

# DFM A/S Price list 2019

Valid from January 1, 2019

All prices are excl. VAT

Item No.	Accredited	Description	Unit	Sales price [Euro]
<b>Electrical voltage (DC) and resistance calibration</b>				
K02.001	YES	Calibration of a voltage reference standard (Zener)	Pcs	2.438,00
K02.099	Contact DFM	Electrical measurement/calibration, secondary, acc. to quotation	Pcs	
K02.999	Contact DFM	Electrical measurement/calibration according to quotation	Pcs	
<b>Thermometry</b>				
K02.101	YES	Thermometric calibration, contact, one temp. point	Pcs	67,00
K02.102	YES	Thermometric calibration, contact, further thermometer, same temp.	Pcs	13,00
K02.103		Thermometric calibration, contact, certificate	Pcs	134,00
K02.104		Thermometric calibration, contact, further certificate	Pcs	27,00
K02.199	Contact DFM	Thermometric calibration, contact, acc. to quotation	Pcs	
K02.201	YES	Thermometric calibration, contactless (IR), one temp. point	Pcs	67,00
K02.202	YES	Thermometric calibration, contactless (IR), further thermometer, same temp.	Pcs	13,00
K02.203		Thermometric calibration, contactless (IR), certificate	Pcs	134,00
K02.203		Thermometric calibration, contactless (IR), further certificate	Pcs	27,00
K02.299	Contact DFM	Thermometric calibration, contactless (IR), acc. to quotation	Pcs	
<b>Pressure</b>				
K02.301	YES	Pressure calibration, one pressure point	Pcs	67,00
K02.302	YES	Pressure calibration, further pressure instrument, same point	Pcs	13,00
K02.303		Pressure calibration, certificate	Pcs	134,00
K02.304		Pressure calibration, further certificate	Pcs	27,00
K02.399	Contact DFM	Pressure calibration, acc. to quotation	Pcs	
<b>Calibration of Electrolytic Conductivity</b>				
K03.001	YES	Characterisation of solution at 24°C-26°C	Pcs	746,00
K03.002	YES	Subsequent measurement of same solution at 24°C-26°C	Pcs	508,00
K03.003	NO	Characterisation of solution at 24°C-26°C without certificate	Pcs	629,00
K03.004	YES	Characterisation of solution 15°C-35°C	Pcs	941,00
K03.005	NO	Characterisation of solution 10°C-60°C	Pcs	967,00
K03.006	YES	Subsequent measurement of same solution at 15°C-35°C	Pcs	632,00
K03.099	Contact DFM	Characterisation of solution according to quotation	Pcs	
<b>Calibration of conductivity cell constant and conductivity</b>				
K03.101	YES	Calibration of conductivity sensor cell constant or conductivity measurement system, per measurement point, ≥3 points	Pcs	425,00
K03.102	YES	Calibration of conductivity sensor cell constant or conductivity measurement system in CRM fluids at 10 mS/m, 100 mS/m, 1 S/m or 10 S/m, per point and per CRM, incl. CRM	Pcs	903,00
K03.199	Contact DFM	Calibration of conductivity sensor cell constant or conductivity measurement system according to quotation	Pcs	

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<b>Calibration of reference electrode</b>				
K03.201	YES	Determination of electrochemical reference electrode potential	Pcs	964,00
<b>Calibration of pH</b>				
K03.301	Contact DFM	Secondary pH calibration, according to quotation	Pcs	
<b>Interferometric gauge block calibration length calibration</b>				
K04.001	YES	Gauge block calibration, first gauge block (1 block)	Pcs	287,00
K04.002	YES	Gauge block calibration, following 8 blocks (2-9) in the same set, per block	Pcs	82,00
K04.003	YES	Gauge block calibration, each following gauge block (10 - ) in the same set	Pcs	43,00
K04.004	YES	Gauge block calibration, M10 standard set	Pcs	986,00
K04.005	YES	Gauge block calibration, M122 standard set	Pcs	5.792,00
K04.999	Contact DFM	Gauge block calibration according to quotation	Pcs	
<b>Optical radiometry calibration</b>				
K05.001	YES	Detector / power meter calibration at one power level and wavelength, visible light	Pcs	779,00
K05.002	YES	Detector / power meter calibration per subsequent power level or wavelength, visible light	Pcs	486,00
K05.020	YES	Power meter / detector calibration at one power level and wavelength, NIR, 0.7 %	Pcs	623,00
K05.021	YES	Power meter / detector calibration per following power level or wavelength, NIR, 0.7 %	Pcs	389,00
K05.022	YES	Power meter or detector calibration at one power level and wavelength, NIR, 1.5 %	Pcs	389,00
K05.023	YES	Power meter or detector calibration, per subsequent power level or wavelength, NIR, 1.5 %	Pcs	262,00
K05.024	YES	High-power detector / power meter calibration at one power level and wavelength, NIR	Pcs	658,00
K05.040	Contact DFM	Spectral calibration of power meter / detector at 800 - 1650 nm, prices from	Pcs	1.460,00
K05.041	YES	Linearity of detector / power meter, -40 dBm to -5 dBm	Pcs	583,00
K05.042	YES	Linearity of detector / power meter, -60 dBm to -40 dBm	Pcs	117,00
K05.043	YES	Linearity of detector / power meter, -5 dBm to +10 dBm	Pcs	117,00
K05.044	YES	Linearity of detector / power meter, -5 dBm to +23 dBm	Pcs	195,00
K05.060	YES	Calibration of fibre optical attenuator, one wavelength	Pcs	437,00
K05.070	NO	Homogeneity of detectors	Pcs	546,00
K05.071	NO	Calibration of laser beam profilers	Pcs	750,00
K05.072	NO	Laser classification, per wave length	Pcs	605,00
K05.080	YES	Calibration of optical spectrum analyzer or laser wavelength, one range	Pcs	579,00
K05.081	YES	Calibration of optical spectrum analyzer or laser wavelength, two ranges	Pcs	739,00
K05.082	YES	Calibration of wavelength meter / laser wavelength	Pcs	757,00
K05.100	YES	OTDR distance scale calibration, SM, at one wavelength	Pcs	489,00

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Item No.	Accredited	Description	Unit	Sales price [Euro]
K05.101	YES	OTDR distance scale calibration, SM, per subsequent measurement or wavelength	Pcs	185,00
K05.201	NO	Relative intensity noise (RIN), 1st meas., per source	Pcs	508,00
K05.099	Contact DFM	Power meter/detector calibration visible light acc. to quotation	Pcs	
K05.999	Contact DFM	Radiometric calibration according to quotation	Pcs	

## Calibration of mass

K06.001	YES	Calibration of weights, per pcs., when 3 weights or more	Pcs	133,00
K06.003	YES	Calibration of 1 or 2 weights	Pcs	361,00
K06.999	Contact DFM	Calibration of weights according to quotation	Pcs	

## Calibration and measurement on the micro- and nanometre scale

K07.001	YES	AFM calibration of two-dimensional grating, first grating	Pcs	690,00
K07.002	YES	Subsequent gratings, each	Pcs	532,00
K07.003	YES	Calibration of step height with AFM	Pcs	659,00
K07.101	NO	Roughness measurement, image and raw data measuring on one spot, first time image and first time sample	Pcs	439,00
K07.102	NO	Roughness measurement, image and raw data, further samples, first image, same order	Pcs	212,00
K07.103	NO	Roughness measurement, image raw data. Same sample, further images	Pcs	147,00
K07.104	NO	Roughness analysis including report. Measurement on one spot, first image	Pcs	781,00
K07.105	NO	Roughness analysis including report, same session, further samples, first image	Pcs	342,00
K07.106	NO	Roughness analysis including report. Same sample, further images	Pcs	228,00
K07.107	NO	Long range scan 500 µm x 500 µm x 6 µm incl. report	Pcs	1.554,00
K07.120	NO	Calibration of optical graticule (dot size normal, 8 dots*) 1 µm - 50 µm, *for a different number of dots, contact DFM for a quotation	Pcs	1.554,00
K07.140	NO	Measurement of local surface potential (Kelvin Probe Microscopy)	Pcs	435,00
K07.141	NO	Measurement of local surface potential (Kelvin Probe Microscopy), including report	Pcs	777,00

## Calibration and measurement on the micro- and nanometre scale, surface investigations

K07.201	NO	Surface investigations in liquid environment, image and raw data. Measuring on one spot in liquid cell, first image	Pcs	601,00
K07.202	NO	Surface investigations in liquid environment, image and raw data. Same session, further samples, first image	Pcs	293,00
K07.203	NO	Surface investigations in liquid environment, image and raw data. Same sample, further images	Pcs	179,00
K07.204	NO	Surface investigations in liquid environment including report. Measuring on one spot, first image	Pcs	944,00
K07.205	NO	Surface investigations in liquid environment including report. Same session, further samples, first image	Pcs	439,00
K07.206	NO	Surface investigations in liquid environment including report. Same sample, further images	Pcs	260,00
K07.210	NO	AFM measurement of adhesion, acc. to quotation		
K07.211	NO	AFM measurement of structural surface stability, acc. to quotation		

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K07.301	NO	Use of AFM facility (for experienced users), excl. consultancy, first day	Pcs	342,00
K07.302	NO	Use of AFM facility (for experienced users), excl. consultancy, following days in succession, per day	Pcs	179,00
K07.303	NO	Surface investigations by/with a DFM scientist (incl. reporting), time registered pr. started 1/2 hour. Price pr. hour	Hour	225,00
K07.999	Contact DFM	Surface measurement, according to quotation	Pcs	

## Calibration and measurement on the micro- and nanometre scale, interference- and confocal microscopy

K07.304	Contact DFM	Confocal and interference microscope measurements, according to quotation	Pcs	
K07.305	NO	Geometrical characterization of silicon line gratings (line width (CD), height and sidewall angle), according to quotation	Pcs	
K07.306	NO	Roughness measurements with confocal/interference microscope, first site, measurement and sample	Pcs	329,00
K07.307	NO	Roughness measurements with confocal/interference-microscope, following site or measurement, same session	Pcs	135,00
K07.308	YES	Calibration of step height with confocal/interference microscope, first site, measurement and sample	Pcs	520,00
K07.309	YES	Calibration of step height with confocal/interference microscope, following site or measurement, same session	Pcs	442,00
K07.310	YES	Lateral calibration of two-dimensional grating with confocal/interference microscope, first site, measurement and sample	Pcs	544,00
K07.311	YES	Lateral calibration of two-dimensional grating with confocal/interference microscope, following site or measurement, same session	Pcs	420,00

## Calibration and measurement on the micro- and nanometre scale, other services

K07.399	NA	Special tips for AFM, according to quotation	Pcs	
K07.405	NO	Ellipsometric measurement of film thickness/optical constants (single point)	Pcs	388,00
K07.406	NO	Ellipsometric measurement of film thickness/optical constants (Multiple points) according to quotation	Pcs	
K07.501	NO	Replication of surfaces using polymer imprints, according to quotation	Pcs	
K07.600	NO	Profilometric measurement, height, according to quotation	Pcs	
K07.601	NO	Profilometric measurement, form/lateral, according to quotation	Pcs	
K07.602	NO	Profilometric measurement, roughness, according to quotation	Pcs	
K07.700	NO	Interferometric calibration of films and sheets, acc. to quotation	Pcs	
K07.998	Contact DFM	Measurement of Young's Modulus, according to quotation	Pcs	
K07.999	Contact DFM	Surface measurement, according to quotation	Pcs	

## Acoustic calibration services

K08.001	YES	Microphone, pressure, reciprocity, LS1	Pcs	1.471,00
K08.002	YES	Microphone, pressure, reciprocity, LS2	Pcs	1.471,00
K08.003	YES	Microphone, free-field, reciprocity, LS1	Pcs	2.475,00
K08.004	YES	Microphone, free-field, reciprocity, LS2	Pcs	2.946,00
K08.005	YES	Microphone, free-field comparison (LS1, LS2, WS1 or WS2)	Pcs	703,00

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Item No.	Accredited	Description	Unit	Sales price [Euro]
K08.006	YES	Microphone, free-field comparison (as K08.005, basic service)	Pcs	391,00
K08.007	YES	As K08.006, following microphone, same order/session	Pcs	326,00
K08.008	YES	Microphone, pressure comparison (LS1, LS2, WS1 or WS2)	Pcs	703,00
K08.009	YES	Microphone, pressure comparison (as K08.008, basic service)	Pcs	458,00
K08.010	YES	Microphone, HF-calibration, free-field reciprocity WS3	Pcs	2.946,00
K08.011	YES	Microphone, HF-calibration, free-field comparison WS3	Pcs	821,00
K08.012	YES	Microphone, HF-calibration (as K08.011, basic service)	Pcs	563,00
K08.201	YES	Actuator response (LS1, LS2, WS1 or WS2)	Pcs	259,00
K08.202	YES	Actuator response, (LS1, LS2, WS1 or WS2), basic service	Pcs	163,00
K08.203	YES	Actuator response, HF to 100 kHz	Pcs	359,00
K08.204	YES	Actuator response, HF to 100 kHz, basic service	Pcs	254,00
K08.205	YES	Pistonphone calibration	Pcs	413,00
K08.206	YES	Calibration of sound calibrator (one frequency)	Pcs	372,00
K08.207	YES	Calibration of sound calibrator (one frequency), basic service	Pcs	281,00
K08.301	YES	Ear simulator, calibration re. IEC 60318-1, IEC 60318-4	Pcs	746,00
K08.101	NO	Additional testing, microphone, noise floor, acc. to quotation	Pcs	
K08.102	NO	Additional testing, microphone, membrane inspection, acc. to quotation	Pcs	
K08.103	NO	Additional testing, microphone, temperature coeff., acc. to quotation	Pcs	
K08.104	NO	Additional testing, microphone, static pressure coeff., acc. to quotation	Pcs	
K08.105	NO	Additional testing, microphone, DC leakage test, acc. to quotation	Pcs	
K08.999	Contact DFM	Acoustic measurement / calibration according to quotation	Pcs	

## Calibration of particle counters

K09.001	YES	Calibration of counting efficiency (CE), one particle counter, at one particle size	Pcs	391,00
K09.002	YES	Additional particle sizes in the calibration of CE, price per additional size, same measurement session	Pcs	244,00
K09.003	NO	Additional ISO 21501-4 tests according to data sheet, price per counter	Pcs	129,00
K09.006	NO	Additional Size Setting and Size Resolution, per new size	Pcs	209,00
K09.007	NO	Additional Size Setting and Size Resolution, per CE size	Pcs	104,00
K09.101	YES	Reference particles (100 nm - 5 µm diameter) calibrated by AFM; DFM selects and delivers particles; Price is excl. particles	Pcs	700,00
K09.102	YES	Reference particles (100 nm - 5 µm diameter) calibrated by AFM (customer provides particles)	Pcs	583,00
K09.999	Contact DFM	Particle measurements according to quotation	Pcs	

## Roughness and coordinate metrology

K11.001	YES	Calibration, roughness meter; Parameter calibration (1st ampl. step)	Pcs	705,00
K11.002	YES	Calibration, roughness meter; Amplification (1st ampl. step)	Pcs	626,00
K11.003	YES	Calibration, roughness meter; Total calibration (1st ampl. step)	Pcs	783,00
K11.004	YES	Calibration, roughness meter; Each subsequent ampl. step	Pcs	234,00
K11.005	YES	Adjust. after K11.001, and subsequent param. cal. (one step)	Pcs	421,00

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K11.100	YES	Calibration, roughness artefact; ISO Type C	Pcs	548,00
K11.101	YES	Calibration, roughness artefact; ISO A1 (wide grooves, flat bottoms), 2 grooves	Pcs	548,00
K11.102	YES	Calibration, roughness artefact; ISO A2 (wide grooves, rounded bottoms), 6 grooves	Pcs	1.800,00
K11.103	YES	Calibration, roughness artefact; ISO B2 (grooves with single shape)	Pcs	548,00
K11.108	YES	Calibration, roughness artefact; ISO D (irregular profile, one direction)	Pcs	705,00
K11.201	YES	Calibration, hole-plate artefacts, test report, one position	Pcs	569,00
K11.202	YES	Calibration, hole-plate artefacts, acc. to DKD guidelines	Pcs	1.700,00
K11.999	Contact DFM	Tactile roughness test, according to quotation	Pcs	

## Certified reference solutions for electrolytic conductivity

R03.001	YES	Reference solution, 0.5 litre KCl in H <sub>2</sub> O, 0.01 S/m	Pcs	482,00
R03.002	YES	Reference solution, 0.5 litre KCl in H <sub>2</sub> O, 0.1 S/m	Pcs	482,00
R03.003	YES	Reference solution, 0.5 litre KCl in H <sub>2</sub> O, 1,0 S/m	Pcs	482,00
R03.004	YES	Reference solution, 0.5 litre KCl in H <sub>2</sub> O, 10 S/m	Pcs	482,00
R03.999	Contact DFM	Reference solution, batch made on demand, acc. to quotation	Pcs	

## pH reference solutions

R03.101	YES	Primary pH buffer 'Phthalate' (pH = 4.005)	Pcs	5.042,00
R03.102	YES	Primary pH buffer '1:1 phosphate' (pH = 6.865)	Pcs	5.042,00
R03.103	YES	Primary pH buffer '1:3.5 phosphate' (pH = 7.413)	Pcs	5.042,00
R03.104	YES	Primary pH buffer 'Borate' (pH = 9.180)	Pcs	5.042,00
R03.105	YES	Primary pH buffer 'Carbonate' (pH = 10.012)	Pcs	5.042,00
R03.106	YES	Secondary pH buffer '1:4 phosphate' (pH = 7.38)	Pcs	5.042,00

## Stabilized lasers

P01.001		Stabilaser 1542, acetylene-stabilized laser	STK	42.800,00
P01.002		Stabilaser 771 acetylene-stabilized laser	STK	60.290,00

## DFM Software

S01.003	NA	DFM Calibration Datasheet 2000 for MS Excel, acc. to quotation	Pcs	
S08.002	NA	Acoustics software MP.EXE, version 4, acc. to quotation	Pcs	
S08.003	NA	Upgrade to MP.EXE, version 4, acc. to quotation	Pcs	

## Consultancy services

YDE1	NA	Consultancy, Senior Scientist (hourly rate)	Hour	201,00
YDE2	NA	Consultancy, Scientist (hourly rate)	Hour	167,00
YDE3	NA	Consultancy, Technician (hourly rate)	Hour	134,00

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The pricing is valid from the date above until new prices are issued. Updated and most recent pricing is available at <https://dfm.dk/>. Services not mentioned in the above list of standard services are invoiced at hourly rates per agreement. All pricing is EXW DFM, Hørsholm (Incoterms 2010), and is excl. VAT.