

Cam Verification

Sample document with complete example values. It shows the report the purchased export produces for YOUR input - it is not itself a report for any part.

Project: Sample project

Part/Position: no real part

Prepared by: Sample, not released

Overall assessment: OK

Inputs

Base circle radius r_{base}	130 mm
Roller radius r_{roller}	10 mm
Cutter radius	5 mm
Mass	2 kg
Spring rate	30 N/mm
Speed	60 rpm
Preload force	150 N
Min. safety factor	1.43
Pressure angle limit	30 °

Motion plan

Type	Start in °	End in °	Stroke in mm
Rise	0	60	40
Dwell	60	140	0
Return	140	160	10
Dwell	160	180	0
Return	180	240	30
Dwell	240	360	0

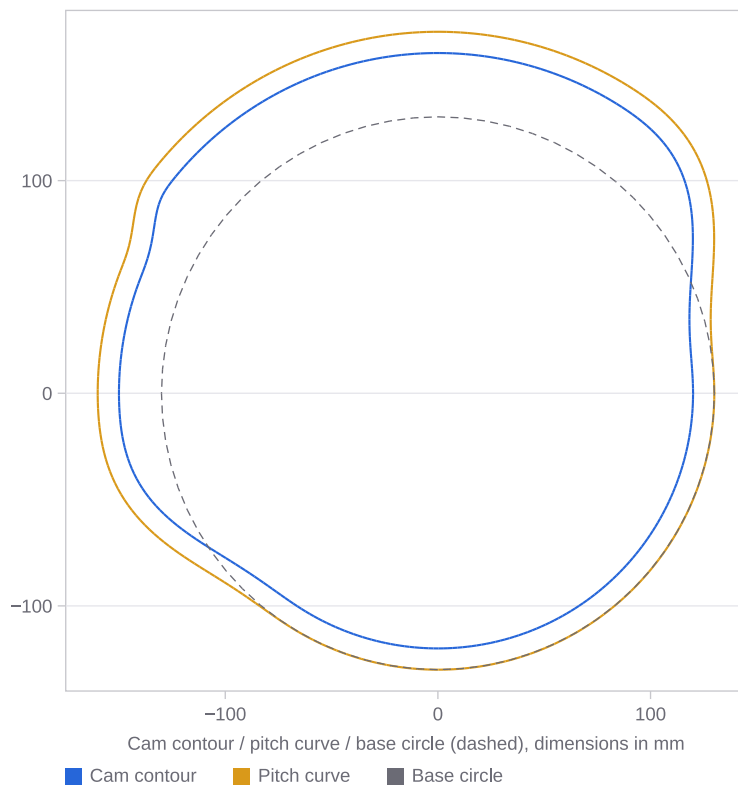
Evaluation criteria

Criterion	Value	Limit	Status
Undercut ($p_{\text{pitch,min}}$)	37.7 mm	10 mm	● OK
Safety factor	3.77 -	1.43 -	● OK
Cam curvature ($p_{\text{cam,min}}$)	27.7 mm	14.3 mm	● OK
Pressure angle (α_{max})	29.29 °	30 °	● OK
Lift-off (F_{min})	150 N	0 N	● OK
Millability ($p_{\text{concave,min}}$)	71.45 mm	5 mm	● OK

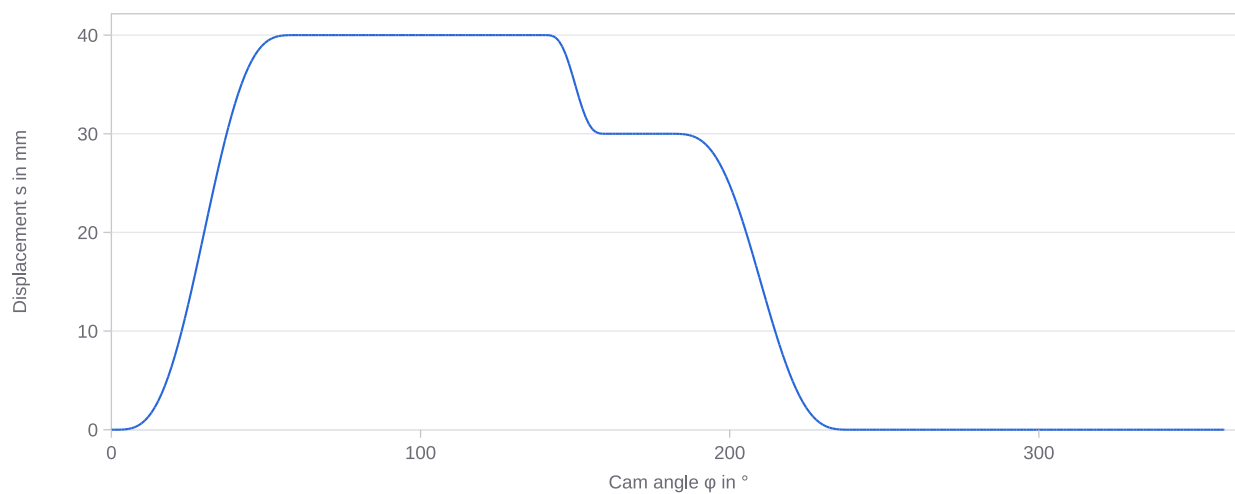
Metrics

Velocity max	525 mm/s
Acceleration max	24,342.16 mm/s ²
Jerk (RMS)	483,039.753 mm/s ³
Pressure angle max	29.294 °
Transmission angle min	60.706 °
p pitch curve min	37.697 mm
p contour min	27.699 mm
Contour radius concave min	71.45 mm
Safety factor	3.77
Contact force min	150 N
Stroke min	0 mm
Stroke max	40 mm
Required base circle for α	125.822 mm

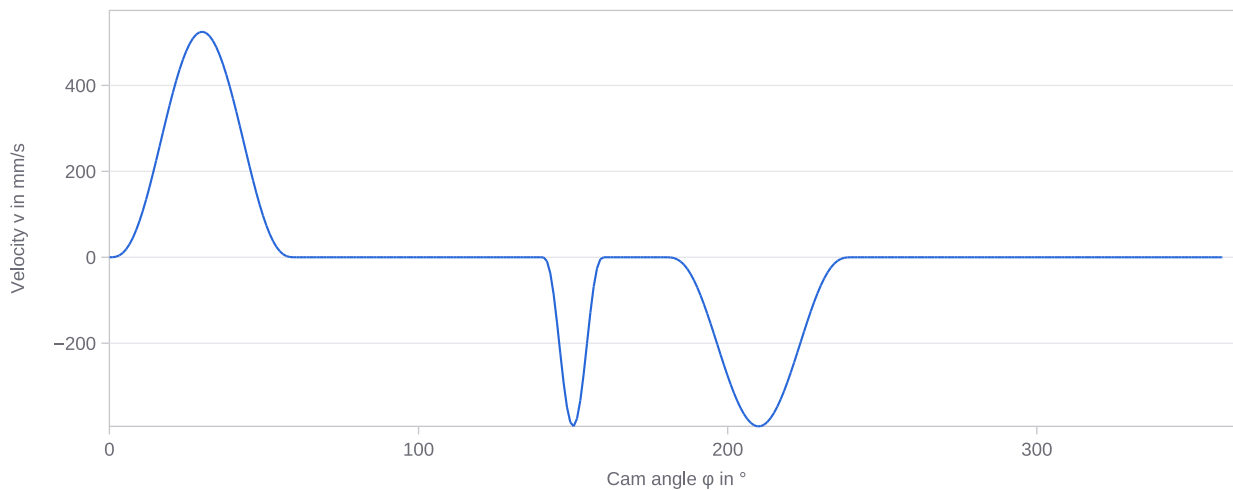
Cam contour



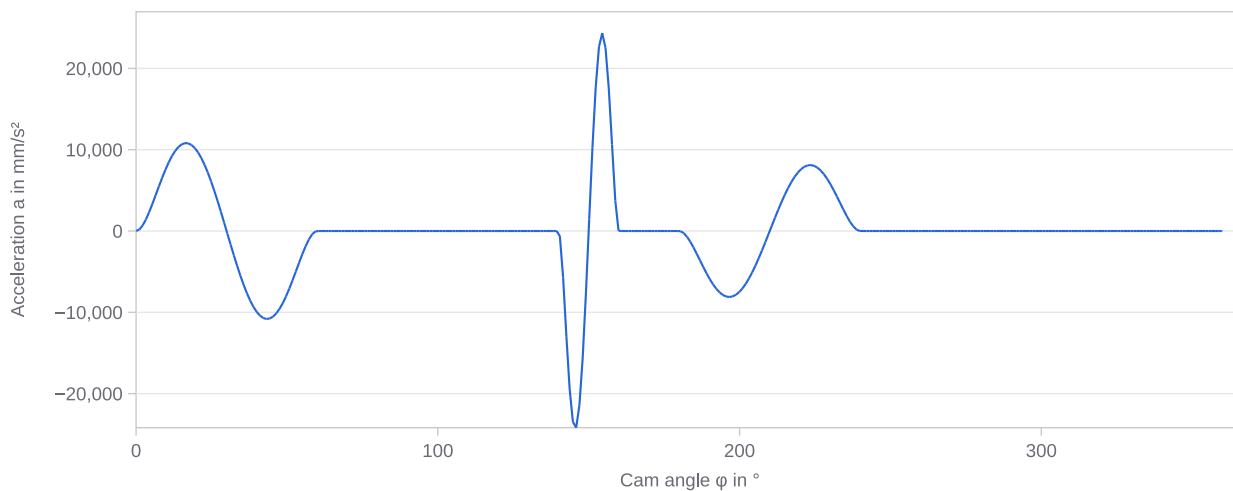
Motion diagram: Displacement s



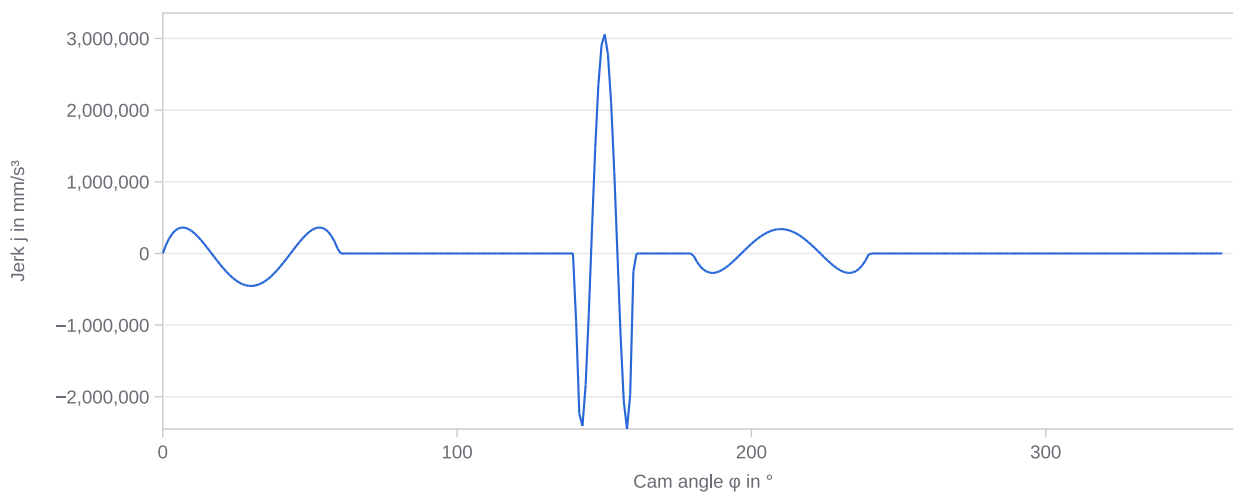
Motion diagram: Velocity v



Motion diagram: Acceleration a



Motion diagram: Jerk j



About this sample

All values on these pages come from a freely chosen example calculation and belong to no real part. The purchased export contains the same sections with your input, your header data (project, part, prepared by) and as searchable text. Pricing and scope: maschinenbaurechner.de/en/pricing



Note: The results are design and orientation aids. They do not replace independent verification, calculation and approval by a qualified person. The terms of use at maschinenbaurechner.de apply.