

# DFM A/S Price list 2018

Valid from October 1, 2018

All prices are excl. VAT



**DFM**

Danish National Metrology Institute

Item No.	Accre- dited	Description	Unit	Sales price [Euro]
<b>Electical voltage (DC) and resistance calibration</b>				
K02.001	YES	Calibration of a voltage reference standard (Zener)	Pcs	2375,00
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	13,50
K02.103		Thermometric calibration, contact, certificate	Pcs	134,50
K02.199	Contact DFM	Thermometric calibration, contact, acc. to quotation	Pcs	
K02.299	Contact DFM	Thermometric calibration, contactless (IR), acc. to quotation	Pcs	
<b>Pressure</b>				
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	726,50
K03.002	YES	Subsequent measurement of same solution at 24°C-26°C	Pcs	495,00
K03.003	No	Characterisation of solution at 24°C-26°C without certificate	Pcs	613,50
K03.004	YES	Characterisation of solution 15°C-35°C	Pcs	916,50
K03.005	No	Characterisation of solution 10°C-60°C	Pcs	942,00
K03.006	YES	Subsequent measurement of same solution at 15°C-35°C	Pcs	615,50
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, $\geq 3$ points	Pcs	419,00
K03.102	YES	Calibration of conductivity sensor cell constant or conductivity measurement system in CRM fluids at 10 mS/m, 100 mS/m or 1 S/m, per point and per CRM, incl. CRM	Pcs	890,00
K03.199	Contact DFM	Calibration of conductivity sensor cell constant or conductivity measurement system according to quotation	Pcs	
<b>Calibration of reference electrode</b>				
K03.201	YES	Determination of electrochemical reference electrode potential	Pcs	950,00

# DFM A/S Price list 2018

Valid from October 1, 2018

All prices are excl. VAT



**DFM**

Danish National Metrology Institute

Item No.	Accre- dited	Description	Unit	Sales price [Euro]
<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	283,00
K04.002	YES	Gauge block calibration, following 8 blocks (2-9) in the same set, per block	Pcs	80,50
K04.003	YES	Gauge block calibration, each following gauge block (10 - ) in the same set	Pcs	42,50
K04.004	YES	Gauge block calibration, M10 standard set	Pcs	972,00
K04.005	YES	Gauge block calibration, M122 standard set	Pcs	5707,50
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	767,50
K05.002	YES	Detector / power meter calibration per subsequent power level or wavelength, visible light	Pcs	479,00
K05.020	YES	Power meter / detector calibration at one power level and wavelength, NIR, 0.7 %	Pcs	614,00
K05.021	YES	Power meter / detector calibration per following power level or wavelength, NIR, 0.7 %	Pcs	383,50
K05.022	YES	Power meter or detector calibration at one power level and wavelength, NIR, 1.5 %	Pcs	383,50
K05.023	YES	Power meter or detector calibration, per subsequent power level or wavelength, NIR, 1.5 %	Pcs	258,00
K05.024	YES	High-power detector / power meter calibration at one power level and wavelength, NIR	Pcs	649,00
K05.040	Contact DFM	Spectral calibration of power meter / detector at 800 - 1650 nm, prices from	Pcs	1438,50
K05.041	YES	Linearity of detector / power meter, -40 dBm to -5 dBm	Pcs	575,00
K05.042	YES	Linearity of detector / power meter, -60 dBm to -40 dBm	Pcs	115,50
K05.043	YES	Linearity of detector / power meter, -5 dBm to +10 dBm	Pcs	115,50
K05.044	YES	Linearity of detector / power meter, -5 dBm to +23 dBm	Pcs	192,00
K05.060	YES	Calibration of fibre optical attenuator, one wavelength	Pcs	430,50
K05.070	No	Homogeneity of detectors	Pcs	539,00
K05.071	No	Calibration of laser beam profilers	Pcs	739,00
K05.072	No	Laser classification, per wave length	Pcs	596,00
K05.080	YES	Calibration of optical spectrum analyzer or laser wavelength, one range	Pcs	570,50
K05.081	YES	Calibration of optical spectrum analyzer or laser wavelength, two ranges	Pcs	728,50
K05.082	YES	Calibration of wavelength meter / laser wavelength	Pcs	746,00
K05.100	YES	OTDR distance scale calibration, SM, at one wavelength	Pcs	481,50

# DFM A/S Price list 2018

Valid from October 1, 2018

All prices are excl. VAT



**DFM**

Danish National Metrology Institute

Item No.	Accredited	Description	Unit	Sales price [Euro]
K05.101	YES	OTDR distance scale calibration, SM, per subsequent measurement or wavelength	Pcs	182,00
K05.201	No	Relative intensity noise (RIN), 1st meas., per source	Pcs	501,00
K05.099	Contact DFM	Power meter/detector calibration visible light according 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	133,50
K06.003	YES	Calibration of 1 or 2 weights	Pcs	367,50
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	680,50
K07.002	YES	Subsequent gratings, each	Pcs	524,50
K07.003	YES	Calibration of step height with AFM	Pcs	649,50
K07.101	No	Roughness measurement, image and raw data measuring on one spot, first time image and first time sample	Pcs	432,50
K07.102	No	Roughness measurement, image and raw data, further samples, first image, same order	Pcs	208,50
K07.103	No	Roughness measurement, image raw data. Same sample, further images	Pcs	144,50
K07.104	No	Roughness analysis including report. Measurement on one spot, first image	Pcs	769,50
K07.105	No	Roughness analysis including report, same session, further samples, first image	Pcs	336,50
K07.106	No	Roughness analysis including report. Same sample, further images	Pcs	224,50
K07.107	No	Long range scan 500 µm x 500 µm x 6 µm incl. report	Pcs	1531,00
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	1531,00
K07.140	No	Measurement of local surface potential (Kelvin Probe Microscopy)	Pcs	428,50
K07.141	No	Measurement of local surface potential (Kelvin Probe Microscopy), including report	Pcs	765,00

## 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	592,50
K07.202	No	Surface investigations in liquid environment, image and raw data. Same session, further samples, first image	Pcs	289,00
K07.203	No	Surface investigations in liquid environment, image and raw data. Same sample, further images	Pcs	176,00

# DFM A/S Price list 2018

Valid from October 1, 2018

All prices are excl. VAT



**DFM**

Danish National Metrology Institute

Item No.	Accredited	Description	Unit	Sales price [Euro]
K07.204	No	Surface investigations in liquid environment including report. Measuring on one spot, first image	Pcs	930,00
K07.205	No	Surface investigations in liquid environment including report. Same session, further samples, first image	Pcs	432,50
K07.206	No	Surface investigations in liquid environment including report. Same sample, further images	Pcs	256,00
K07.210	No	AFM measurement of adhesion, acc. to quotation		
K07.211	No	AFM measurement of structural surface stability, acc. to quotation		
K07.301	No	Use of AFM facility (for experienced users), excl. consultancy, first day	Pcs	336,50
K07.302	No	Use of AFM facility (for experienced users), excl. consultancy, following days in succession, per day	Pcs	176,00
K07.303	No	Surface investigations by/with a DFM scientist (incl. reporting), time registered pr. started 1/2 hour. Price pr. hour	Hour	221,50
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	324,50
K07.307	No	Roughness measurements with confocal/interference-microscope, following site or measurement, same session	Pcs	132,50
K07.308	YES	Calibration of step height with confocal/interference microscope, first site, measurement and sample	Pcs	512,00
K07.309	YES	Calibration of step height with confocal/interference microscope, following site or measurement, same session	Pcs	435,50
K07.310	YES	Lateral calibration of two-dimensional grating with confocal/interference microscope, first site, measurement and sample	Pcs	536,00
K07.311	YES	Lateral calibration of two-dimensional grating with confocal/interference microscope, following site or measurement, same session	Pcs	414,00

## 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	383,00
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	

# DFM A/S Price list 2018

Valid from October 1, 2018

All prices are excl. VAT



**DFM**

Danish National Metrology Institute

Item No.	Accredited	Description	Unit	Sales price [Euro]
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	1485,50
K08.002	YES	Microphone, pressure, reciprocity, LS2	Pcs	1485,50
K08.003	YES	Microphone, free-field, reciprocity, LS1	Pcs	2489,00
K08.004	YES	Microphone, free-field, reciprocity, LS2	Pcs	2969,50
K08.005	YES	Microphone, free-field comparison (LS1, LS2, WS1 or WS2)	Pcs	742,50
K08.006	YES	Microphone, free-field comparison (as K08.005, basic service)	Pcs	413,00
K08.007	YES	As K08.006, following microphone, same order/session	Pcs	344,50
K08.008	YES	Microphone, pressure comparison (LS1, LS2, WS1 or WS2)	Pcs	742,50
K08.009	YES	Microphone, pressure comparison (as K08.008, basic service)	Pcs	483,50
K08.010	YES	Microphone, HF-calibration, free-field reciprocity WS3	Pcs	2969,50
K08.011	YES	Microphone, HF-calibration, free-field comparison WS3	Pcs	866,50
K08.012	YES	Microphone, HF-calibration (as K08.011, basic service)	Pcs	594,00
K08.201	YES	Actuator response (LS1, LS2, WS1 or WS2)	Pcs	273,50
K08.202	YES	Actuator response, (LS1, LS2, WS1 or WS2), basic service	Pcs	172,50
K08.203	YES	Actuator response, HF to 100 kHz	Pcs	379,50
K08.204	YES	Actuator response, HF to 100 kHz, basic service	Pcs	269,50
K08.205	YES	Pistonphone calibration	Pcs	435,50
K08.206	YES	Calibration of sound calibrator (one frequency)	Pcs	393,00
K08.207	YES	Calibration of sound calibrator (one frequency), basic service	Pcs	297,00
K08.301	YES	Ear simulator, calibration re. IEC 60318-1, IEC 60318-4	Pcs	787,50
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	435,50
K09.002	YES	Additional particle sizes in the calibration of CE, price per additional size, same measurement session	Pcs	271,50

# DFM A/S Price list 2018

Valid from October 1, 2018

All prices are excl. VAT



**DFM**

Danish National Metrology Institute

Item No.	Accre- dited	Description	Unit	Sales price [Euro]
K09.003	No	Additional ISO 21501-4 tests according to data sheet, price per counter	Pcs	143,00
K09.006	No	Additional Size Setting and Size Resolution, per new size	Pcs	232,50
K09.007	No	Additional Size Setting and Size Resolution, per CE size	Pcs	116,00
K09.101	YES	Reference particles (100 nm - 5 µm diameter) calibrated by AFM; DFM selects and delivers particles; Price is excl. particles	Pcs	780,00
K09.102	YES	Reference particles (100 nm - 5 µm diameter) calibrated by AFM (customer provides particles)	Pcs	649,50
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	694,00
K11.002	YES	Calibration, roughness meter; Amplification (1st ampl. step)	Pcs	617,00
K11.003	YES	Calibration, roughness meter; Total calibration (1st ampl. step)	Pcs	771,50
K11.004	YES	Calibration, roughness meter; Each subsequent ampl. step	Pcs	231,00
K11.005	YES	Adjust. after K11.001, and subsequent param. cal. (one step)	Pcs	414,50
K11.100	YES	Calibration, roughness artefact; ISO Type C	Pcs	540,00
K11.101	YES	Calibration, roughness artefact; ISO A1 (wide grooves, flat bottoms), 2 grooves	Pcs	540,00
K11.102	YES	Calibration, roughness artefact; ISO A2 (wide grooves, rounded bottoms), 6 grooves	Pcs	1773,50
K11.103	YES	Calibration, roughness artefact; ISO B2 (grooves with single shape)	Pcs	540,00
K11.108	YES	Calibration, roughness artefact; ISO D (irregular profile, one direction)	Pcs	694,00
K11.201	YES	Calibration, hole-plate artefacts, test report, one position	Pcs	561,00
K11.202	YES	Calibration, hole-plate artefacts, acc. to DKD guidelines	Pcs	1675,50
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	471,00
R03.002	YES	Reference solution, 0.5 litre KCl in H <sub>2</sub> O, 0.1 S/m	Pcs	471,00
R03.003	YES	Reference solution, 0.5 litre KCl in H <sub>2</sub> O, 1,0 S/m	Pcs	471,00
R03.004	YES	Reference solution, 0.5 litre KCl in H <sub>2</sub> O, 10 S/m	Pcs	471,00
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	4969,00
R03.102	YES	Primary pH buffer '1:1 phosphate' (pH = 6.865)	Pcs	4969,00
R03.103	YES	Primary pH buffer '1:3.5 phosphate' (pH = 7.413)	Pcs	4969,00
R03.104	YES	Primary pH buffer 'Borate' (pH = 9.180)	Pcs	4969,00

# DFM A/S Price list 2018

Valid from October 1, 2018

All prices are excl. VAT



**DFM**

Danish National Metrology Institute

Item No.	Accredited	Description	Unit	Sales price [Euro]
R03.105	YES	Primary pH buffer 'Carbonate' (pH = 10.012)	Pcs	4969,00
R03.106	YES	Secondary pH buffer '1:4 phosphate' (pH = 7.38)	Pcs	4969,00

## Reference materials for optical wavelength

R05.001	NA	Absorption cell, incl. windows and valve	Pcs	427,50
R05.002	NA	Absorption cell filled with $^{12}\text{C}_2\text{H}_2$ (op til 101,3 kPa)	Pcs	749,00
R05.003	NA	Absorption cell filled with $^{12}\text{CO}$ (op til 101,3 kPa)	Pcs	749,00
R05.004	NA	Absorption cell filled with $^{12}\text{CO}_2$ (op til 101,3 kPa)	Pcs	749,00
R05.005	NA	Absorption cell filled with $^{12}\text{CH}_4$ (op til 101,3 kPa)	Pcs	749,00
R05.006	NA	Absorption cell filled with $\text{NH}_3$ (op til 101,3 kPa)	Pcs	749,00
R05.007	NA	Absorption cell filled with $\text{H}_2\text{S}$ (op til 101,3 kPa)	Pcs	749,00
R05.008	NA	Absorption cell filled with $^{13}\text{C}_2\text{H}_2$ (op til 101,3 kPa)	Pcs	855,50
R05.009	NA	Absorption cell filled with $^{13}\text{CO}$ (op til 101,3 kPa)	Pcs	855,50
R05.010	NA	Absorption cell filled with $^{12}\text{C}^{18}\text{O}$ (op til 40,0 kPa)	Pcs	1069,50
R05.011	NA	Mechanical mount for absorption cell	Pcs	535,00
R05.012	NA	Mechanical mount for cell and GRIN lenses (incl. 2 lenses, mounted and aligned)	Pcs	2026,50
R05.013	NA	Mounting of LED with SM fibre and FC/PC connector (ex. materials)	Pcs	248,00
R05.014	NA	LED mounted on Peltier cooler and cooling fins	Pcs	855,50
R05.015	NA	Aluminum case with connectors for optical fibres and electrical connectors	Pcs	855,50

## 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	211,00
YDE2	NA	Consultancy, Scientist (hourly rate)	Hour	168,50
YDE3	NA	Consultancy, Technician (hourly rate)	Hour	126,50

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.