Technical data ProCam®

	ProCam® TT	ProCam® Align Smart
Alignment axes	5 or 6	5 or 6
Resolution linear	0.2 µm (X,Y) 0.08 µm (Z)	0.2 µm (X,Y) 0.08 µm (Z)
Resolution rotatory	2.5 µrad (Θx, Θy) 5 µrad (Θz)	2.5 µrad (Θx, Θy) 5 µrad (Θz)
Repeatability linear	± 0.15 µm (X,Y) ± 0.06 µm (Z)	± 0.15 µm (X,Y) ± 0.06 µm (Z)
Repeatability rotatory (pitch, yaw, roll)	± 2 µrad (Θx, Θy) ± 3 µrad (Θz)	± 2 µrad (Θx, Θy) ± 3 µrad (Θz)
Typical sample alignment accuracy, linear	± 2 µm[1]	± 2 µm[1]

Typical sample alignment accuracy, rotatory (pitch, yaw, roll)[1]	Pitch and Yaw: ± 0.6 mrad
	Roll: ± 0.9 mrad (Sensor to sensor)
	      ± 1.75 mrad (Sensor to mechanical reference)
		Pitch and Yaw: ± 0.6 mrad
		Roll: ± 0.9 mrad (Sensor to sensor)
		      ± 1.75 mrad (Sensor to mechanical reference)

Sample objective lens EFL	0.7 mm ... 30 mm (1 mm ... 12 mm Standard)	0.7 mm ... 30 mm (1 mm ... 12 mm Standard)
Sample objective lens diameter	4 mm ... 30 mm (smaller or bigger diameter on request)	4 mm ... 30 mm (smaller or bigger diameter on request)
Field of view test chart	up to 70° (up to 100° possible after individual clarification)	up to 70° (up to 100° possible after individual clarification)
Field of view collimators	up to 160° mechanical set up[2] up to 140° for optical measurement[3]	up to 160° mechanical set up[2] up to 140° for optical measurement[3]
Test targets	Test chart or collimators Available with VIS or NIR	Test chart or collimators Available with VIS or NIR
Performance	300 UPH (units per hour) calculated on following parameter: 2 seconds UV curing time, continuous images from camera @ > 30fps, < 1second camera start-up time, parts loaded as specified, tolerance for lens FFL +/-100µm, scan range <300µm, alignment process max. 2 scans, loading and unloading within cycle time	<60 sec. process time (without sample loading/unloading) Process time calculated on following parameter: sensor board initialization time <1 s, camera frames >30 fps, continuous images from camera, UV snap curing <2s with preselected lenses
Dimensions (h x w x d)	1,875 mm (1,800 mm without flowbox) x 1,470 mm x 1,550 mm; customized	2,200 mm x 1,750 mm x 1,100 mm
Camera interface	MIPI, Parallel, LVDS, Analog or directly to PC via e.g. USB, FireWire, CamLink, GigE and others	MIPI, Parallel, LVDS, Analog or directly to PC via e.g. USB, FireWire, CamLink, GigE and others
Weight		600 kg ... 800 kg
Type	Stand alone or inline (integratable)	Stand alone

1) Typical accuracy reached on following sample parameter: pixel size 6µm, F# = 2.8, EFL = 4.5mm.
2) Up to 180° possible after individual clarification, depending on sample and mechanical surrounding, for bigger FoV technical investigations necessary.
3) Depending on distortion, individual clarification necessary.