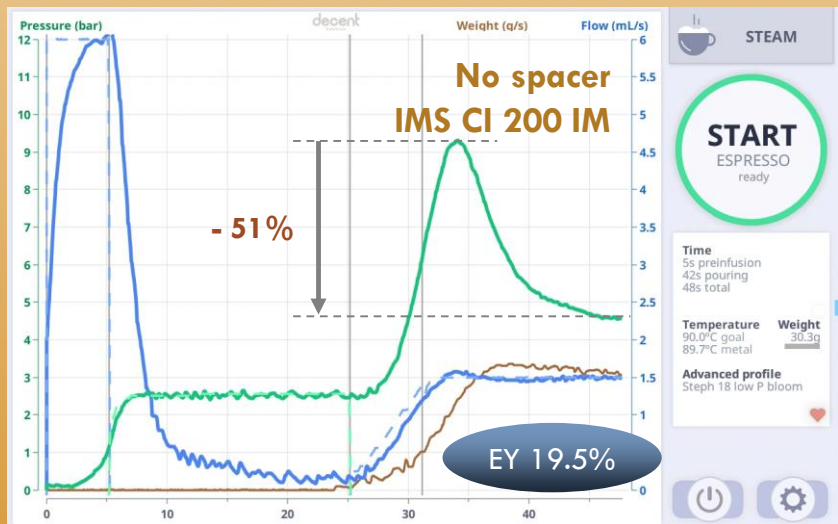
IMS CI 35 WM screen + spacer



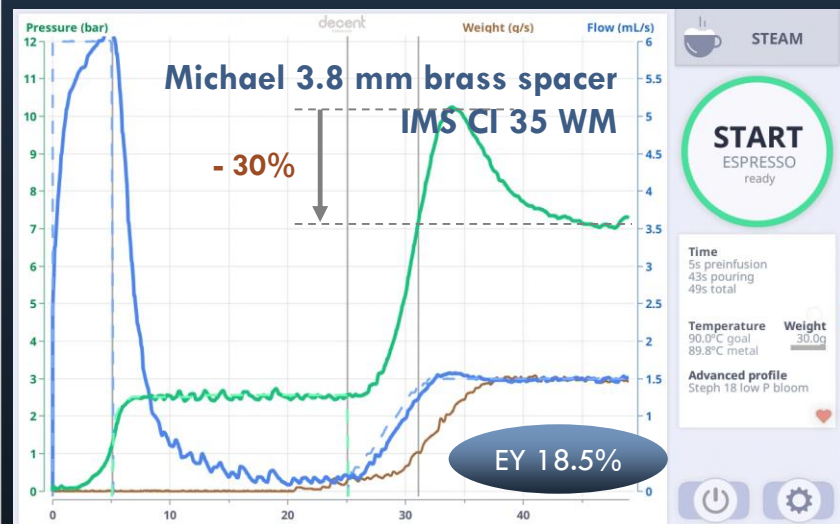
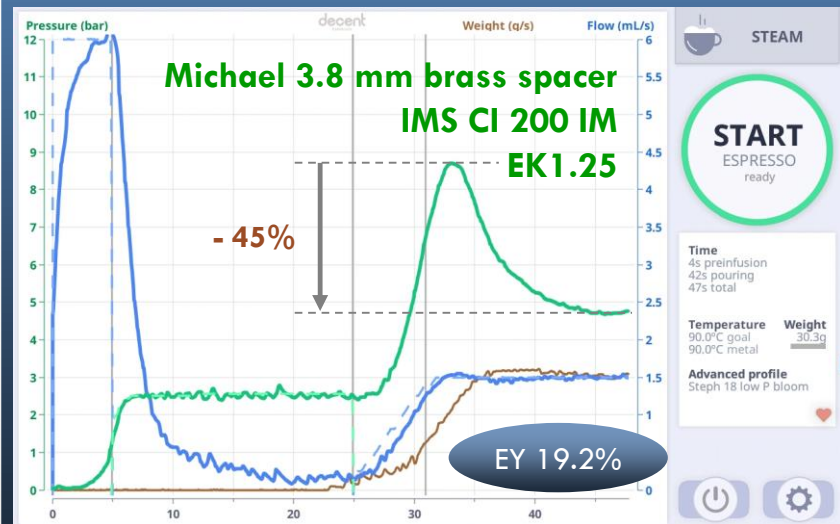
# SPACER AND VARIOUS SHOWER SCREENS

## RESULTS (2/5)

Standard setup (no spacer)



Brass spacer



- Same dose (15g), extraction parameters and workflow
- With the IMS CI 200 IM screen and the spacer, the grinder was slightly tightened (from 1.3 to 1.25) to reach a similar max extraction pressure
- Main observation: with the spacer or the IMS SI 200 IM shower screen installed: gentler pressure decline after the max pressure peak

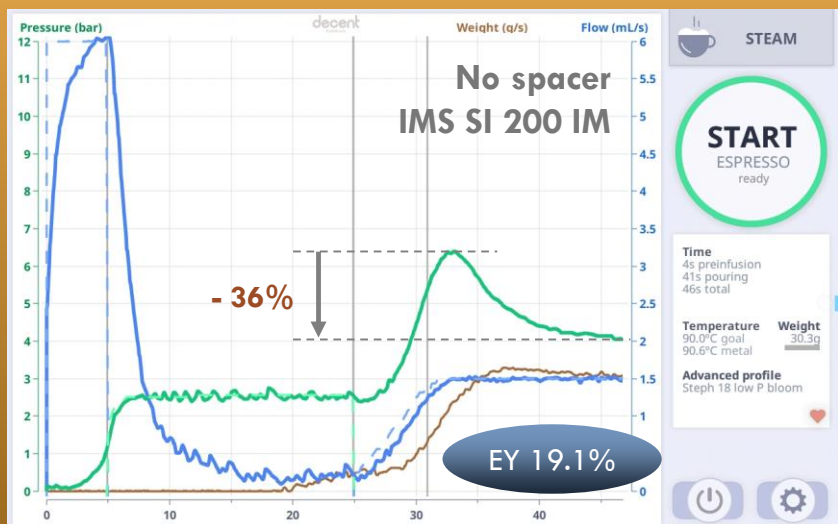
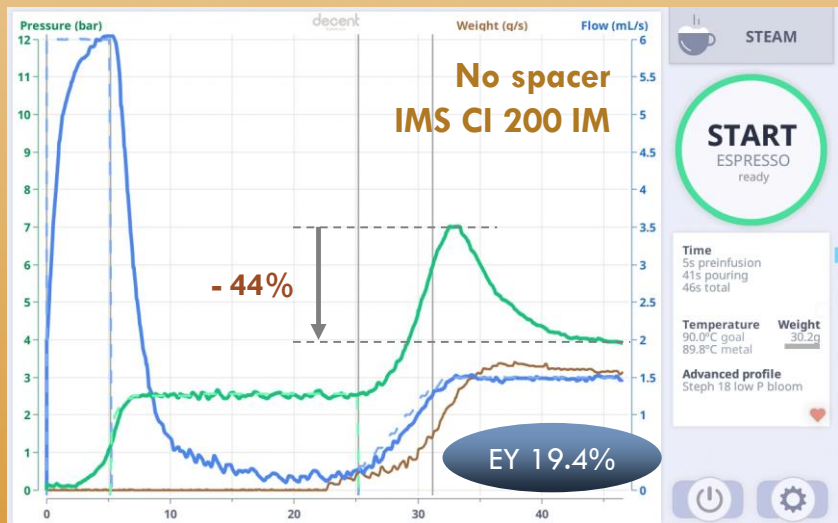
DE1PRO v1.1

Cafelat "red" silicone gasket (8.0 mm height)

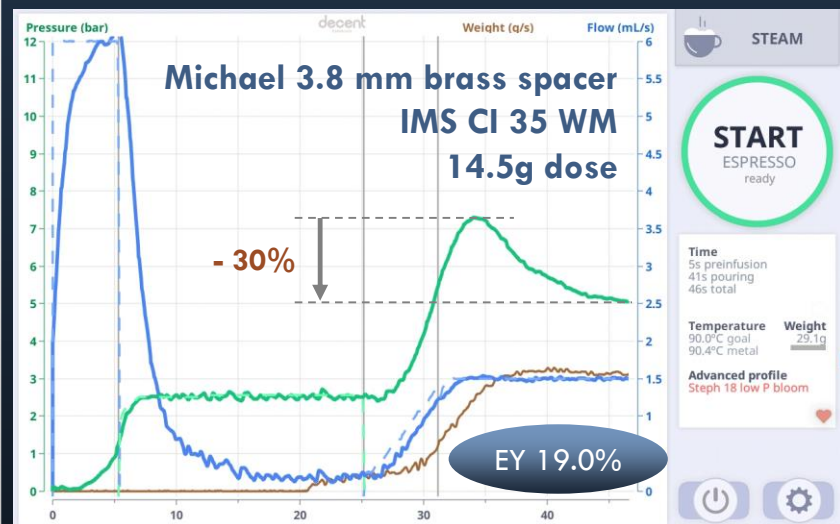
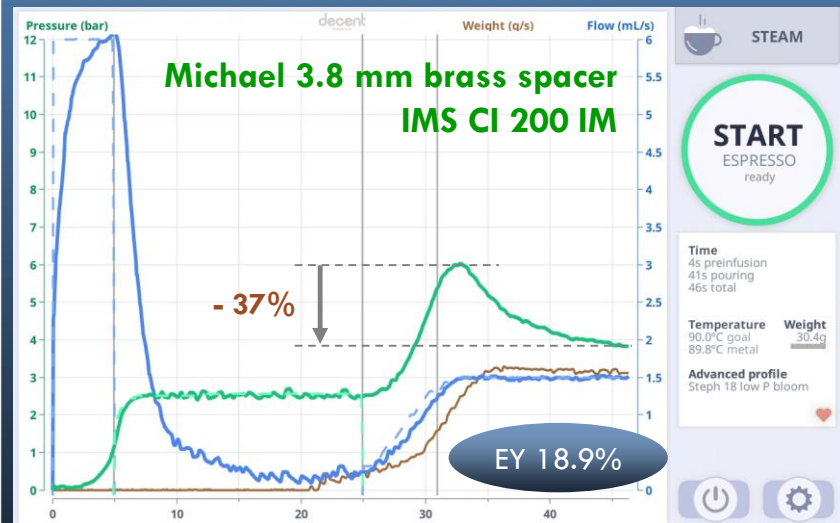
15 grams dose in a 15g VST basket

# SPACER AND VARIOUS SHOWER SCREENS RESULTS (3/5)

Standard setup (no spacer)



Brass spacer



- Same grind setting (EK1.4), extraction parameters and workflow
- With the IMS CI 35 WM screen the dose was lowered to 14.5g to avoid the puck – screen contact
- Main observation: with the spacer or the IMS SI 200 IM shower screen installed: gentler pressure decline after the max pressure peak

DE1PRO v1.1

Cafelat "red" silicone gasket (8.0 mm height)  
15 grams dose in a 15g VST basket

# SPACER AND VARIOUS SHOWER SCREENS

## RESULTS (4/5)

### Standard setup (no spacer)

IMS CI 200 IM screen

- 6 - 7 bar
- 9 - 10 bar

#### Extraction uniformity (visual assessment)

Bottomless portafilter

Puck



#### Extraction yield %



IMS SI 200 IM screen

#### Extraction uniformity (visual assessment)

Bottomless portafilter

Puck



#### Extraction yield %



### Brass spacer

IMS CI 200 IM screen + spacer

- 6 - 7 bar
- 9 - 10 bar

#### Extraction uniformity (visual assessment)

Bottomless portafilter

Puck



#### Extraction yield %



IMS CI 35 WM screen + spacer

#### Extraction uniformity (visual assessment)

Bottomless portafilter

Puck



#### Extraction yield %



# SPACER AND VARIOUS SHOWER SCREENS

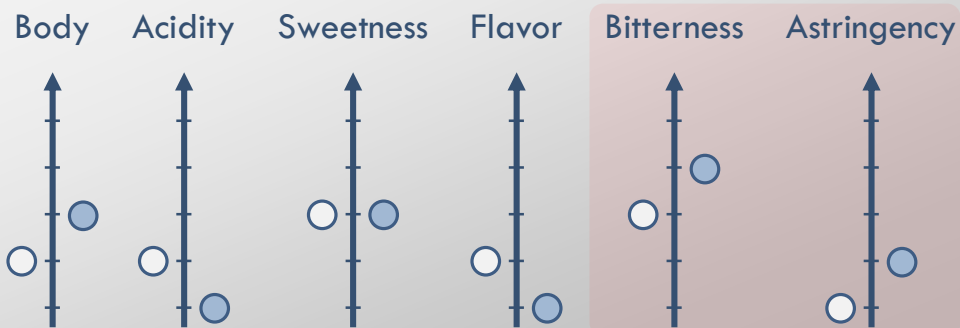
## RESULTS (5/5)

Standard setup (no spacer)

IMS CI 200 IM screen

- 6 - 7 bar
- 9 - 10 bar

Taste assessment (intensity)

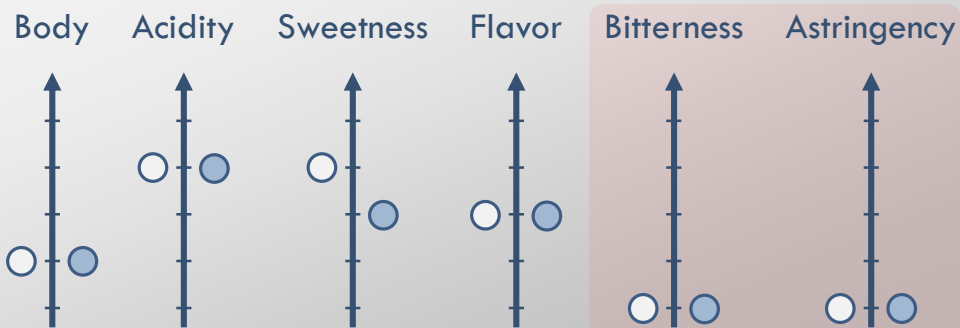


Taste score



IMS SI 200 IM screen

Taste assessment (intensity)



Taste score

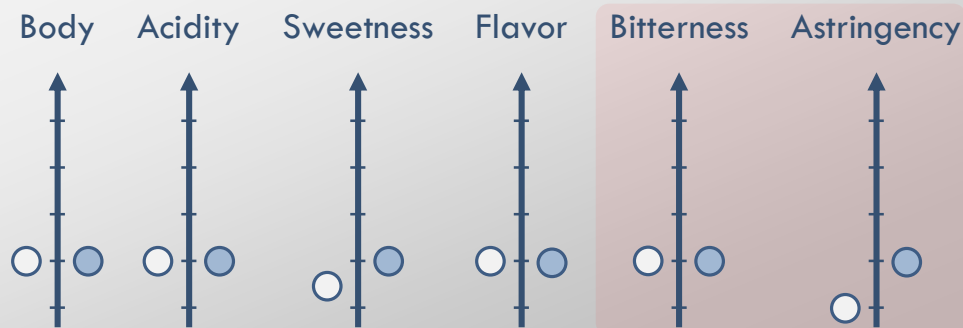


Brass spacer

IMS CI 200 IM screen + spacer

- 6 - 7 bar
- 9 - 10 bar

Taste assessment (intensity)

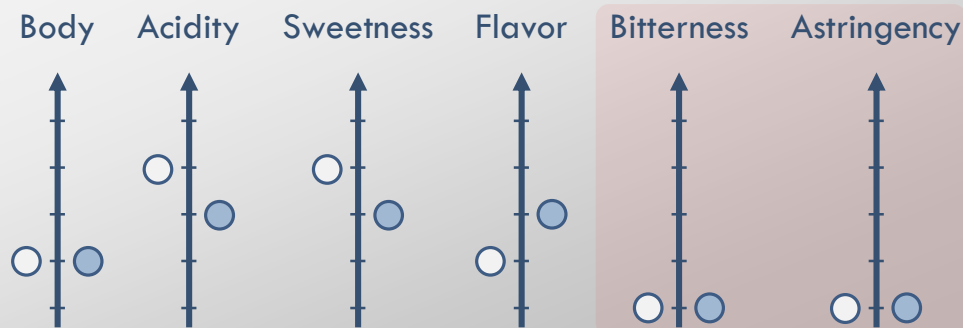


Taste score



IMS CI 35 WM screen + spacer

Taste assessment (intensity)



Taste score



# SPACER AND VARIOUS SHOWER SCREENS

## DETAILED TEST PROCEDURE

- **Decent Espresso Machine DE1PRO v1.1** with a Cafelat 8.0 mm silicone gasket
- Mahlkönig EK43 S grinder – SSP burrs “High Uniformity” with Silver Knight coating
- Montille water (Le Mont Dore, France) – **adjusted to 50 ppm eq.  $\text{CaCO}_3$  alkalinity and 100 ppm eq.  $\text{CaCO}_3$  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
- Beans ground in a double wall stainless steel cup
- WDT in the basket with a Londinium tool (and a Decent funnel) – no taps
- The Force Tamper with a 58.5 mm flat 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



# SPACER AND VARIOUS SHOWER SCREENS

## PROFILE DETAILS

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 of 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)