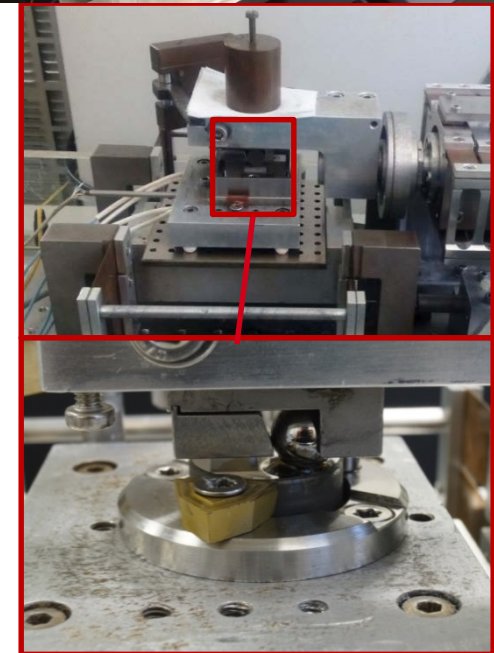
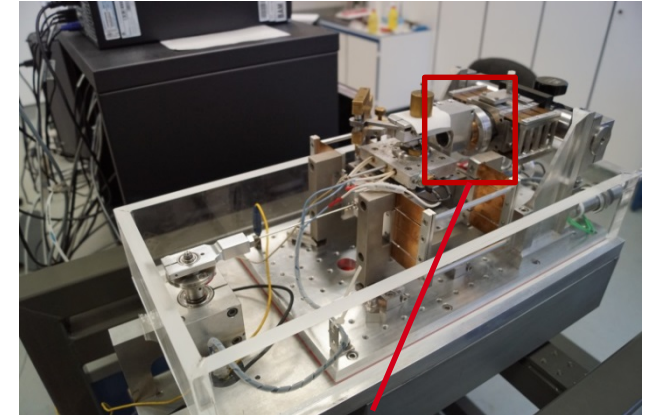


General overview of tribometers for reciprocating wear and fretting

Parameter	TKLB, TKRD, TKLA, Frett III, SRV [®] III, SRV [®] IV(HD), SRV [®] 5, PIBRAC, HOMAT
Stroke, Δx	0.002 ... 10 mm
Frequency, ν	0.1 ... 40 kHz
Normal load, F_N	0.1 ... 2000 N
Max. acceleration	
Rel. humidity, r.h.	< 5 ... 100 %
Temperature, T	-55 ... 1000 °C
Surrounding medium	Ambient air, hot steam, vacuum, inert gases
Tribological quantities	Coefficient of friction (COF), linear wear (W_l), electrical contact resistance (eR)

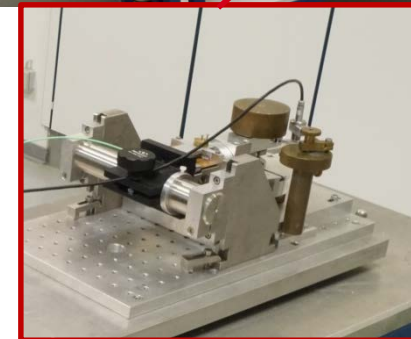
Name	TKLB
Stroke, Δx	0.2 ... 10 mm
Frequency, ν	0.1 ... 30 Hz
Normal load, F_N	0.1 ... 60 N
Max. acceleration	1 m/s ²
Rel. humidity, r.h.	< 5 ... 100 %
Temperature, T	-50 ... 120 °C
Surrounding medium	Ambient air (sealed)
Tribological quantities	Coefficient of friction (COF), linear wear (W_l), electrical contact resistance (eR)



TKRD Rotational Tribometer

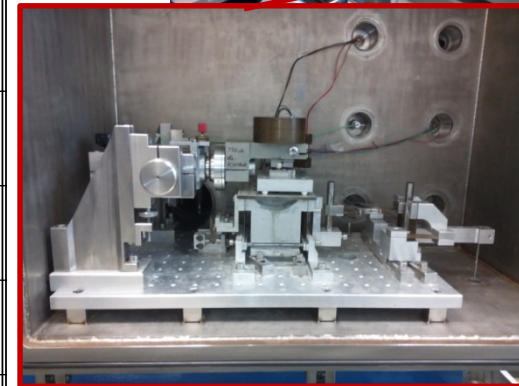
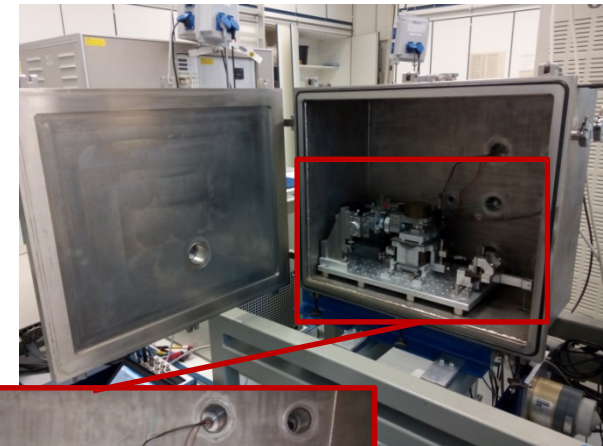
(Oscillation on a circular orbit)

Name	TKRD
Stroke, Δx	0.2 ... 2.5 mm
Frequency, ν	0.1 ... 20 Hz
Normal load, F_N	0.5 ... 20 N
Max. acceleration	
Rel. humidity, r.h..	< 5 ... 100 %
Temperature, T	RT
Surrounding medium	Ambient air (sealed)
Tribological quantities	Coefficient of friction (COF), linear wear (W_l), electrical contact resistance (eR)



TKLA Linear Tribometer

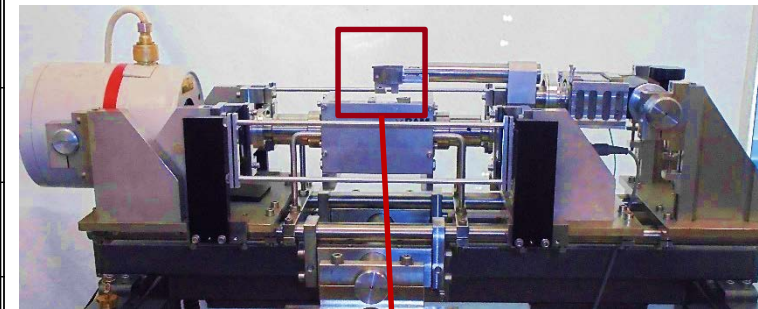
Name	TKLA
Stroke, Δx	0.02 ... 0.2 mm
Frequency, ν	0.1 ... 30 Hz
Normal load, F_N	0.1 ... 20 N
Max. acceleration	
Rel. humidity, r.h.	< 5 ... 100 %
Temperature, T	RT ... 120 °C
Surrounding medium	Ambient air, vacuum, inert gases
Tribological quantities	Coefficient of friction (COF), linear wear (W_l), electrical contact resistance (eR)



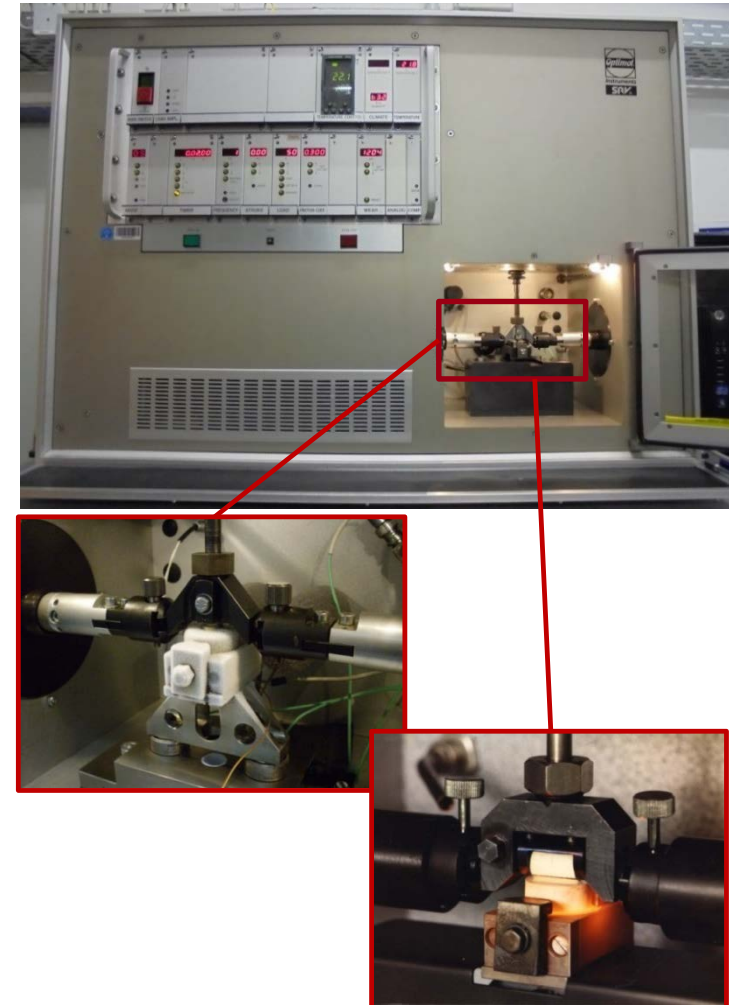
FRETT III Linear Tribometer

(single movement possible)

Name	Frett III
Stroke, Δx	0.1 ... 7 mm
Frequency, ν	1 ... 80 Hz
Normal load, F_N	0.1 ... 60 N
Max. acceleration	
Rel. humidity, r.h.	< 5 ... 55 %
Temperature, T	RT
Surrounding medium	Ambient air
Tribological quantities	Coefficient of friction (COF), linear wear (W_l)



Name	SRV [®] III
Stroke, Δx	0.1 ... 4.5 mm
Frequency, ν	0.5 ... 511 Hz
Normal load, F_N	10 ... 2 000 N
Max. acceleration	257 m/s ²
Rel. humidity, r.h.	< 10 ... 90 %
Temperature, T	-55 ... 900 °C
Surrounding medium	Nitrogen, synthetic air, ambient air
Tribological quantities	Coefficient of friction (COF), linear wear (W_l)



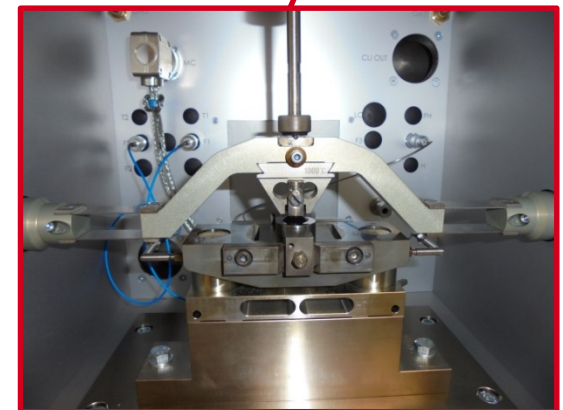
Hot Steam-Tribometer)

(based on Optimol SRV® 4)

Name	SRV® (HD)
Stroke, Δx	0.1 ... 4.5 mm
Frequency, ν	1 ... 511 Hz
Normal load, F_N	1 ... 2 000 N
Max. acceleration	
Rel. humidity, r.h.	< 5 ... 100 %
Temperature, T	-55 ... 700 °C
Surrounding medium	Hot steam (10 bar), Nitrogen, synthetic air, ambient air
Tribological quantities	Coefficient of friction (COF), linear wear (W_l)

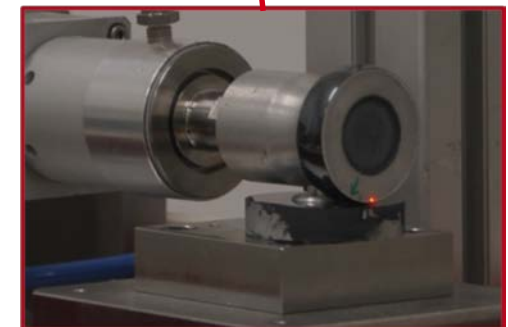
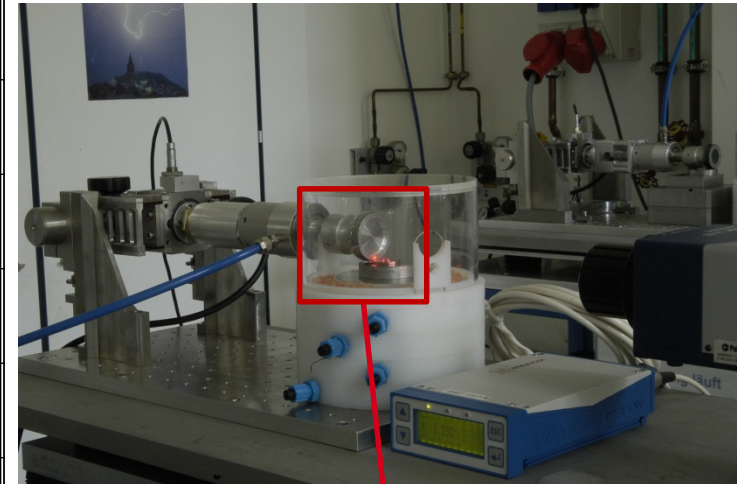


Name	SRV [®] 5
Stroke, Δx	0.1 ... 5 mm
Frequency, ν	0.5 ... 511 Hz
Normal load, F_N	1 ... 2 000 N
Max. acceleration	257 m/s ²
Rel. humidity, R.H.	< 5 ... 100 %
Temperature, T	RT ... 900 °C
Surrounding medium	Nitrogen, synthetic air, ambient air
Tribological quantities	Coefficient of friction (COF), linear wear (W_l)



Ultrahigh Frequency Tribometer (resonant operation)

Name	PIBRAC
Stroke, Δx	4 μm ... 6 μm
Frequency, ν	38 $\pm$ 1.5 kHz
Normal load, F_N	0.2 ... 10 N
Max. acceleration	190 000 m/s^2
Rel. humidity, r.h.	3 % ... 99 %
Temperature, T	-40 ... 90 $^{\circ}\text{C}$
Surrounding medium	Ambient air
Tribological quantities	Wear (W), stroke (via vibrometer), frequency



Fretting Tribometer (fully tunable frequency)

Name	HOMAT
Stroke, Δx	1 ... 1000 μm
Frequency, ν	0.01 – 2 000 Hz
Normal load, F_N	0.5 – 100 N
Max. acceleration	434 m/s^2
Rel. humidity, r.h.	-
Temperature, T	RT
Surrounding medium	Ambient air
Tribological quantities	Coefficient of friction (COF), linear wear (W_l)

