

# FILLING AND BALANCING OF GRINDING JARS OF PLANETARY BALL MILLS



- ① **Dry grinding:** Fill appr.  $\frac{1}{3}$  of the jar volume with **grinding balls** and  $\frac{1}{3}$  with sample (see table below for recommended amount of balls). Note: If sample loses volume during grinding, some sample should **be refilled**.
- ② **Wet grinding:** Fill in appr.  $\frac{2}{3}$  of the jar volume with **grinding balls ( $\leq 3\text{mm}$ )** and  $\frac{1}{3}$  with **sample**, add dispersant to achieve **motor oil viscosity**, use the safety closure device if you expect high pressure or temperatures.
- ③ Always use same material for jar and grinding balls and do not mix different ball sizes.
- ④ **Never forget to balance the jars!**  
**PM100 & PM100CM:** by adjusting the counterbalance.  
 Only one sample in **PM200** or one respectively three samples in **PM400:** use a 2<sup>nd</sup> or 4<sup>th</sup> jar filled with sand (no balls) as counter balance.



Grinding jar nominal volume	Sample amount	Max. feed size	Recommended ball charge (pieces)							
			Ø 5 mm	Ø 7 mm	Ø 10 mm	Ø 15 mm	Ø 20 mm	Ø 30 mm	Ø 40 mm	
<b>PM 100 / PM 200 / PM 400 Grinding jars "comfort"</b>										
12 ml	bis zu 5 ml	<1 mm	50	15	5					
25 ml	bis zu 10 ml	<1 mm	100	25	8					
50 ml	5 - 20 ml	<3 mm	200	45	10					
80 ml	10 - 35 ml	<4 mm	250	70	25	7		3		
125 ml	15 - 50 ml	<4 mm	500	110	30	18		7		
250 ml	25 - 120 ml	<6 mm	1200	220	50	45		15	6	
500 ml	75 - 220 ml	<10 mm	2000	440	100	70		25	8	4

