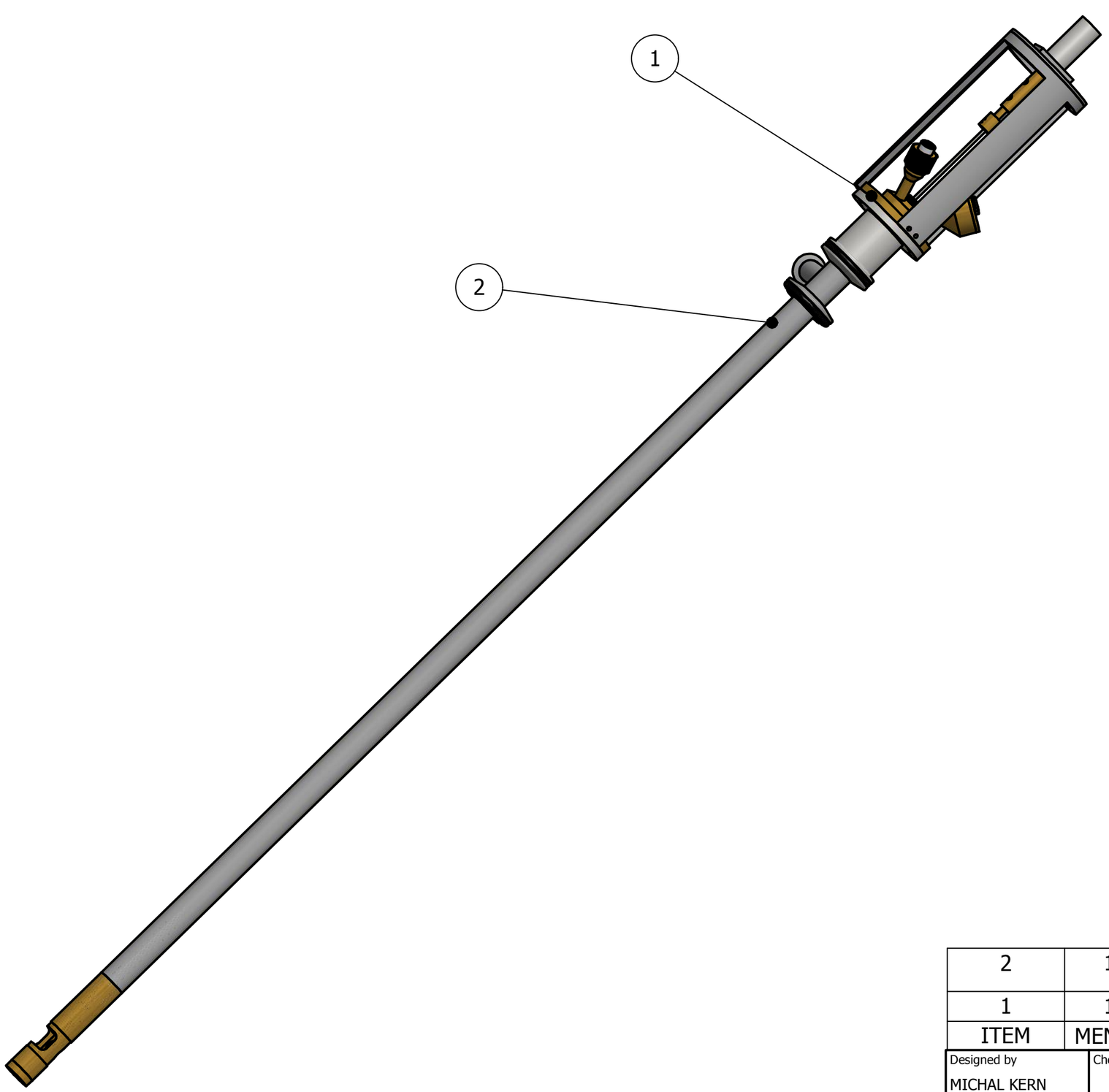
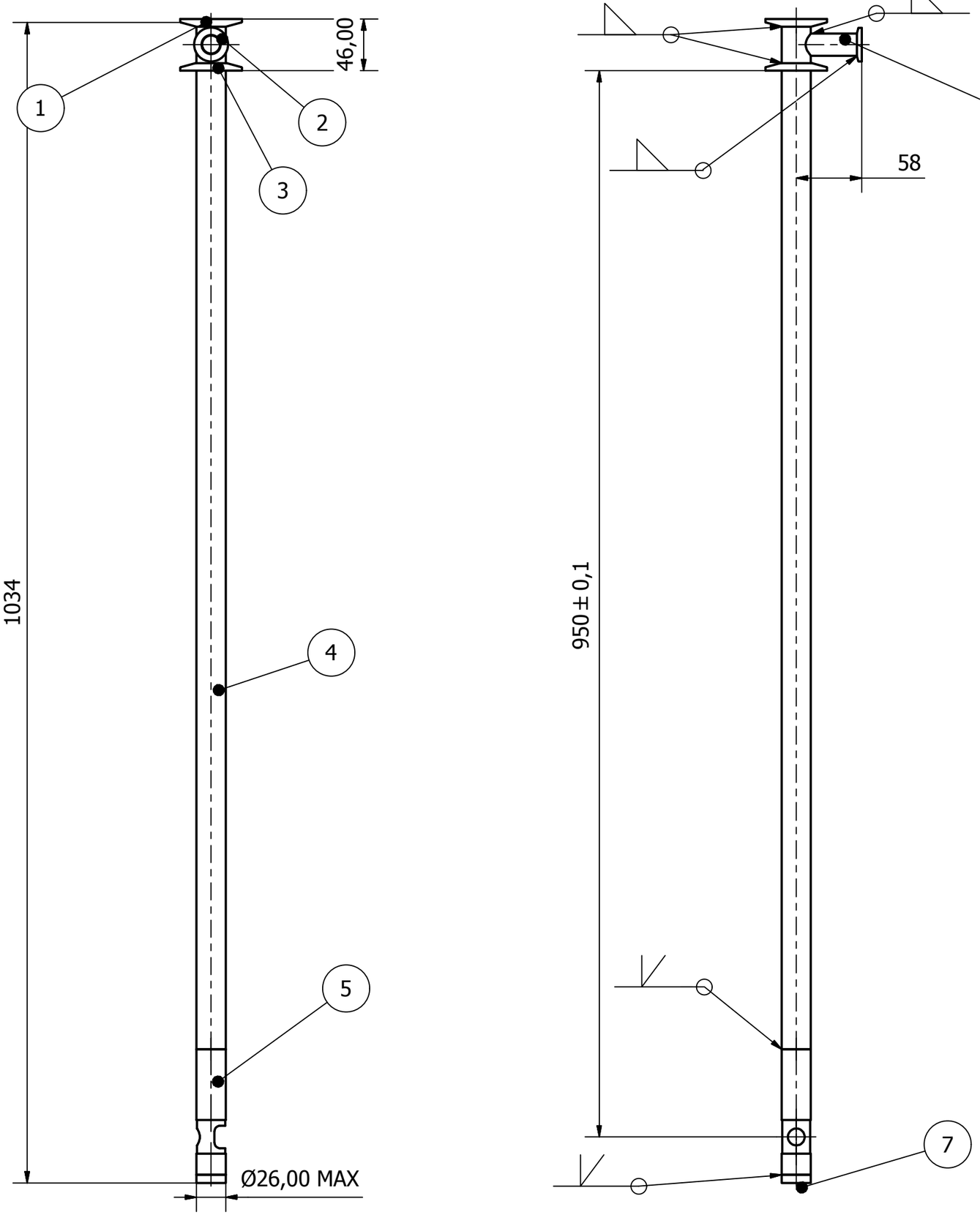


2	1	GAS CHAMBER WELDMENT	2
1	1	INNER ASSEMBLY	10
ITEM	MENGE	NAME	SHEET

Designed by: MICHAL KERN	Checked by:	Approved by:	Date:	Date: 7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	TORQUE PROBE ASSEMBLY		
	TORQUE PROBE	Edition	Sheet 1 / 33



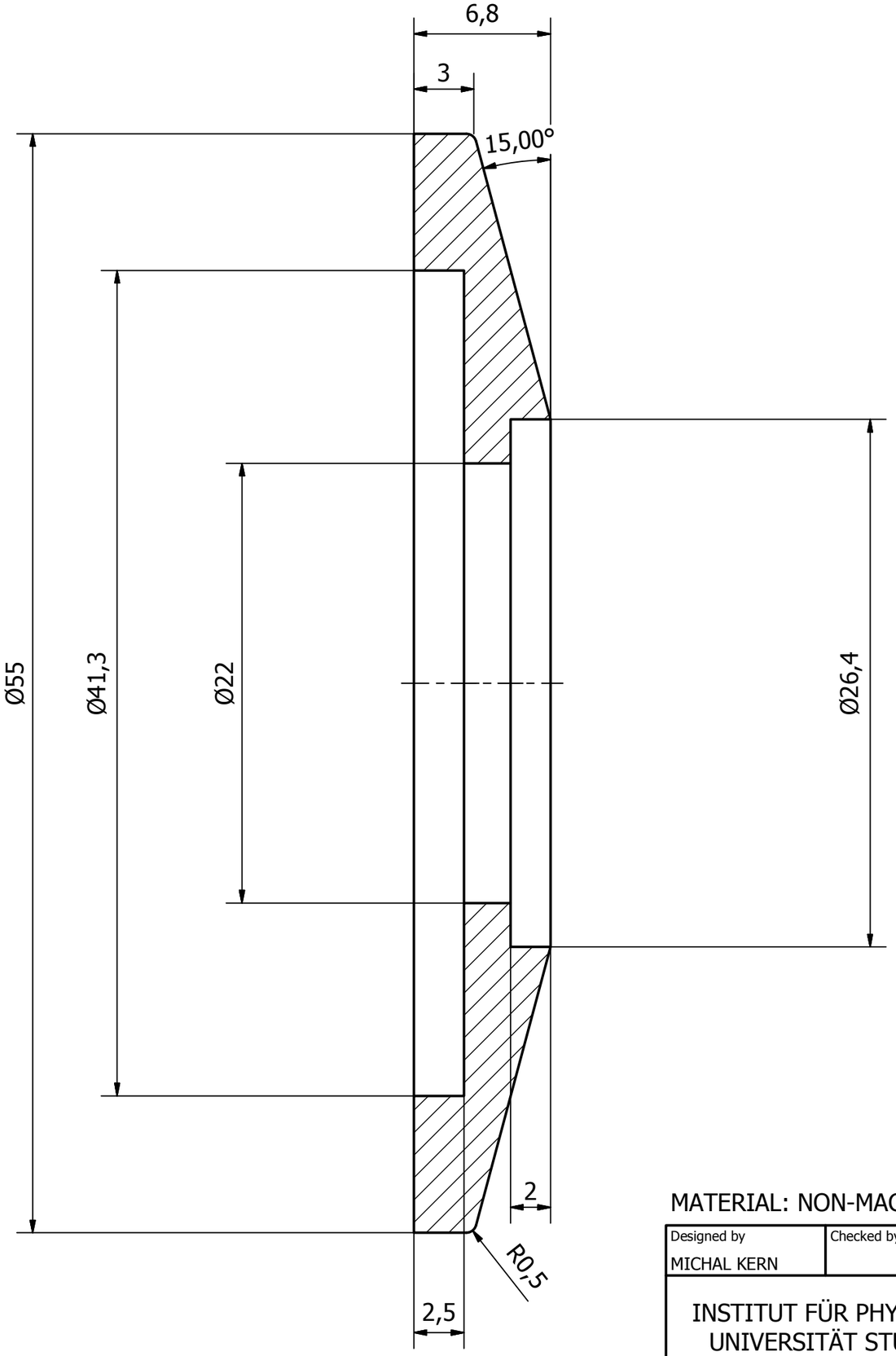
SCALE 1:4

ITEM	MENGE	NAME	SHEET
7	1	GAS CHAMBER PLUG	9
6	1	PUMPING PIPE	8
5	1	GAS CHAMBER	7
4	1	GAS PIPE	6
3	1	FLANGE KF40 BOTTOM	5
2	1	FLANGE KF16	4
1	1	FLANGE KF40 TOP	3

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	GAS CHAMBER WELDMENT		
	TORQUE PROBE	Edition	Sheet 2 / 33

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



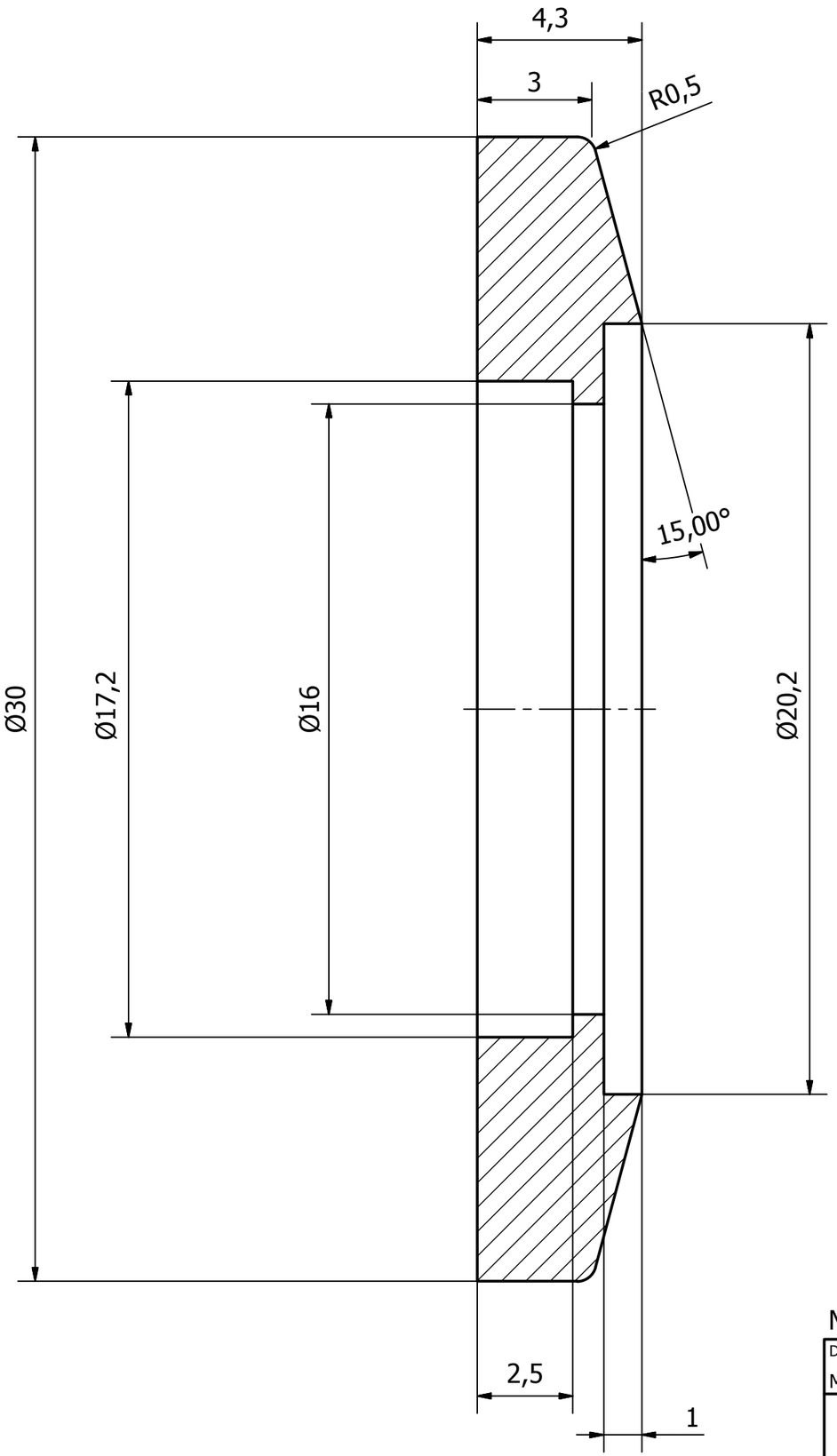
1 ST

MATERIAL: NON-MAGNETIC EDELSTAHL (INOX)

SCALE 4:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	FLANGE KF40 Top		
	TORQUE PROBE	Edition	Sheet 3 / 33



1 ST

MATERIAL: NON-MAGNETIC EDELSTAHL (INOX)

SCALE 7:1

Designed by	Checked by	Approved by	Date	Date	
MICHAL KERN				7.7.2014	

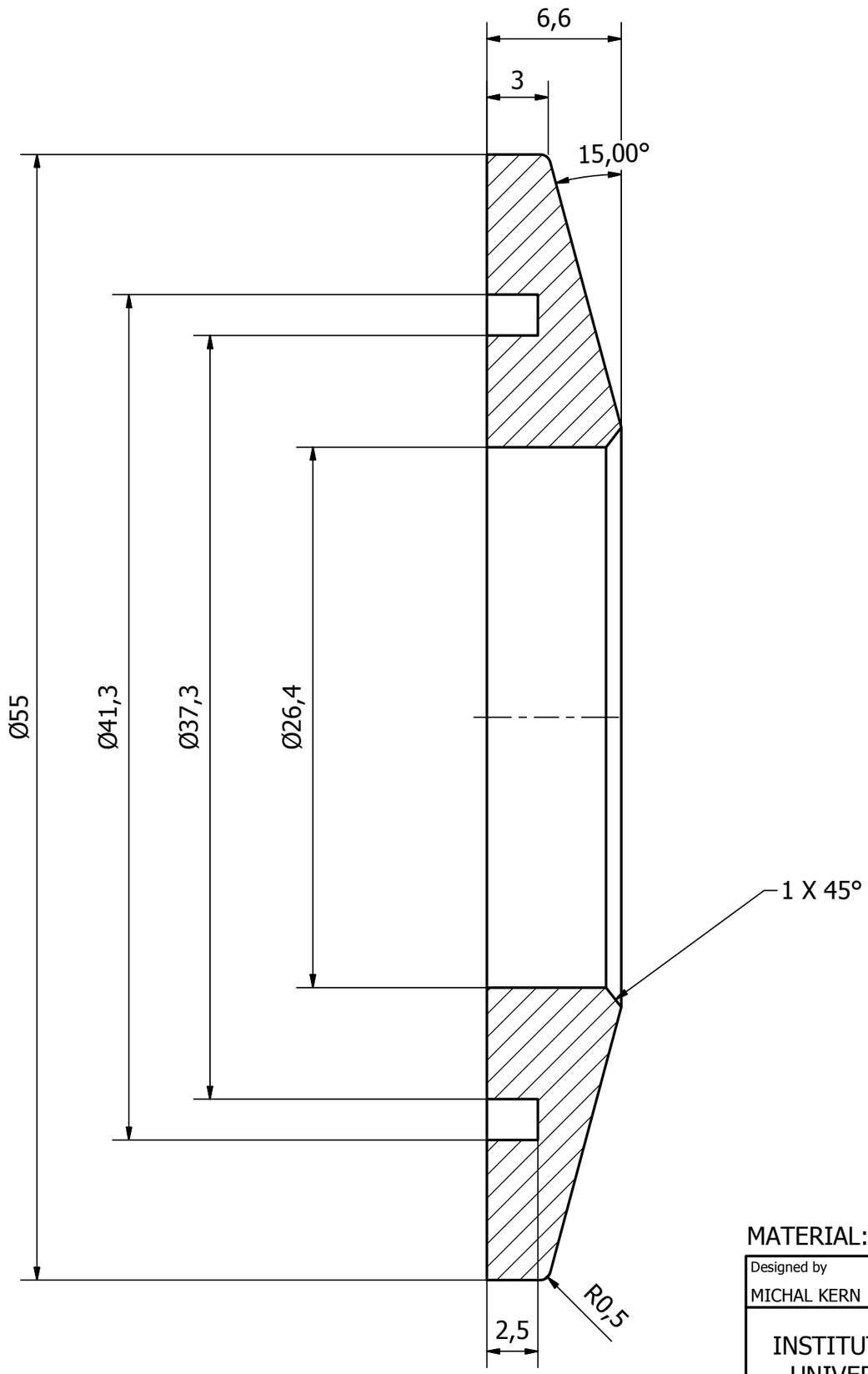
INSTITUT FÜR PHYS. CHEMIE
UNIVERSITÄT STUTTGART

FLANGE KF16

TORQUE PROBE

Edition

Sheet 4 / 33



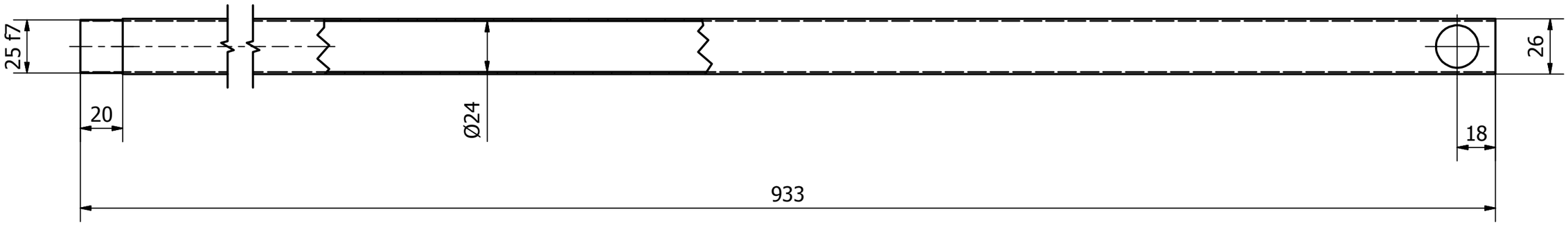
1 ST

MATERIAL: NON-MAGNETIC EDELSTAHL (INOX)

SCALE 4:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	FLANGE KF40 BOTTOM		
	TORQUE PROBE	Edition	Sheet 5 / 33



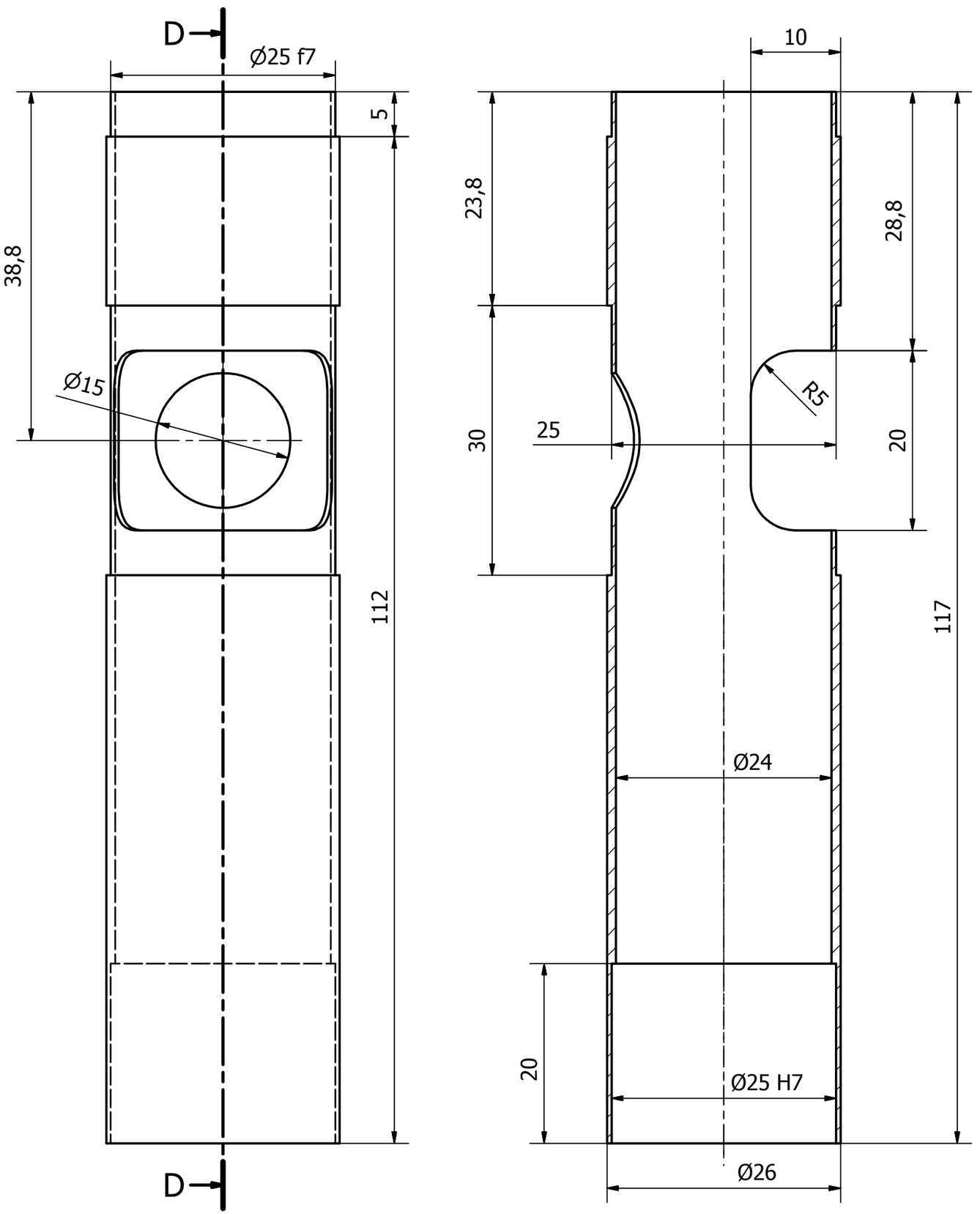
1 ST

MATERIAL: NON-MAGNETIC EDELSTAHL (INOX)

SCALE 1:2

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	GAS PIPE		
	TORQUE PROBE	Edition	Sheet 6 / 33



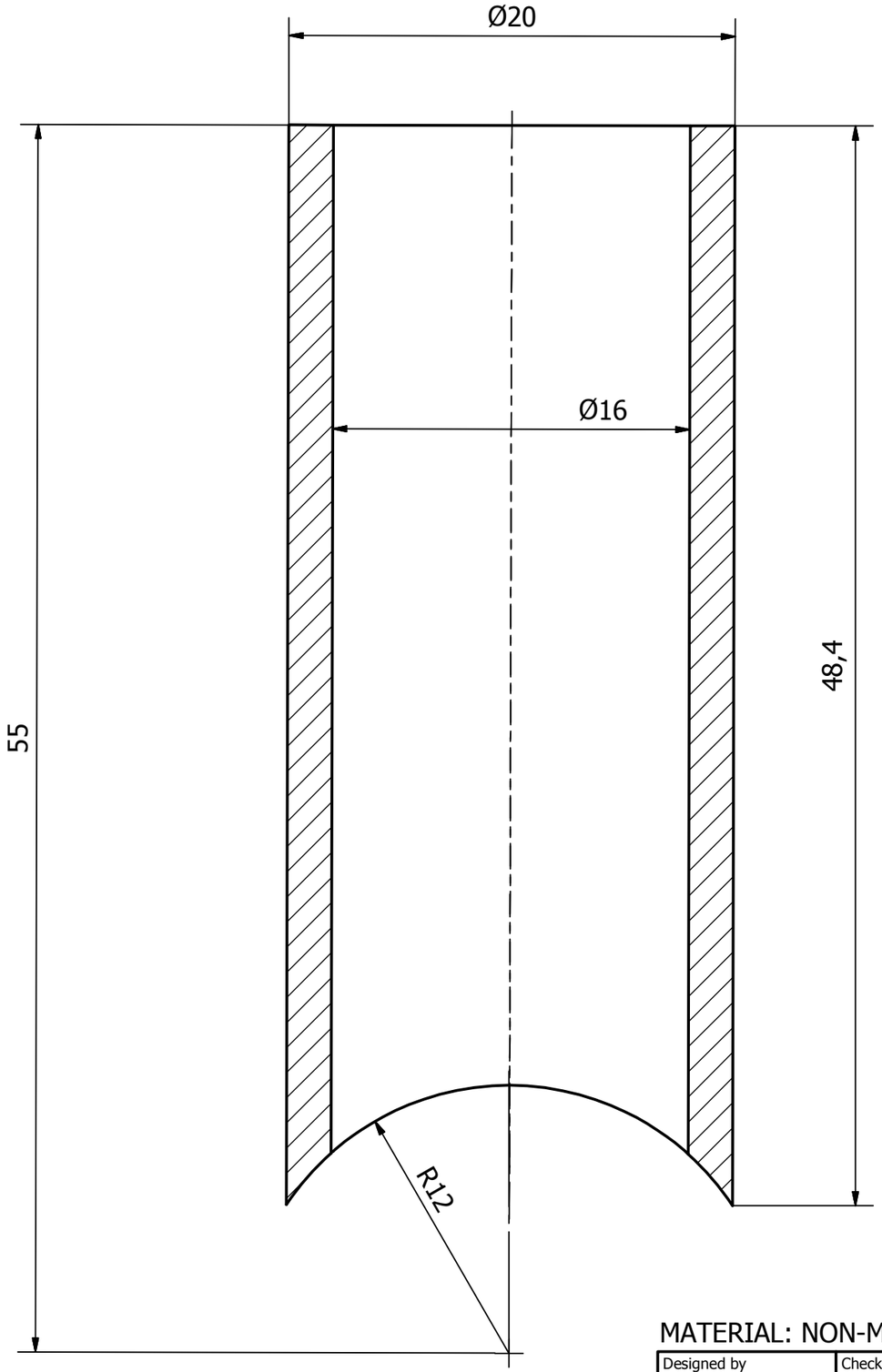
1 ST

MATERIAL: MESSING

SCALE 2:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	GAS CHAMBER		
	TORQUE PROBE	Edition	Sheet 7 / 33



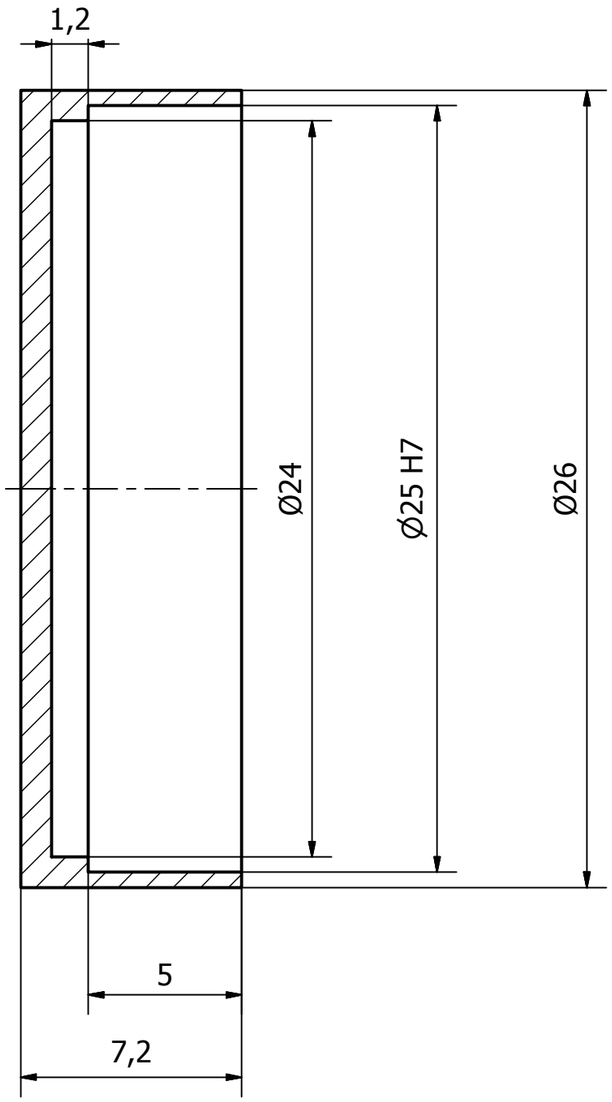
1 ST

MATERIAL: NON-MAGNETIC EDELSTAHL (INOX)

SCALE 4:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	PUMPING PIPE		
	TORQUE PROBE	Edition	Sheet 8 / 33



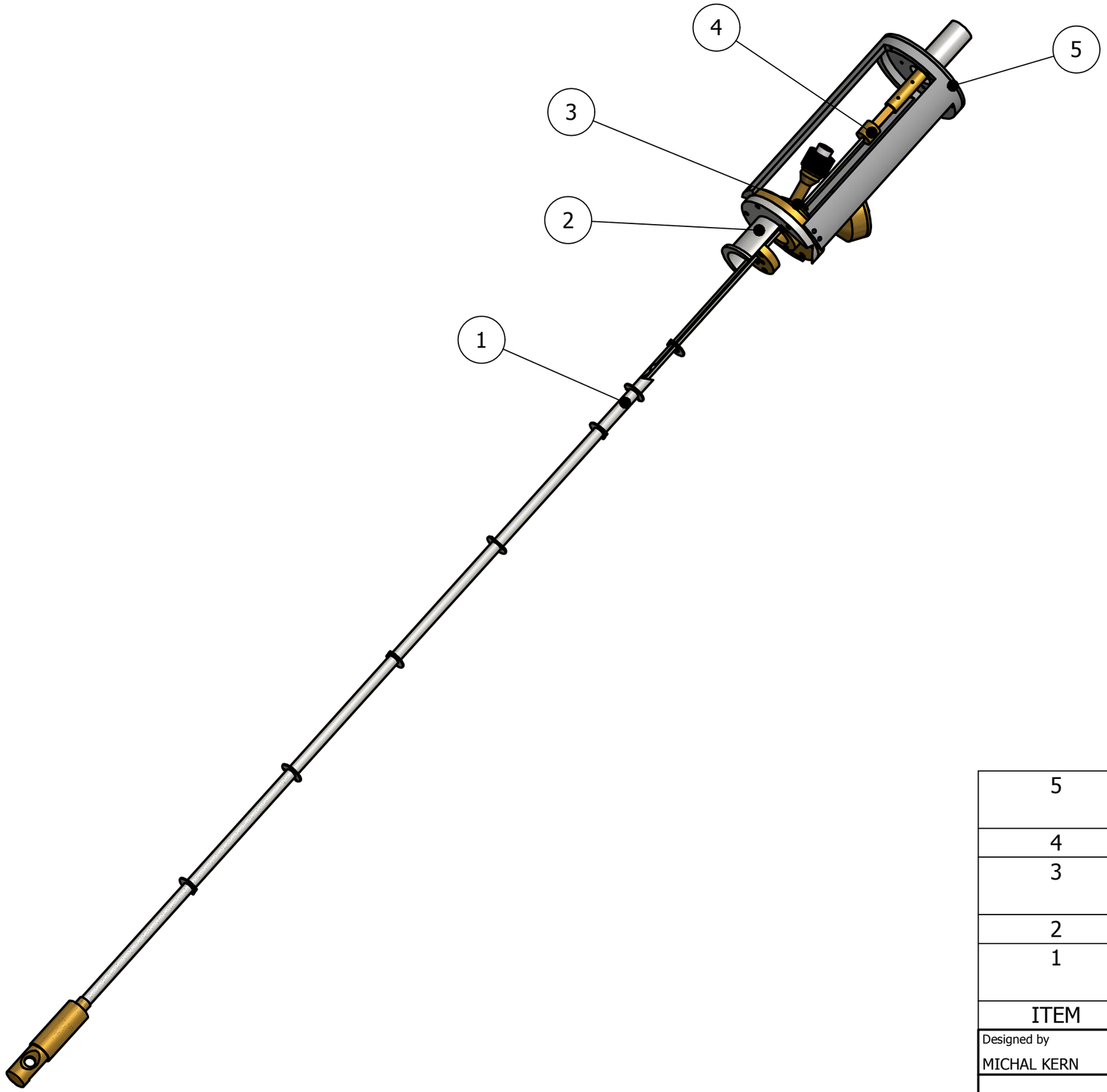
1 ST

MATERIAL: MESSING

SCALE 5:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	GAS CHAMBER PLUG		
	TORQUE PROBE	Edition	Sheet 9 / 33



SCALE 1:4

ITEM	MENGE	NAME	SHEET
5	1	MOTOR HOLDER ASSEMBLY	30
4	1	ROTOR ASSEMBLY	24
3	1	FEEDTHROUGH WELDMENT	16
2	1	ADAPTER	15
1	1	SHAFT COVER WELDMENT	11

Designed by	Checked by	Approved by	Date	Date	
MICHAL KERN				7.7.2014	

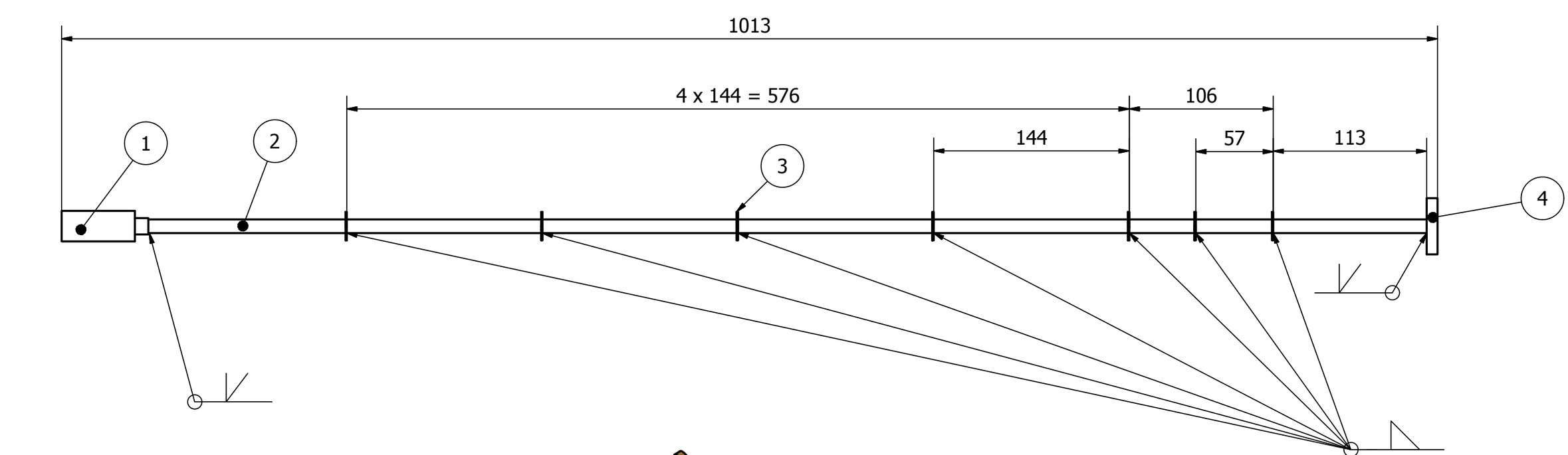
INSTITUT FÜR PHYS. CHEMIE
UNIVERSITÄT STUTTGART

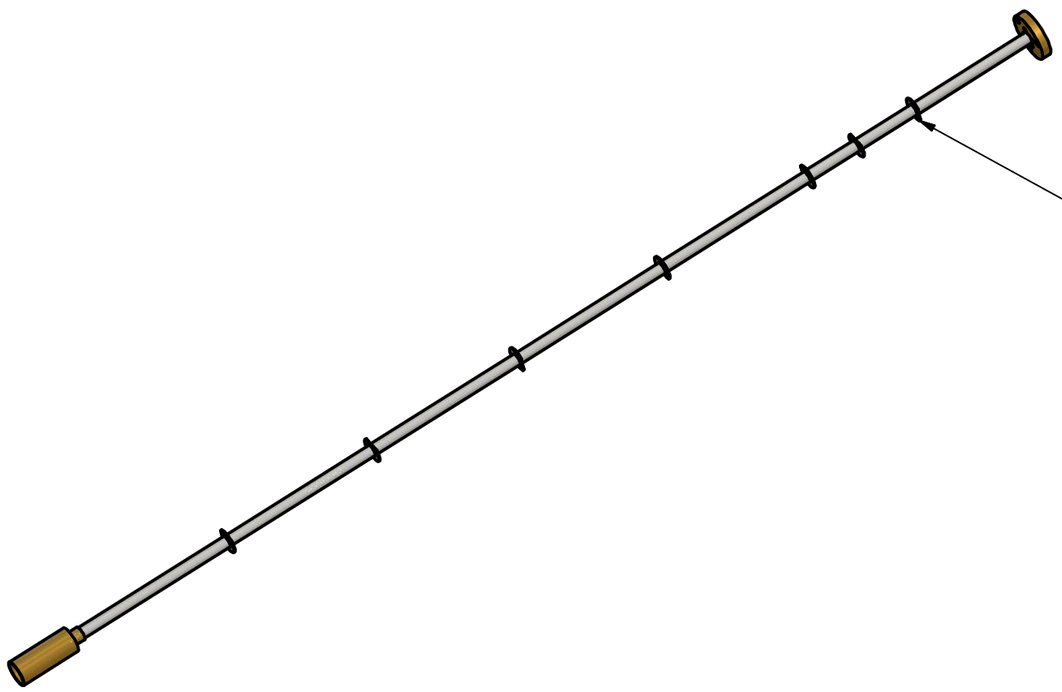
INNER ASSEMBLY

TORQUE PROBE

Edition

Sheet 10 / 33



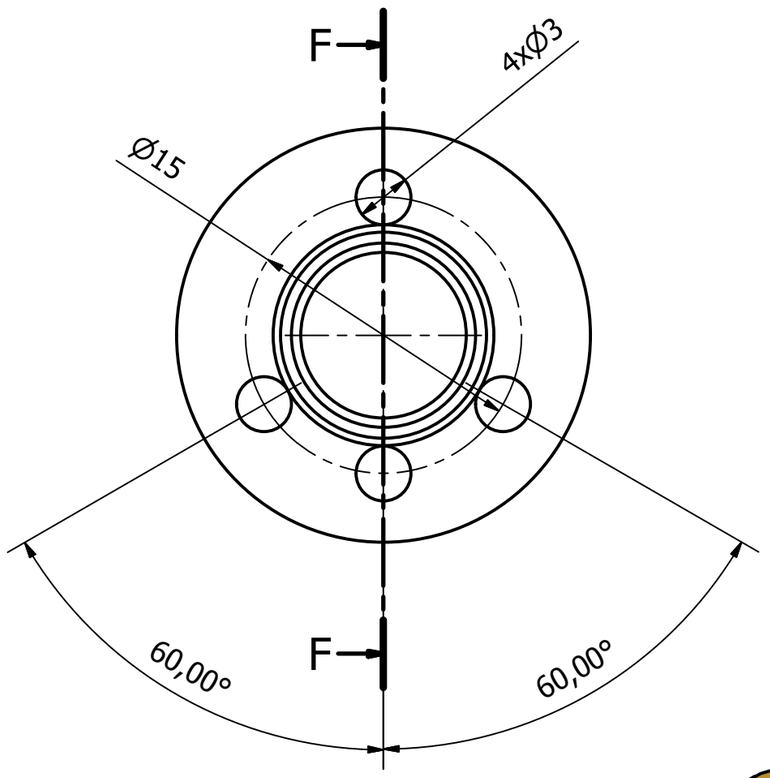


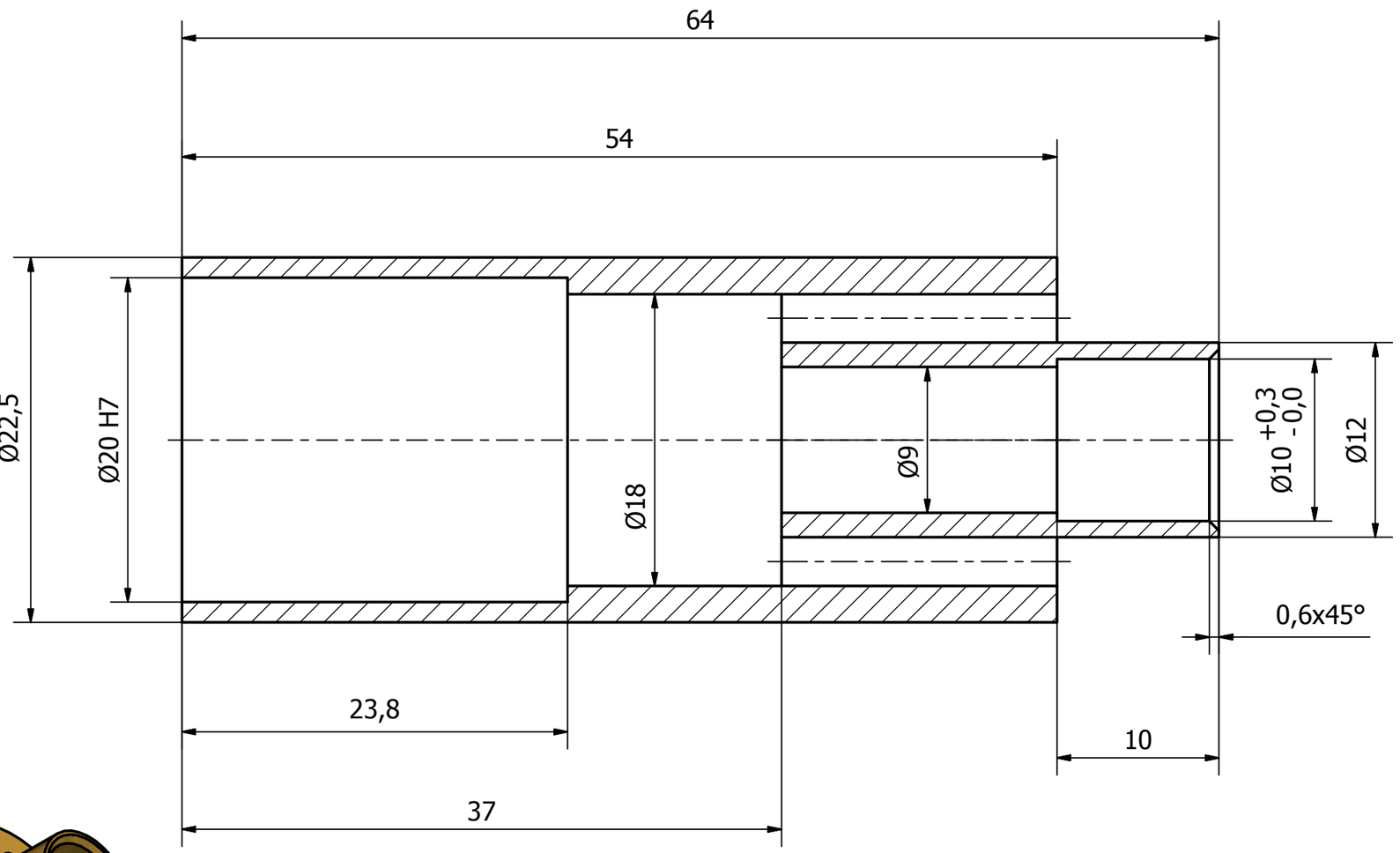
SCALE 1:3

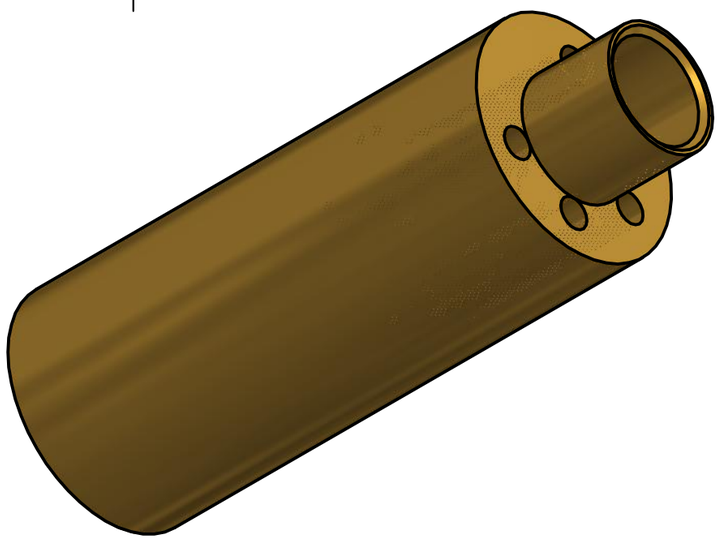
ITEM	MENGE	NAME	SHEET
4	1	HOLDING PLATE	14
3	7	CENTERING PLATES	13
2	1	PIPE	NONMAGNETIC EDELSTAHL 10 X 0.5 X 958
1	1	PROBE HEAD	12

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	SHAFT COVER WELDMENT		
	TORQUE PROBE	Edition	Sheet 11 / 33







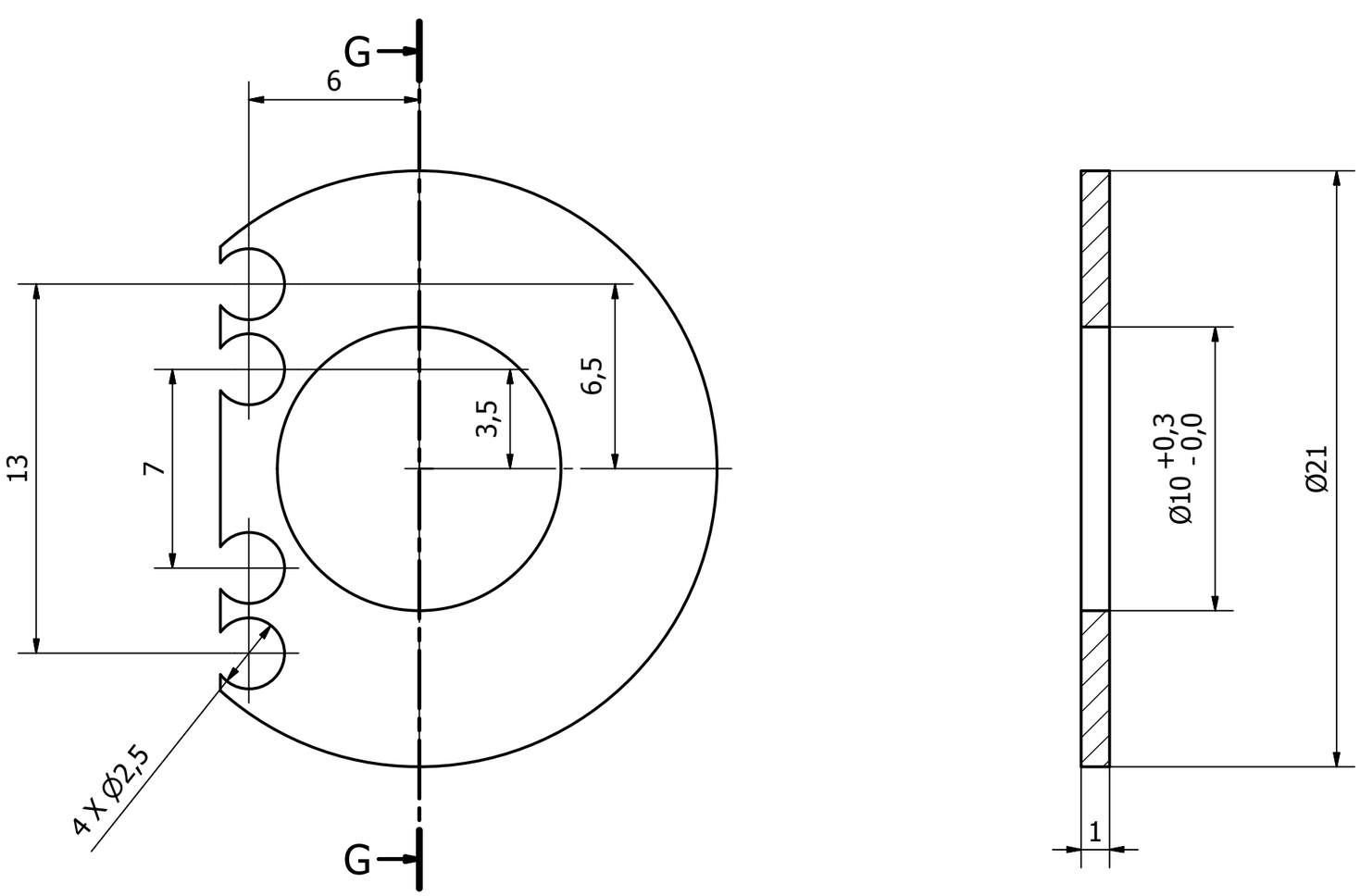
1 ST

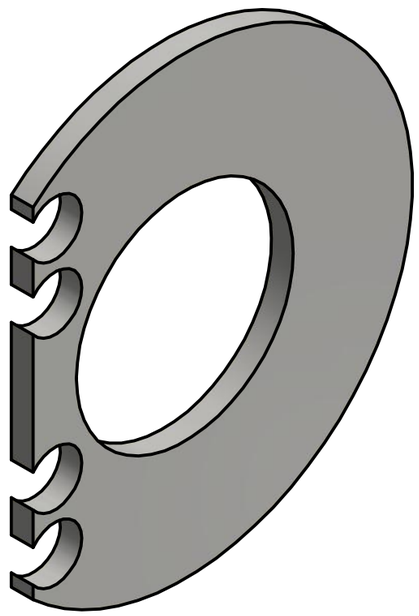
MATERIAL: MESSING

SCALE 4:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	PROBE HEAD		
	TORQUE PROBE	Edition	Sheet 12 / 33





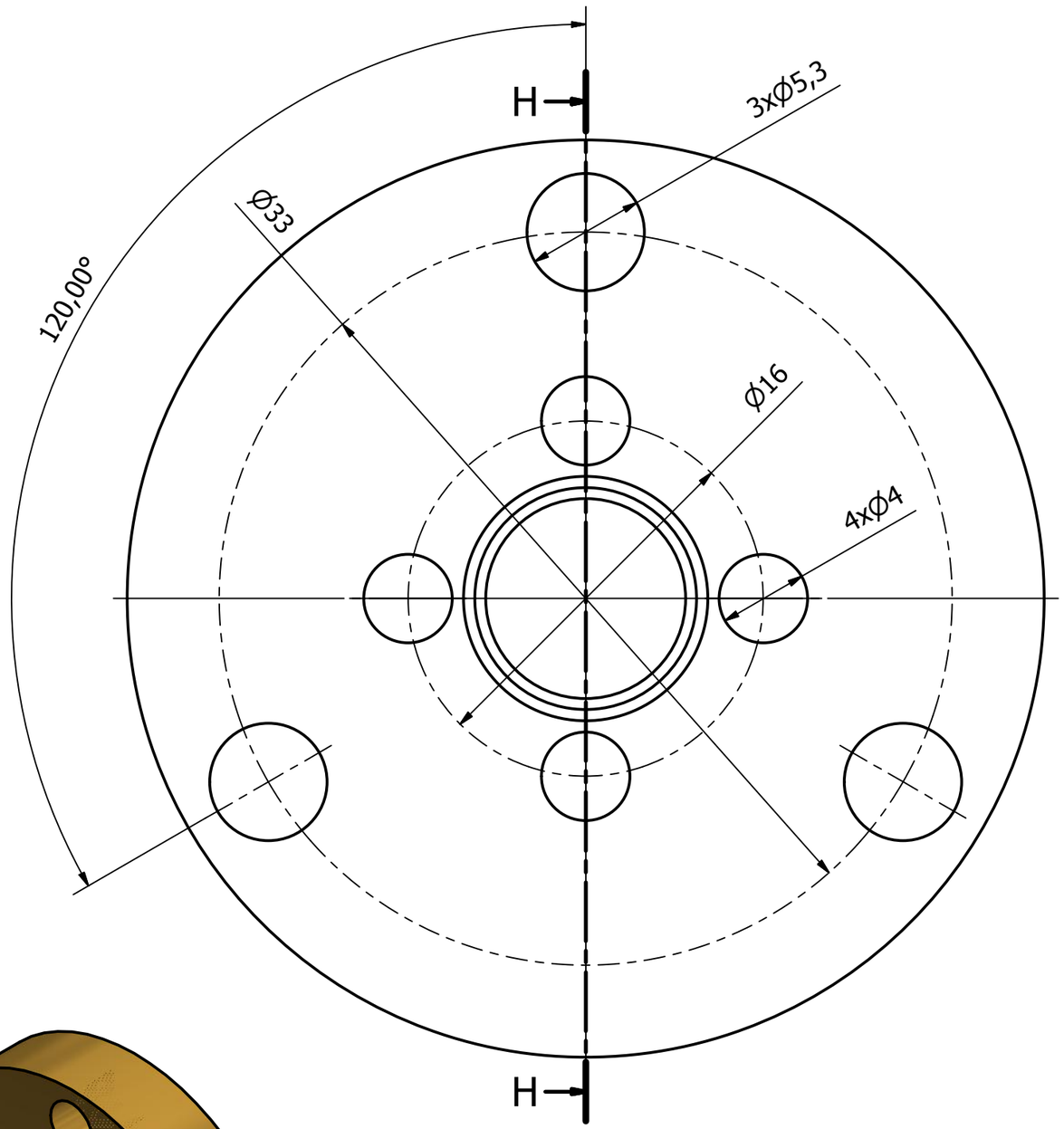
7 ST

MATERIAL: NONMAGNETIC EDELSTAHL

SCALE 5:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	CENTERING PLATE		
	TORQUE PROBE	Edition	Sheet 13 / 33



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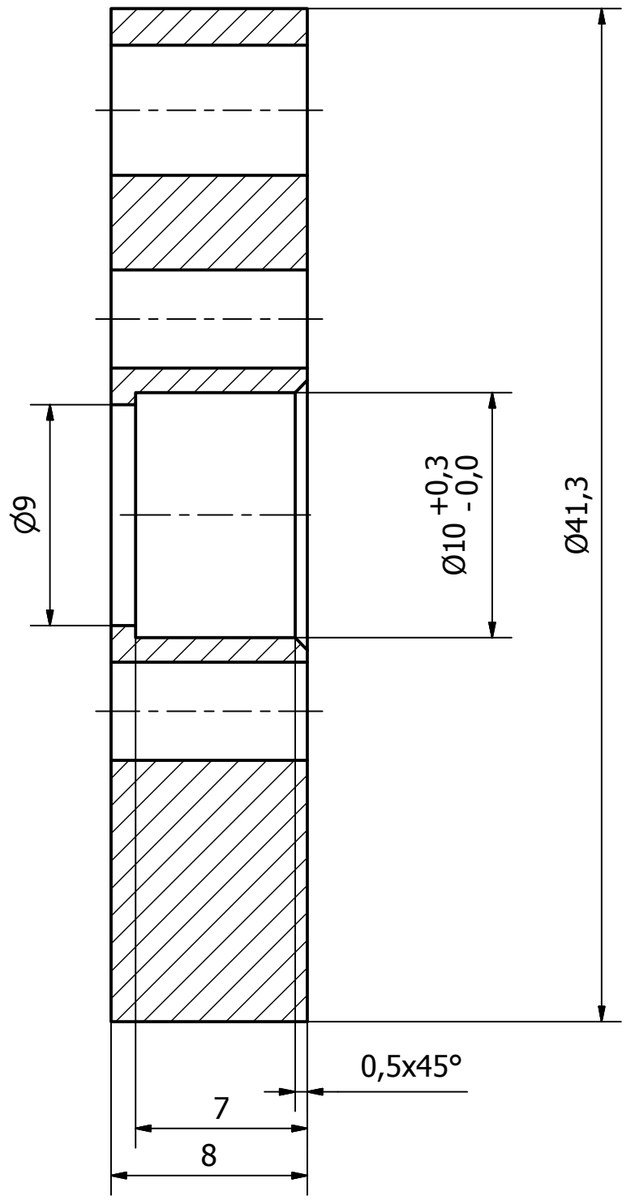
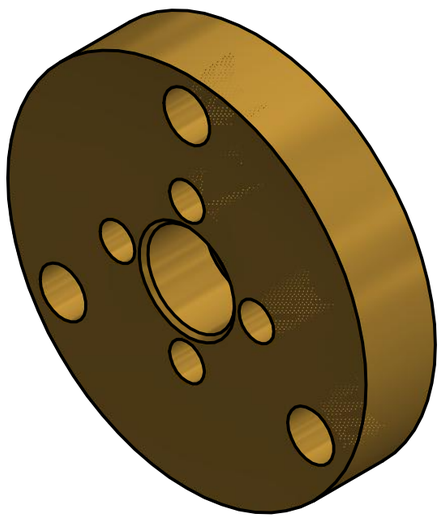




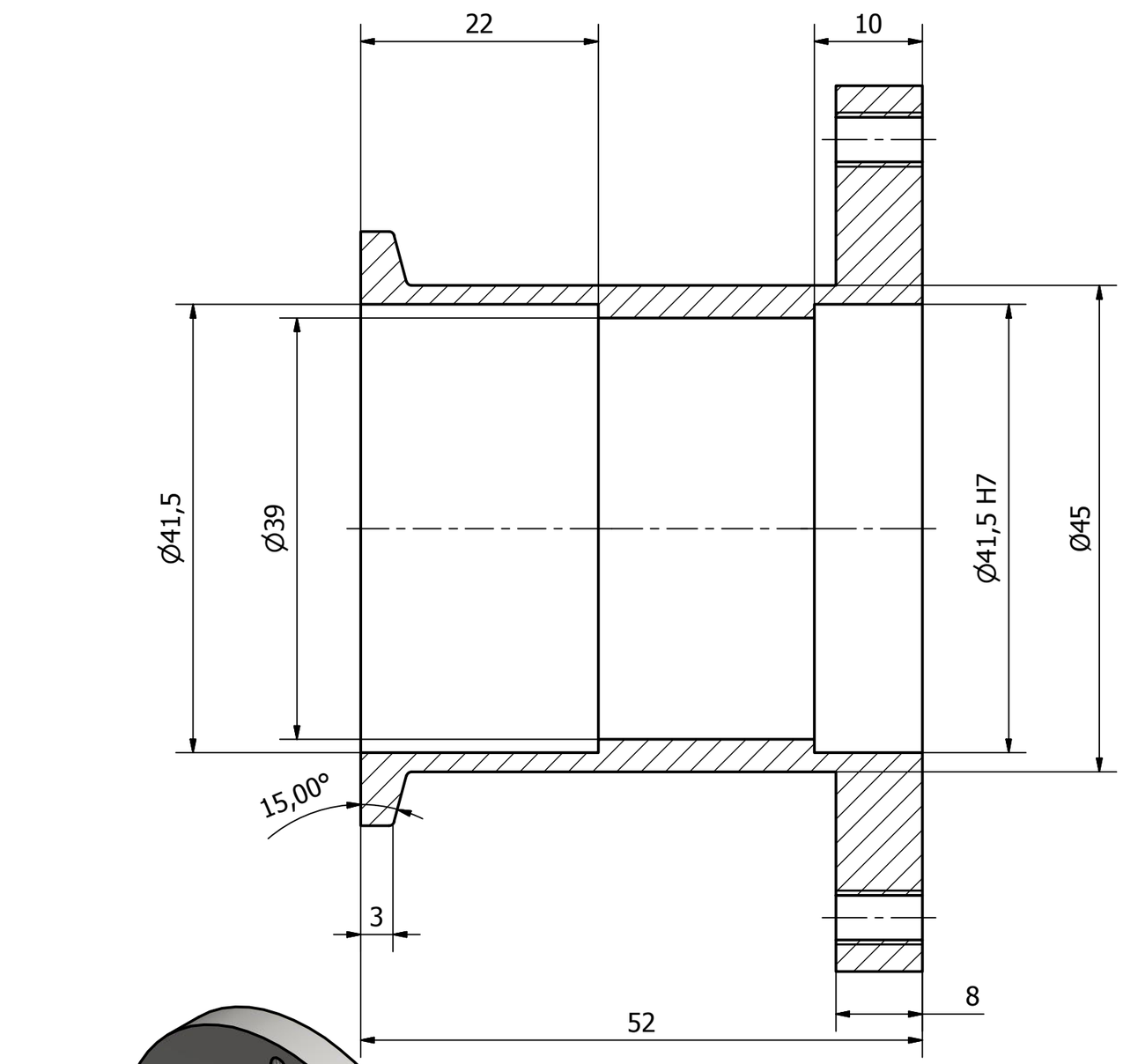
1 ST

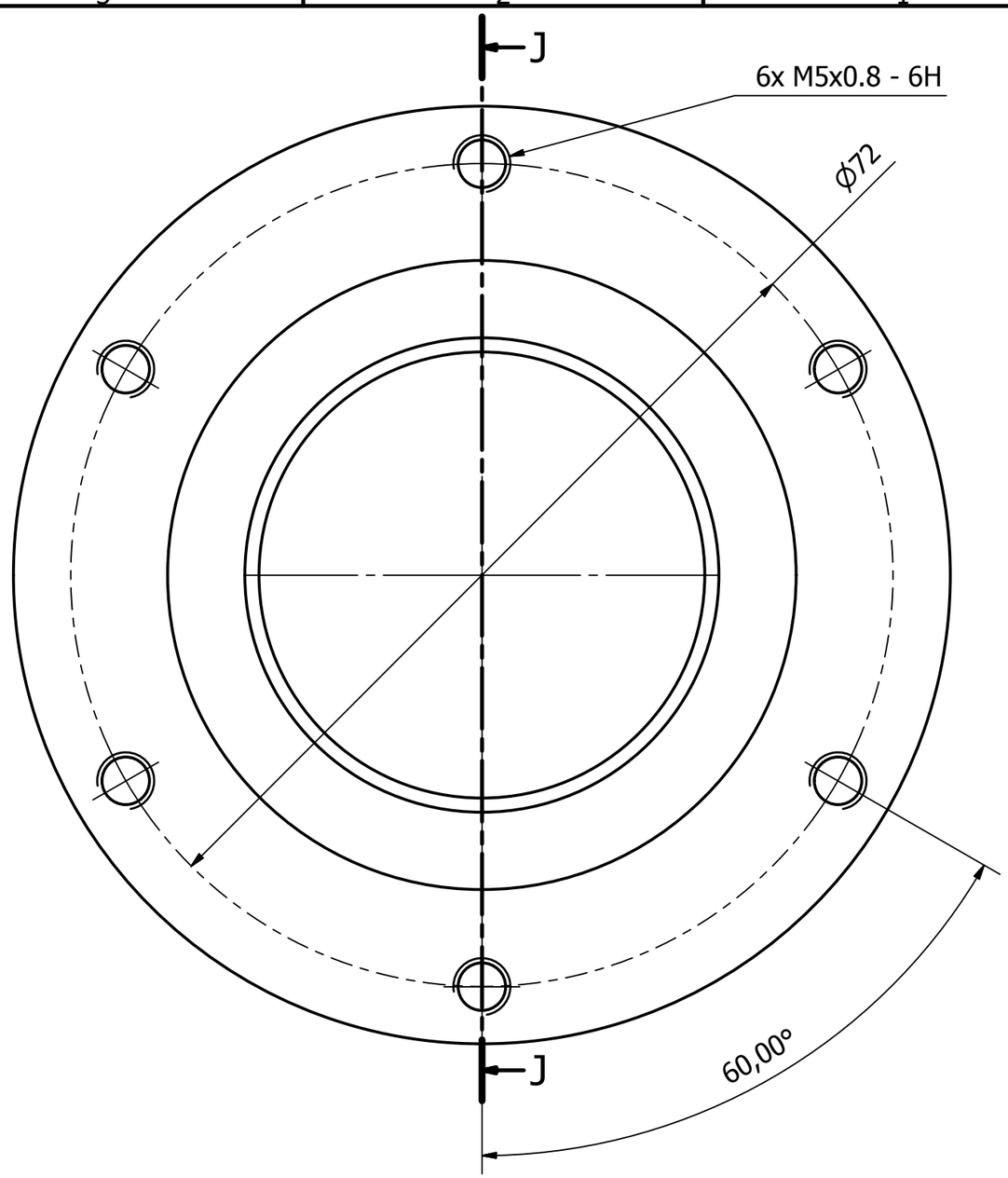
MATERIAL: MESSING

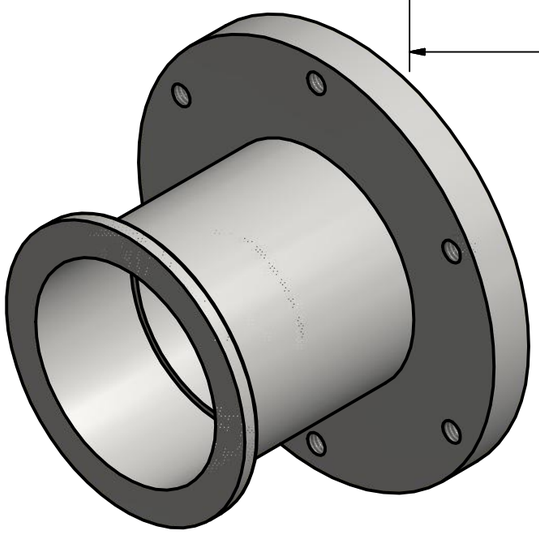
SCALE 4:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	HOLDING PLATE		
	TORQUE PROBE	Edition	Sheet 14 / 33







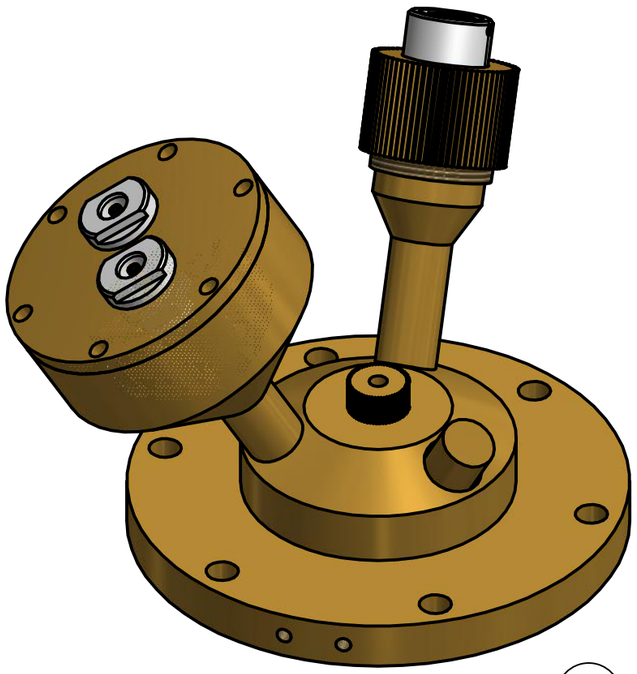
1 ST

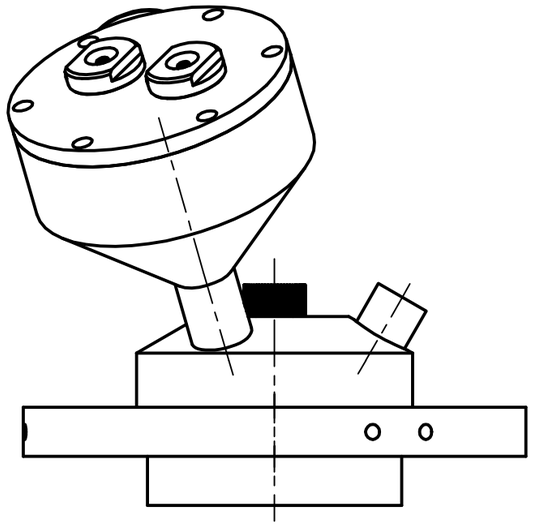
SCALE 2:1

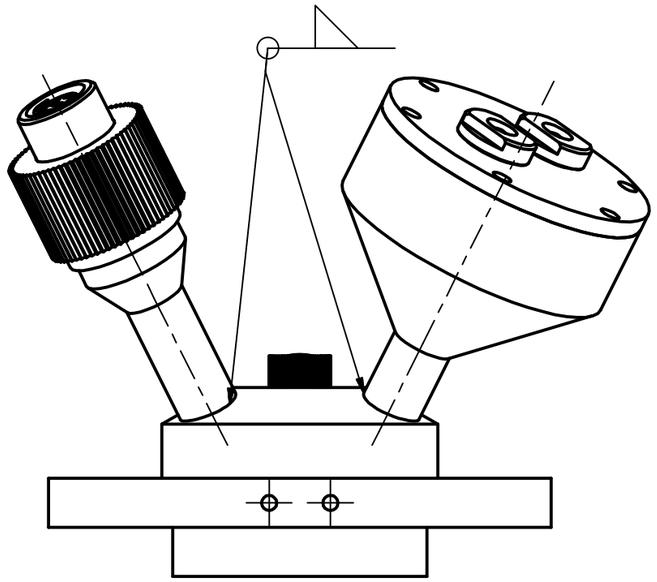
MATERIAL: NONMAGNETIC EDELSTAHL

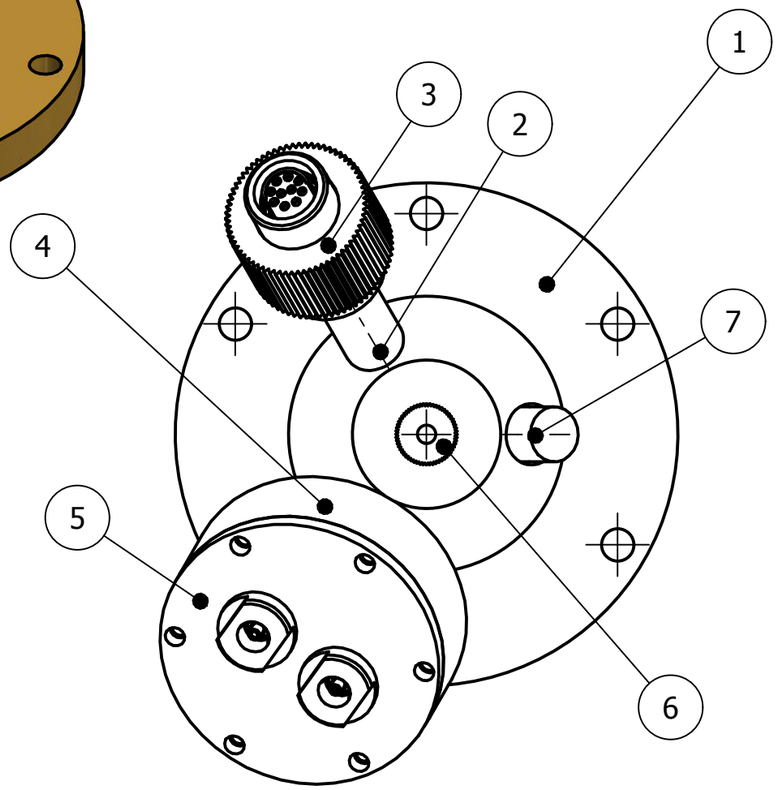
Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	ADAPTER		
	TORQUE PROBE	Edition	Sheet 15 / 33









ITEM	MENGE	NAME	SHEET
7	1	PLUG	23
6	1	SHAFT NUT	22
5	1	CAP. BRIDGE PIPE	21
4	1	CAP. BRIDGE PIPE	20
3	1	TEMPERATURE SENSOR NUT	19
2	1	TEMPERATURE SENSOR PIPE	18
1	1	FEEDTHROUGH	17

Designed by	Checked by	Approved by	Date	Date	
MICHAL KERN				7.7.2014	

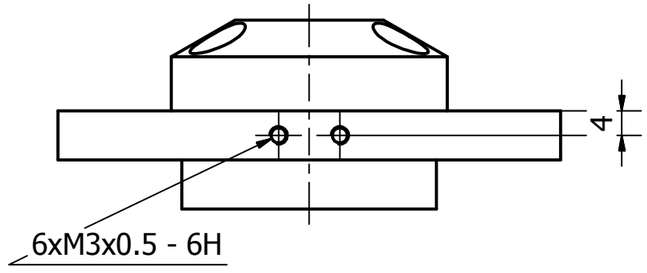
INSTITUT FÜR PHYS. CHEMIE
UNIVERSITÄT STUTTGART

FEEDTHROUGH WELDMENT

TORQUE PROBE

Edition

Sheet 16 / 33



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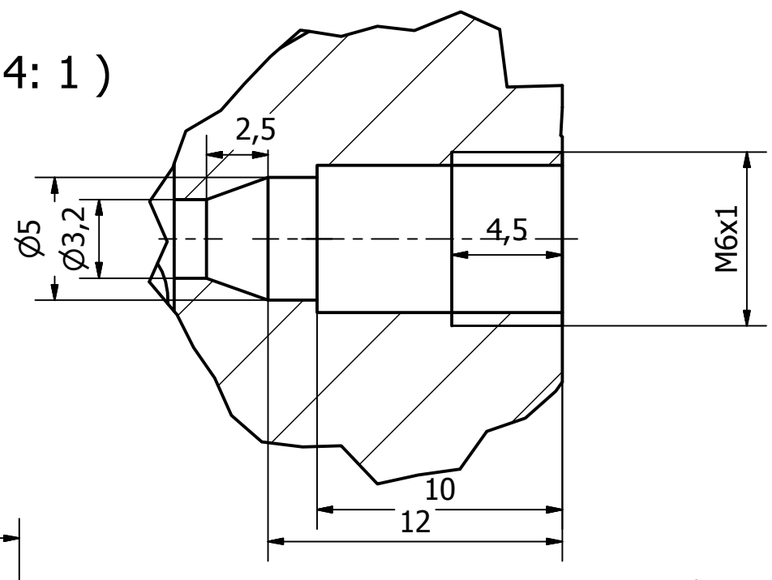
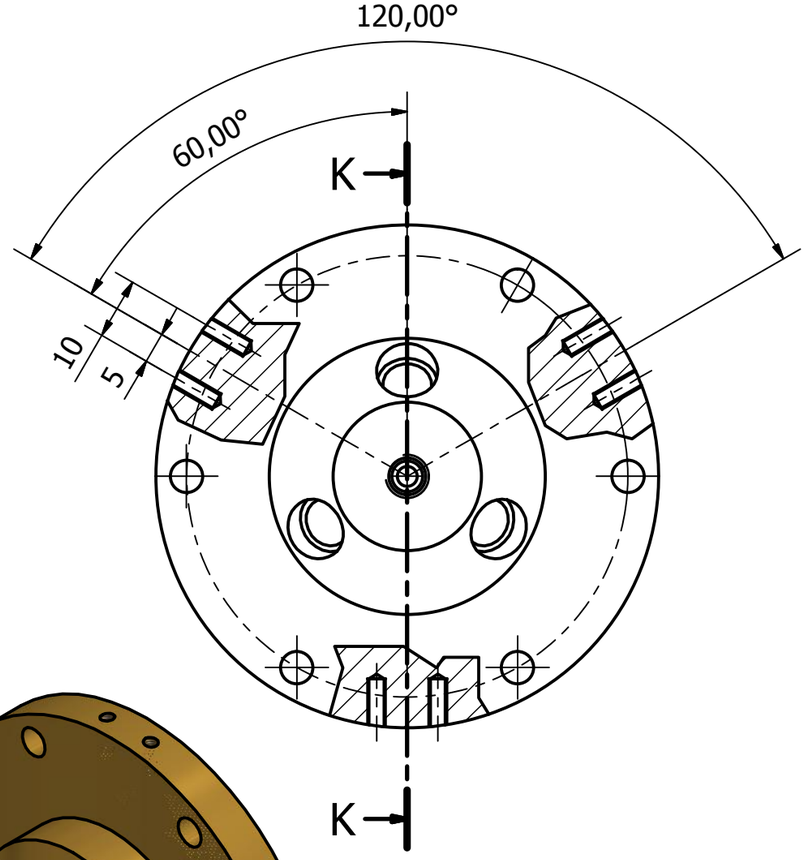
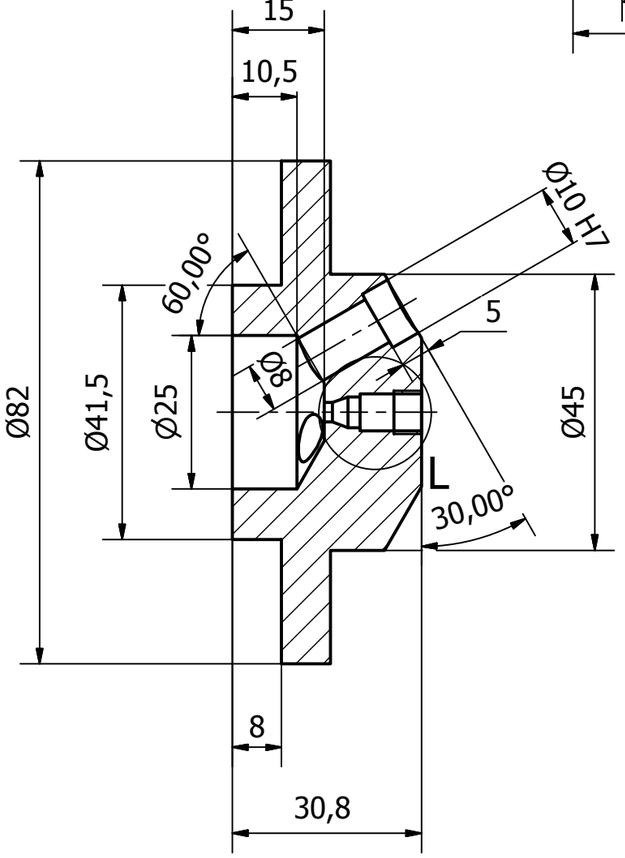
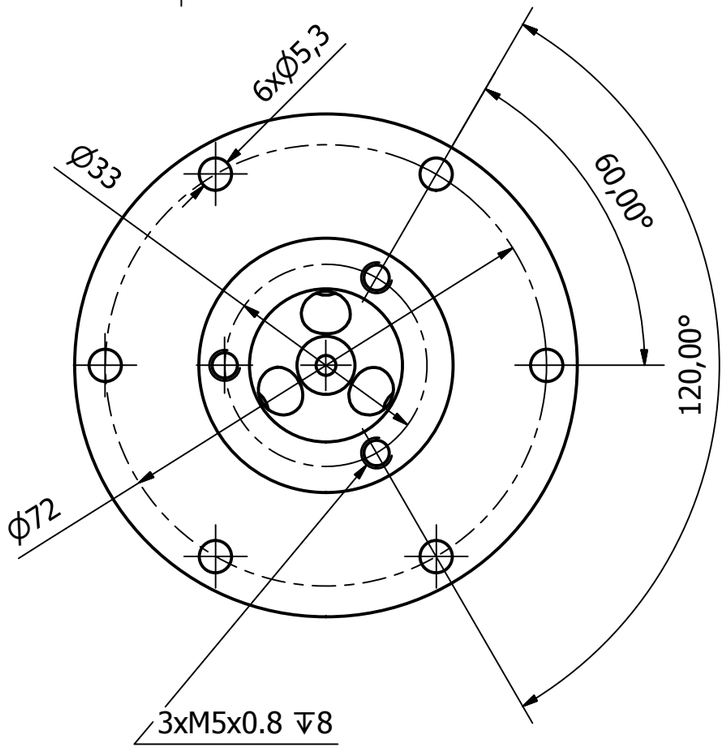
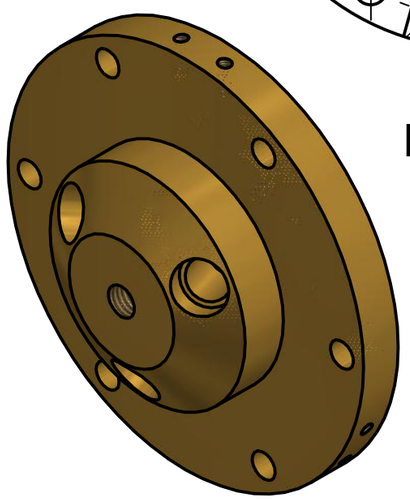










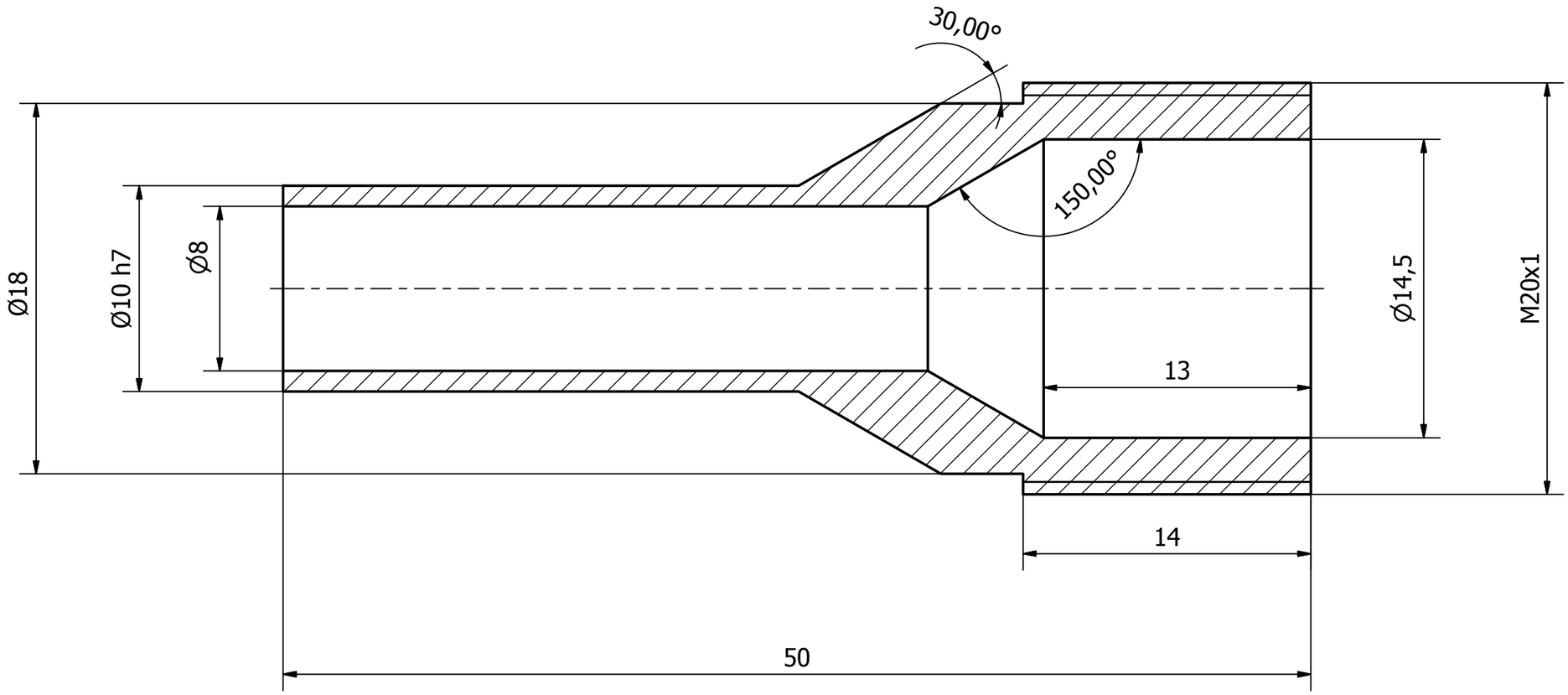
1 ST

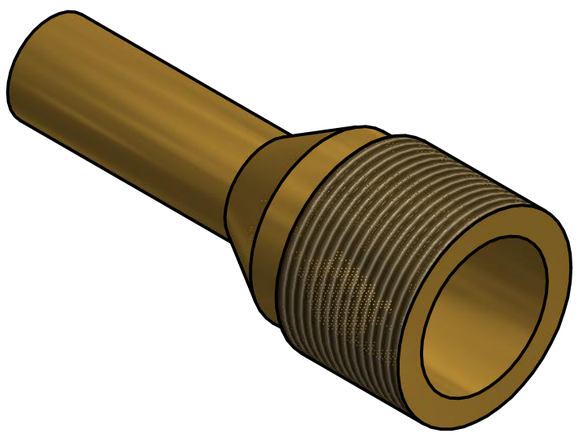
MATERIAL: MESSING

SCALE 1:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	FEEDTHROUGH		
	TORQUE PROBE	Edition	Sheet 17 / 33





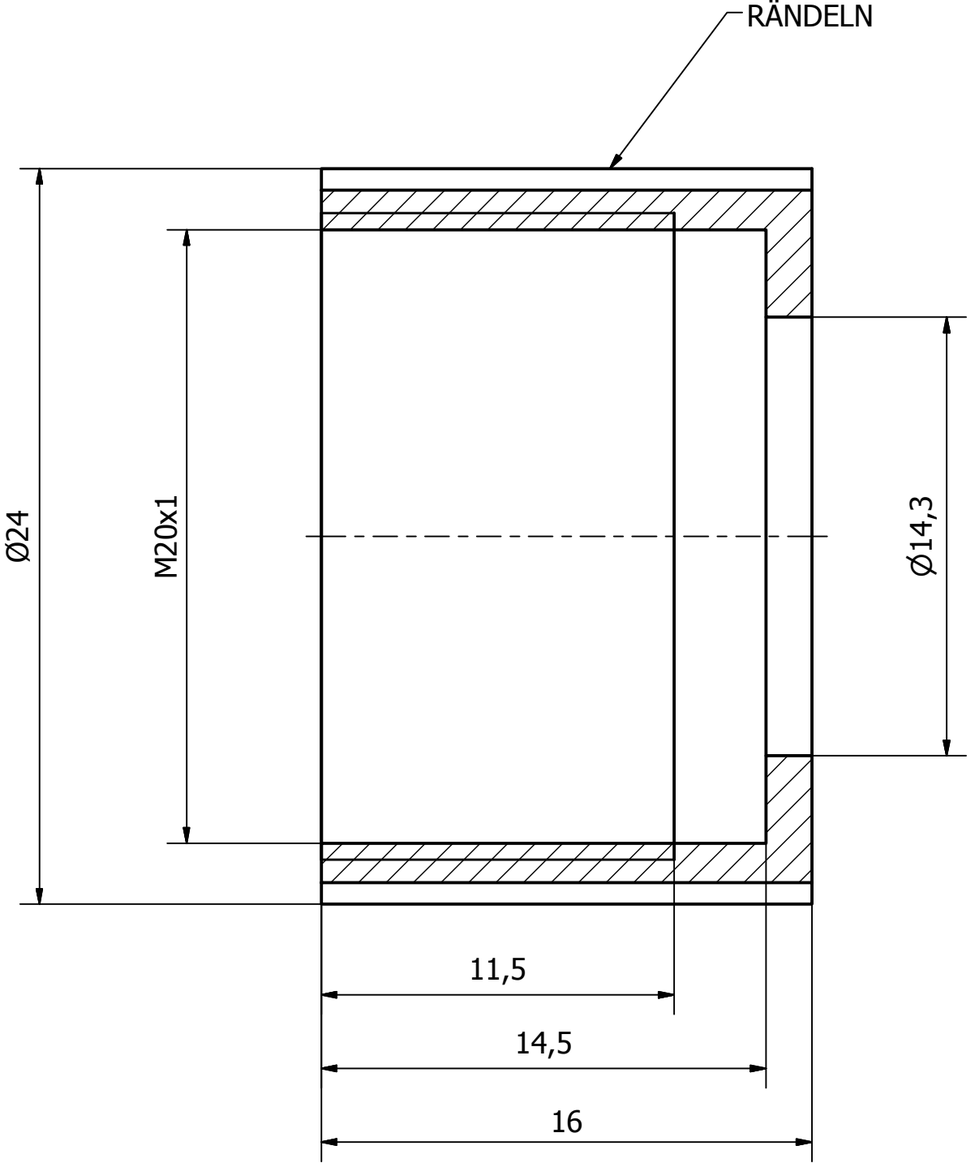
1 ST

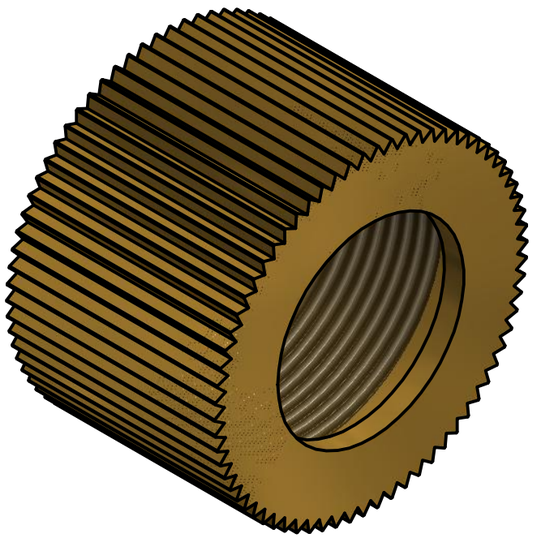
MATERIAL: MESSING

SCALE 4:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	TEMPERATURE SENSOR PIPE		
	TORQUE PROBE	Edition	Sheet 18 / 33





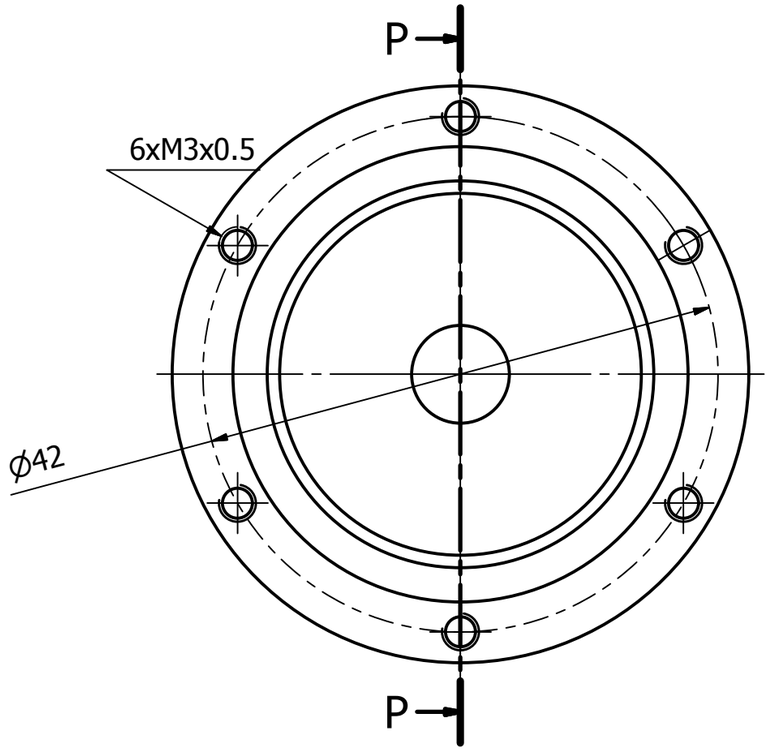
1 ST

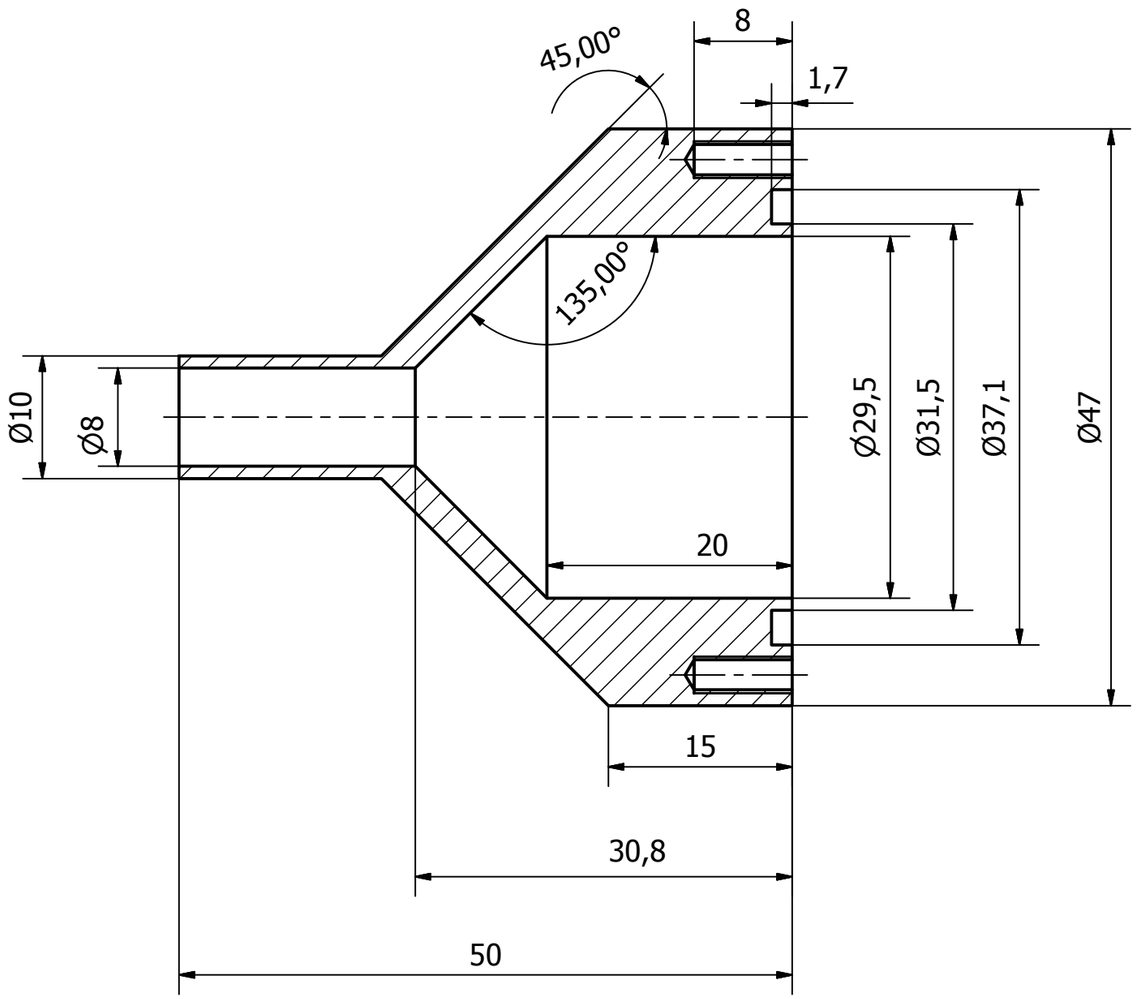
MATERIAL: MESSING

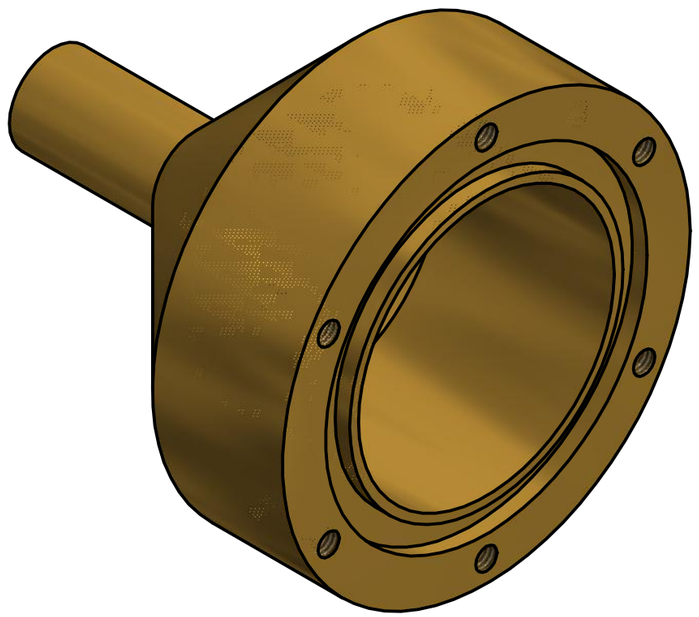
SCALE 5:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	TEMPERATURE SENSOR NUT		
	TORQUE PROBE	Edition	Sheet 19 / 33







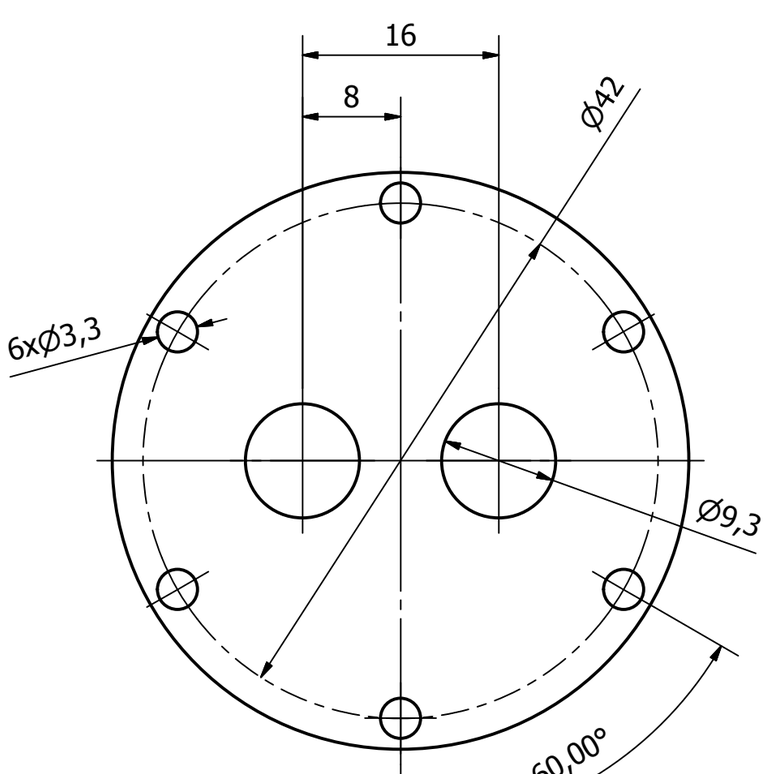
1 ST

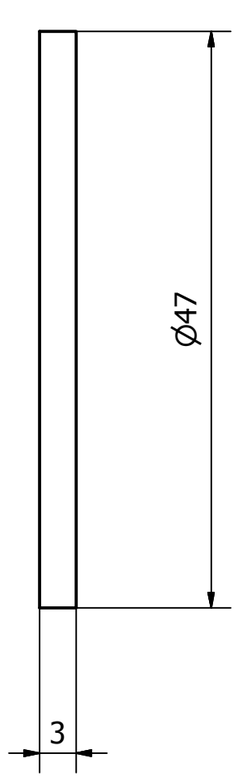
SCALE 2:1

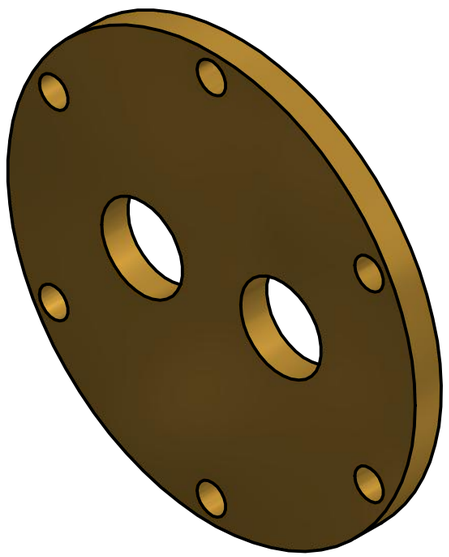
MATERIAL: MESSING

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	CAP. BRIDGE PIPE		
	TORQUE PROBE	Edition	Sheet 20 / 33







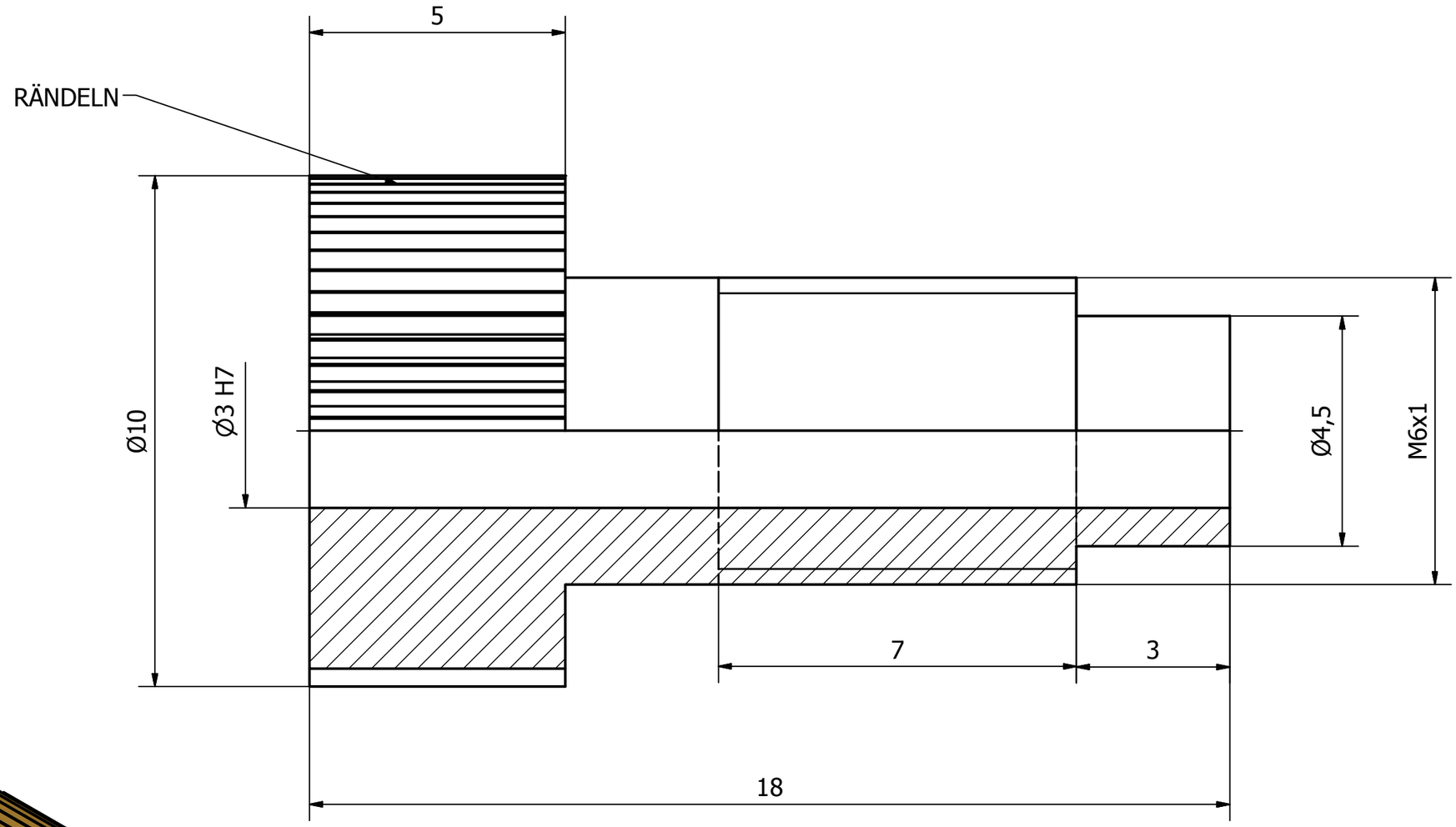
1 ST

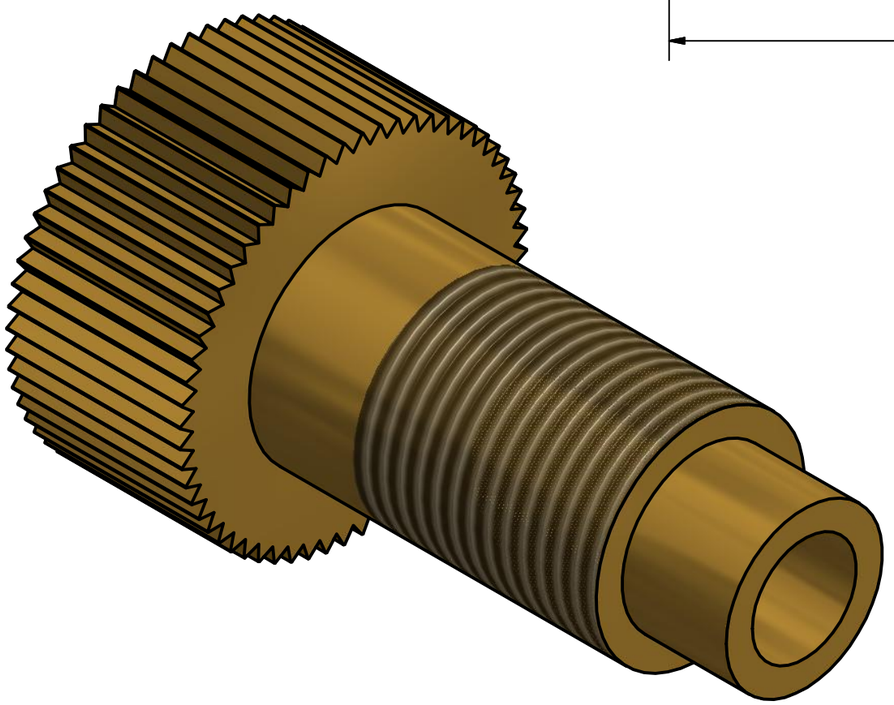
SCALE 2:1

MATERIAL: MESSING

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	CAP. BRIDGE PIPE		
	TORQUE PROBE	Edition	Sheet 21 / 33





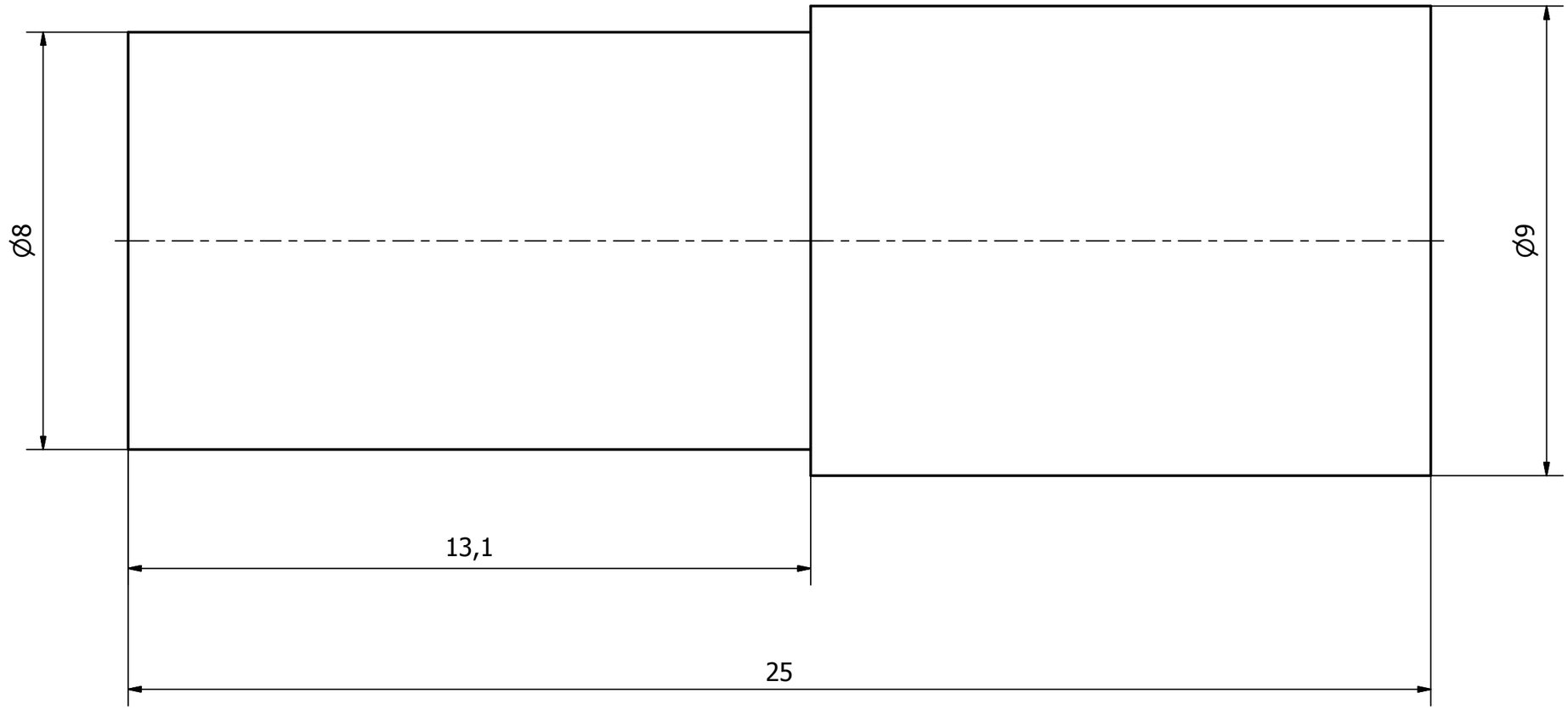
MATERIAL: MESSING

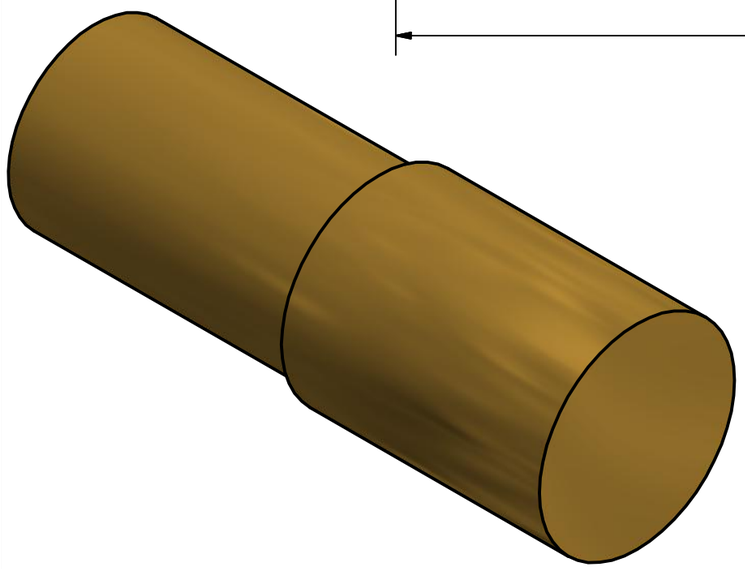
1 ST

SCALE 10:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	SHAFT NUT		
	TORQUE PROBE	Edition	Sheet 22 / 33





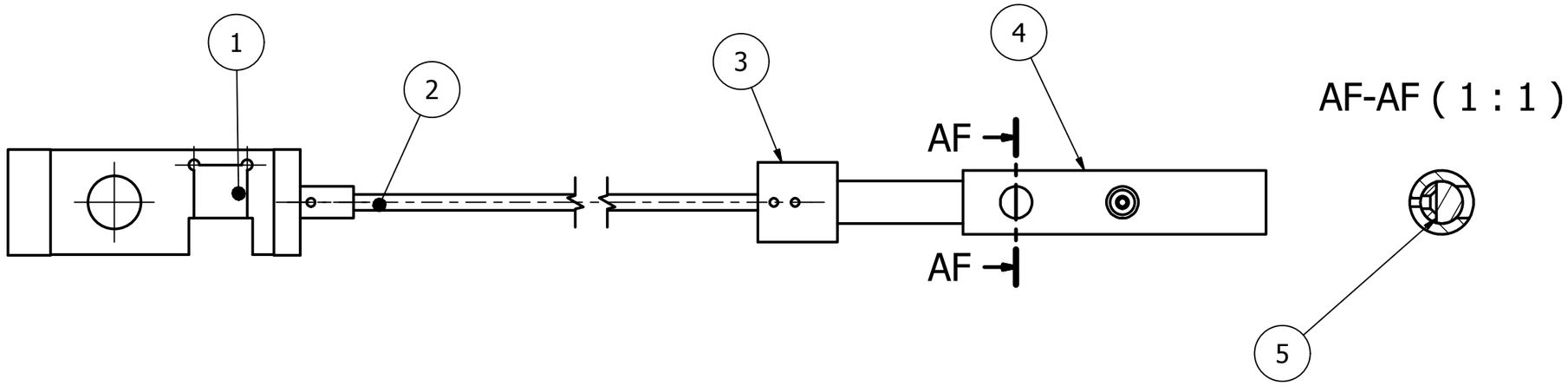
1 ST

SCALE 10:1

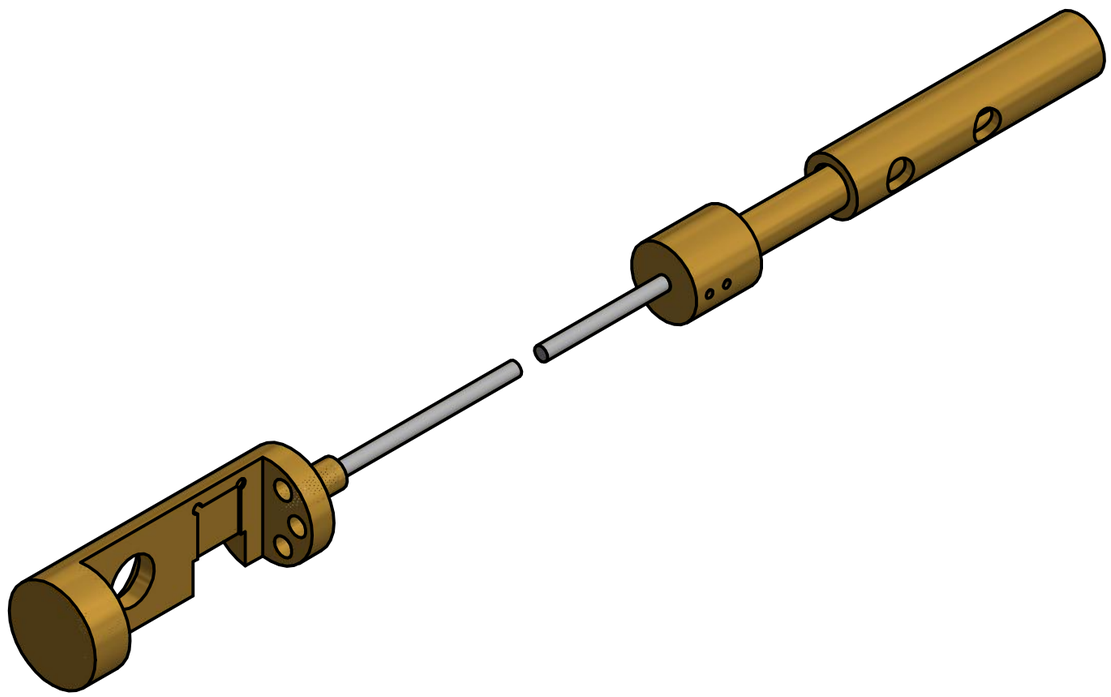
MATERIAL: MESSING

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	PLUG		
	TORQUE PROBE	Edition	Sheet 23 / 33



AF-AF (1 : 1)

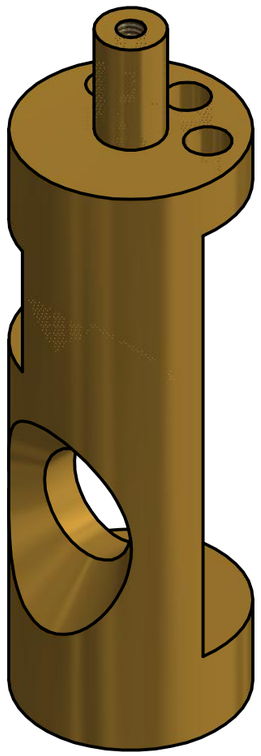


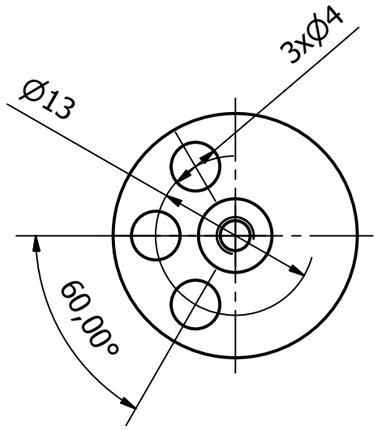
SCALE 1:1

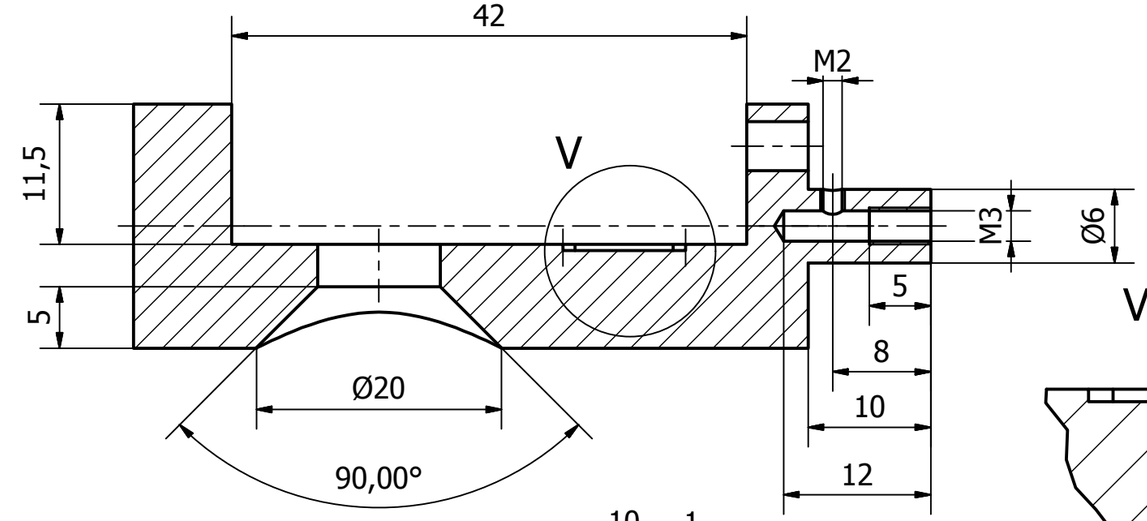
ITEM	MENGE	NAME	SHEET
5	1	Motor connector	29
4	1	Motor coupler	28
3	1	Motor coupler insert	27
2	1	Shaft	26
1	1	Sample holder	25

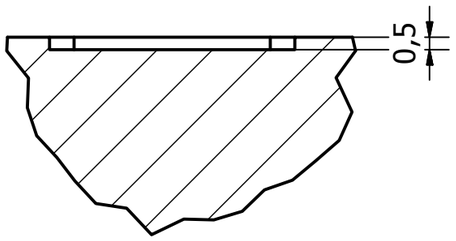
Designed by	Checked by	Approved by	Date	Date	
MICHAL KERN				7.7.2014	

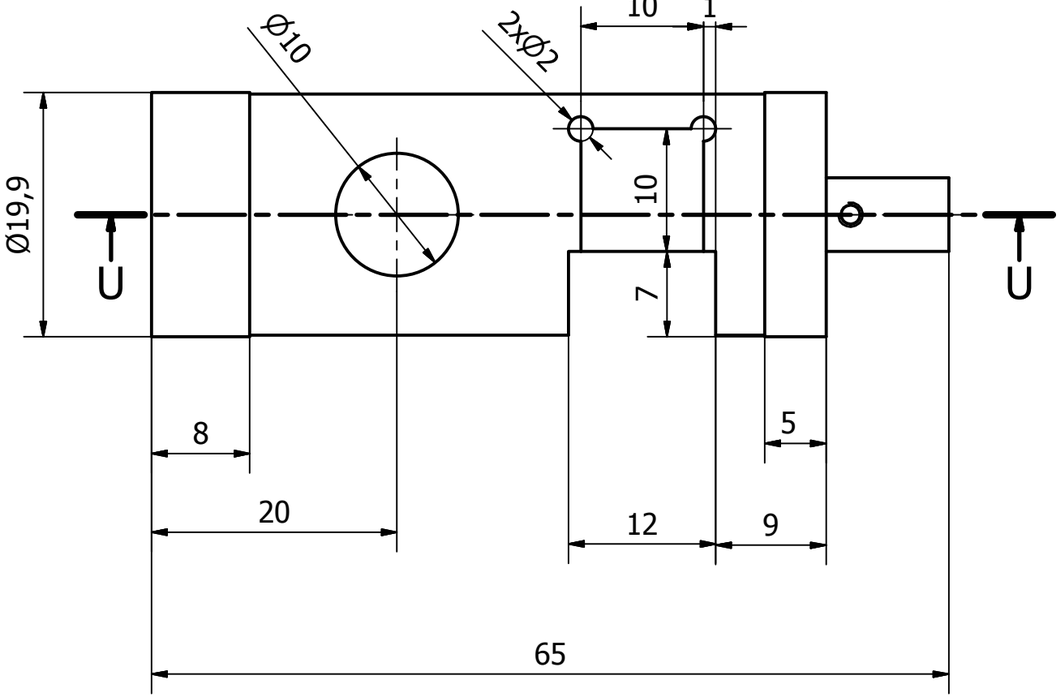
INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	ROTOR ASSEMBLY		
	TORQUE PROBE	Edition	Sheet 24 / 33

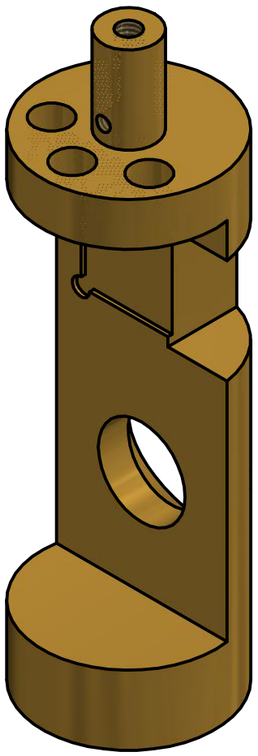












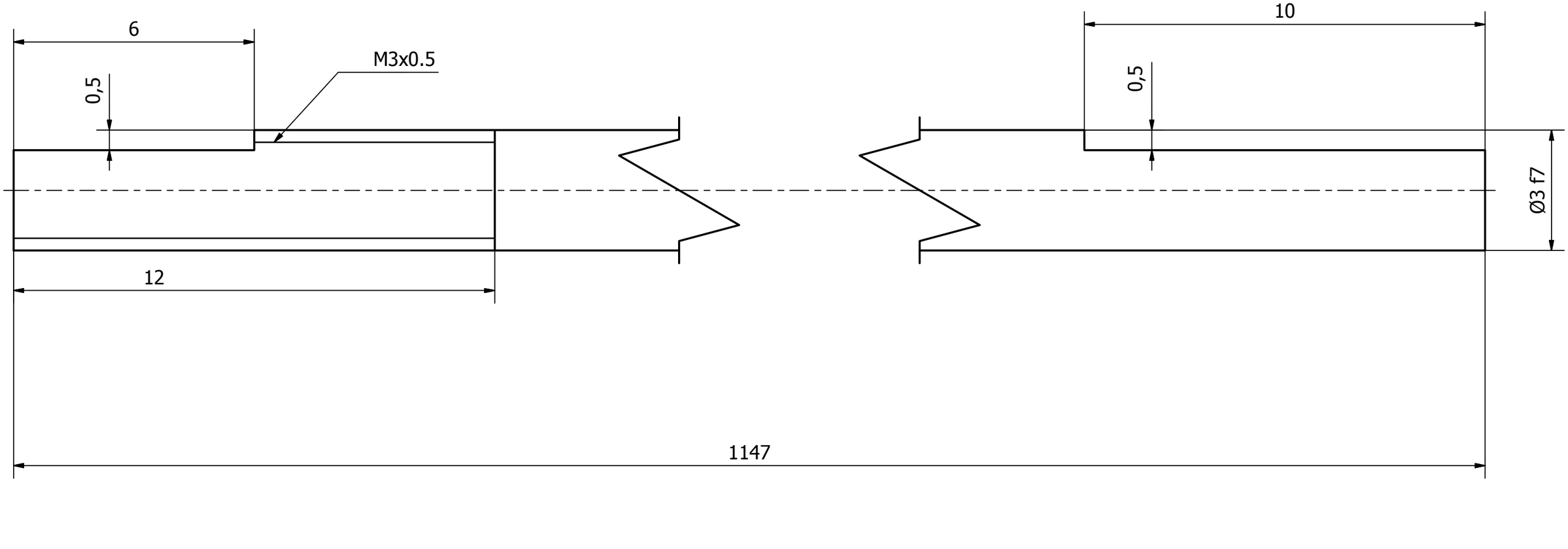
1 ST

MATERIAL: MESSING

SCALE 2:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	SAMPLE HOLDER		
	TORQUE PROBE	Edition	Sheet 25 / 33



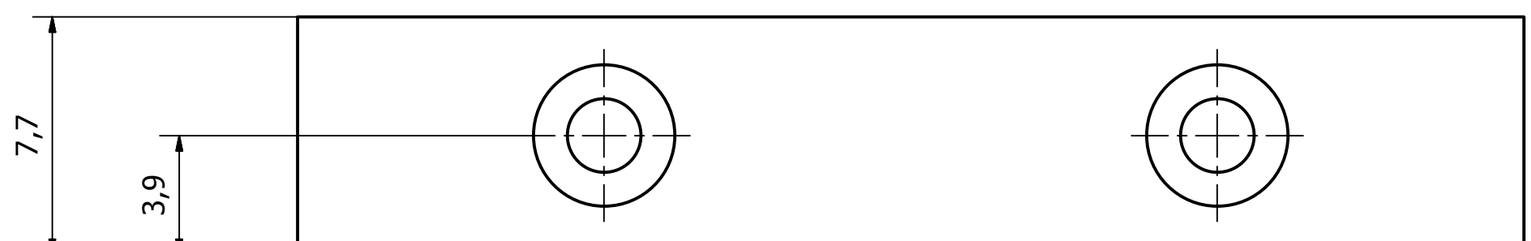
1 ST

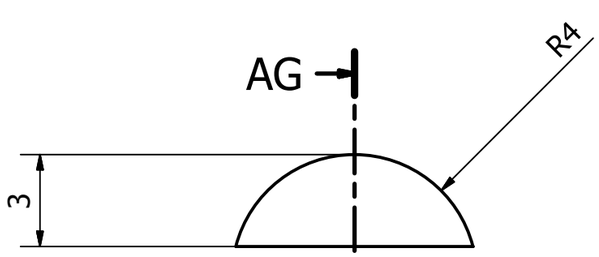
SCALE 10:1

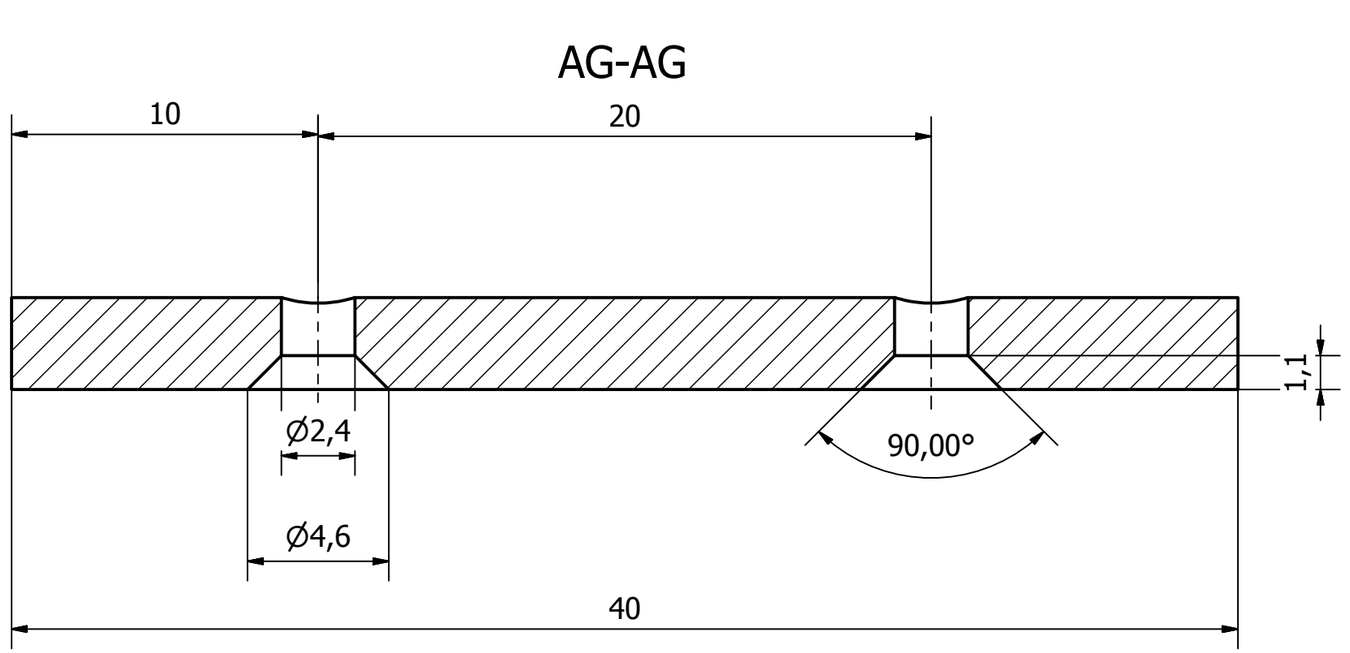
MATERIAL: NON-MAGNETIC EDELSTAHL (INOX)

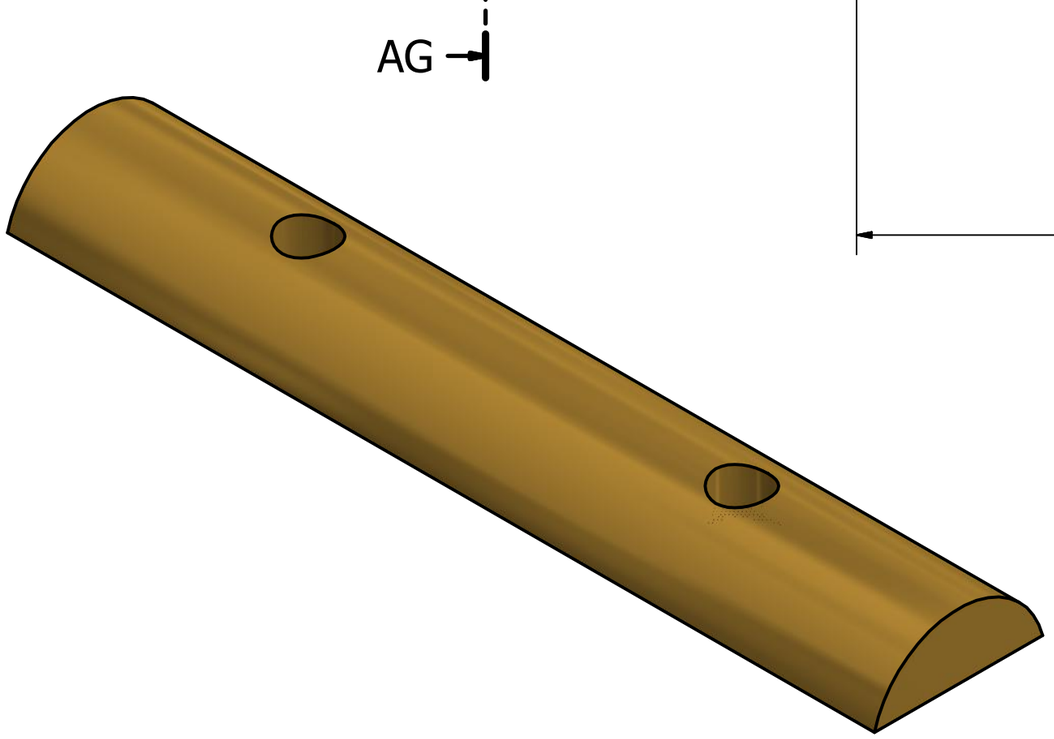
Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	SHAFT		
	TORQUE PROBE	Edition	Sheet 26 / 33









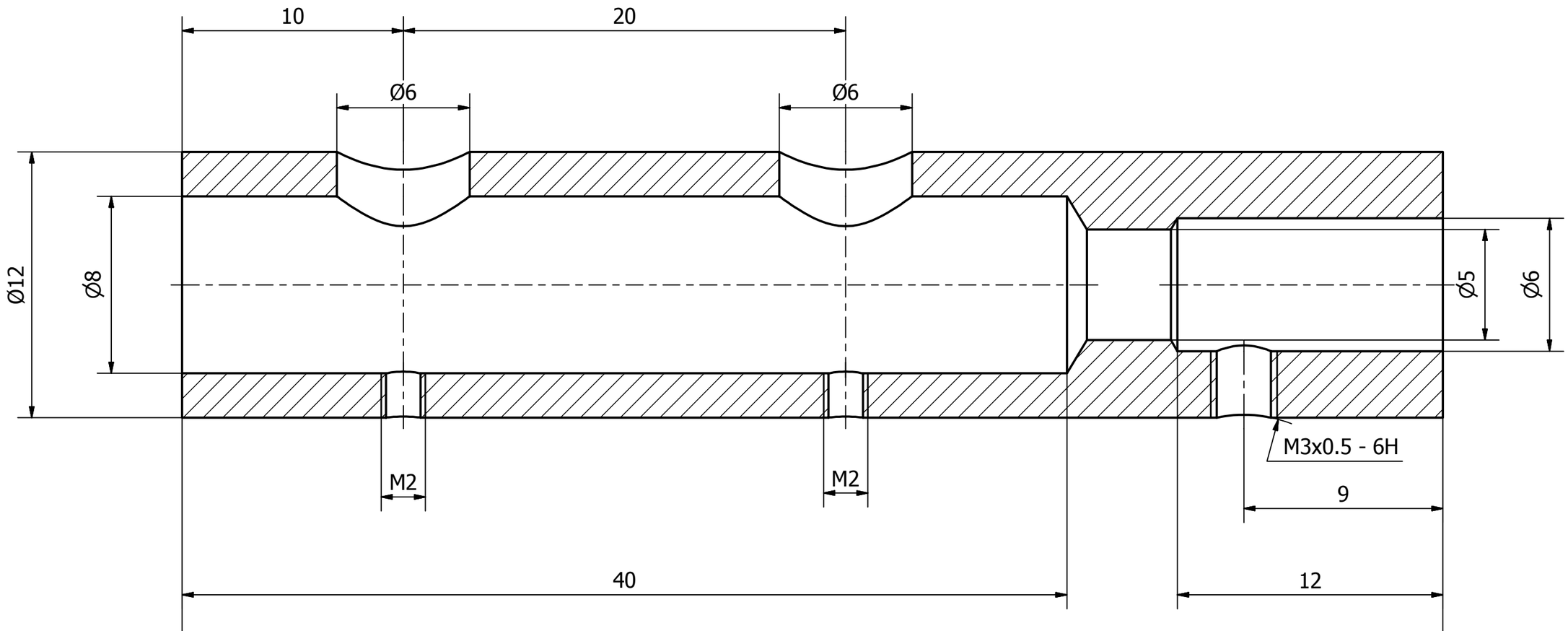
1 ST

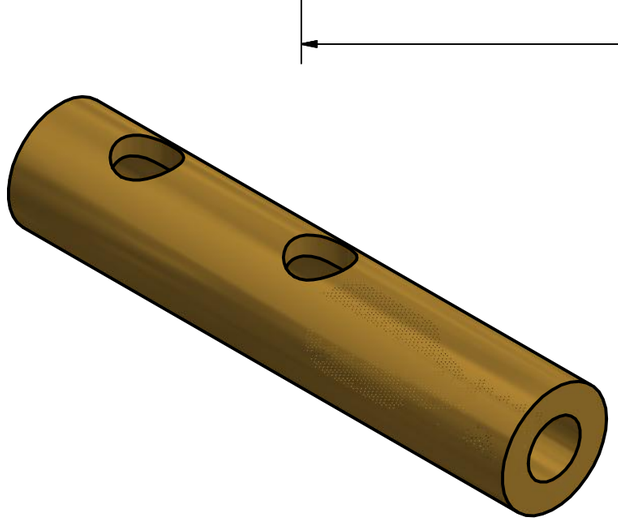
SCALE 5:1

MATERIAL: MESSING

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	INSERT		
	TORQUE PROBE	Edition	Sheet 27 / 33





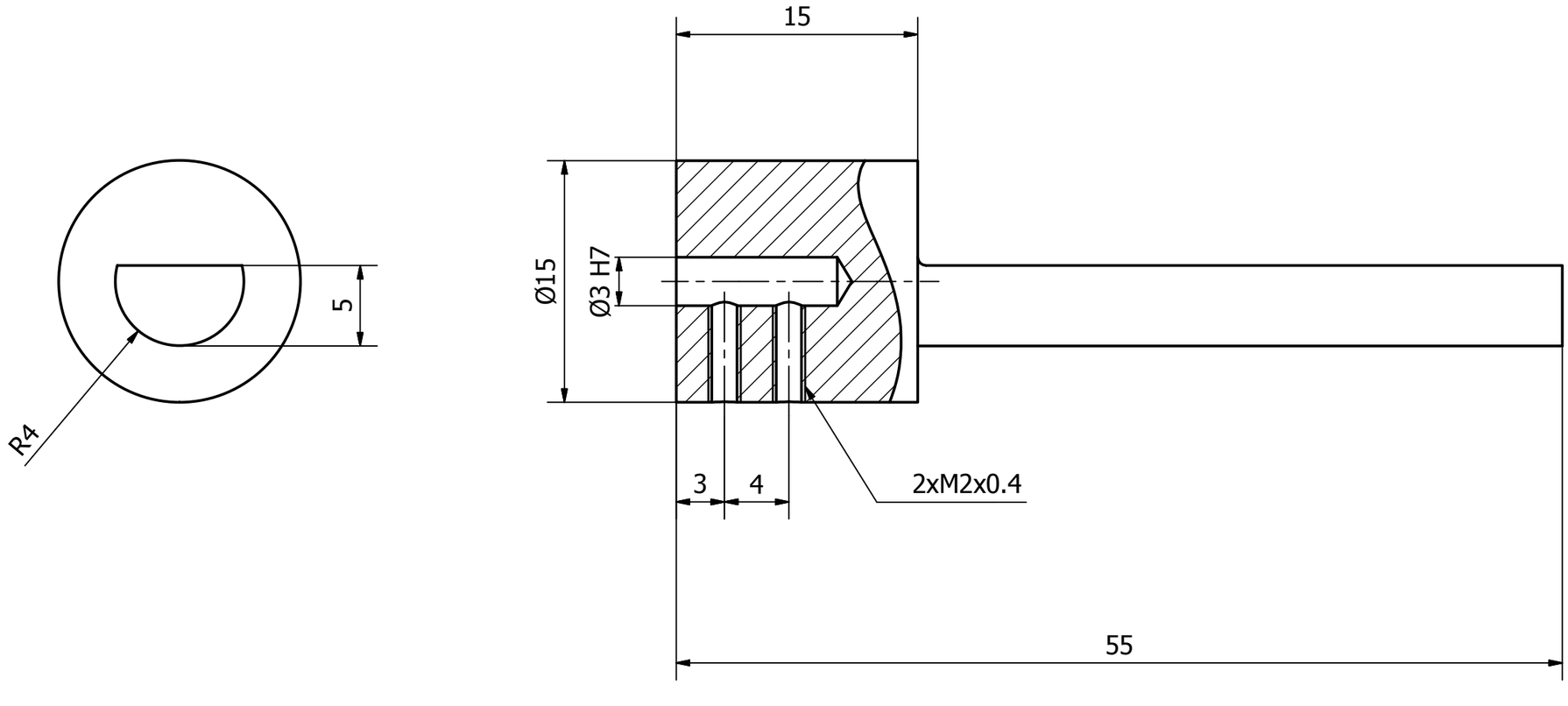
1 ST

MATERIAL: MESSING

SCALE 5:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	MOTOR COUPLER		
	TORQUE PROBE	Edition	Sheet 28 / 33



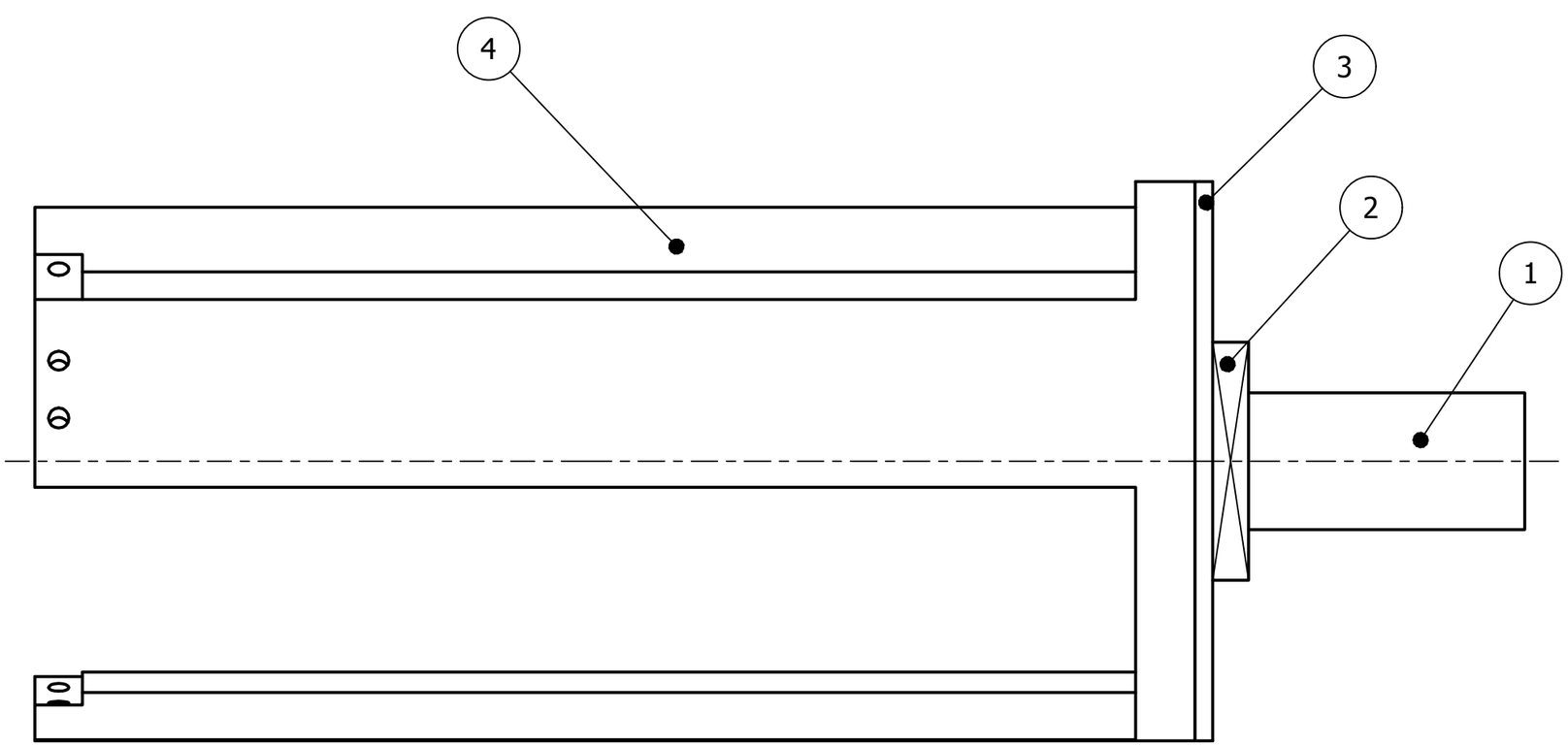
1 ST

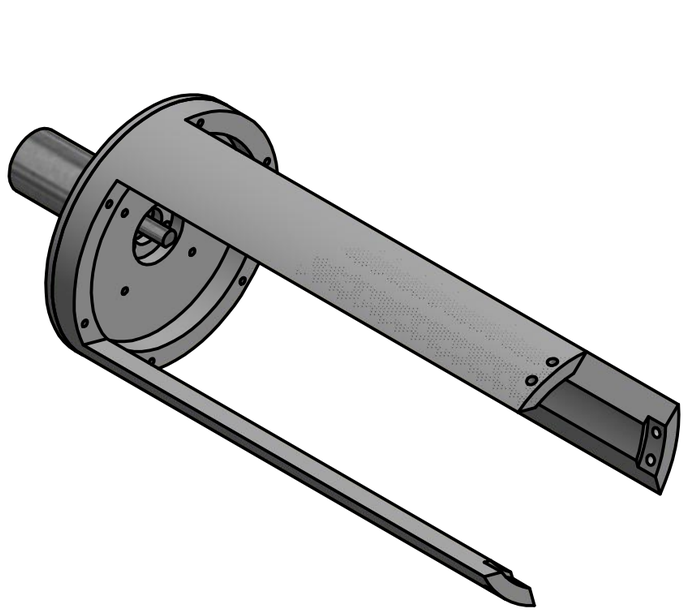
MATERIAL: MESSING

SCALE 3:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	MOTOR CONNECTOR		
	TORQUE PROBE	Edition	Sheet 29 / 33





SCALE 1:1

ITEM	MENGE	NAME	SHEET
4	1	Holder tripod	33
3	1	Holder top	32
2	1	Adapter plate	31
1	1	Motor	-

Designed by	Checked by	Approved by	Date		Date	
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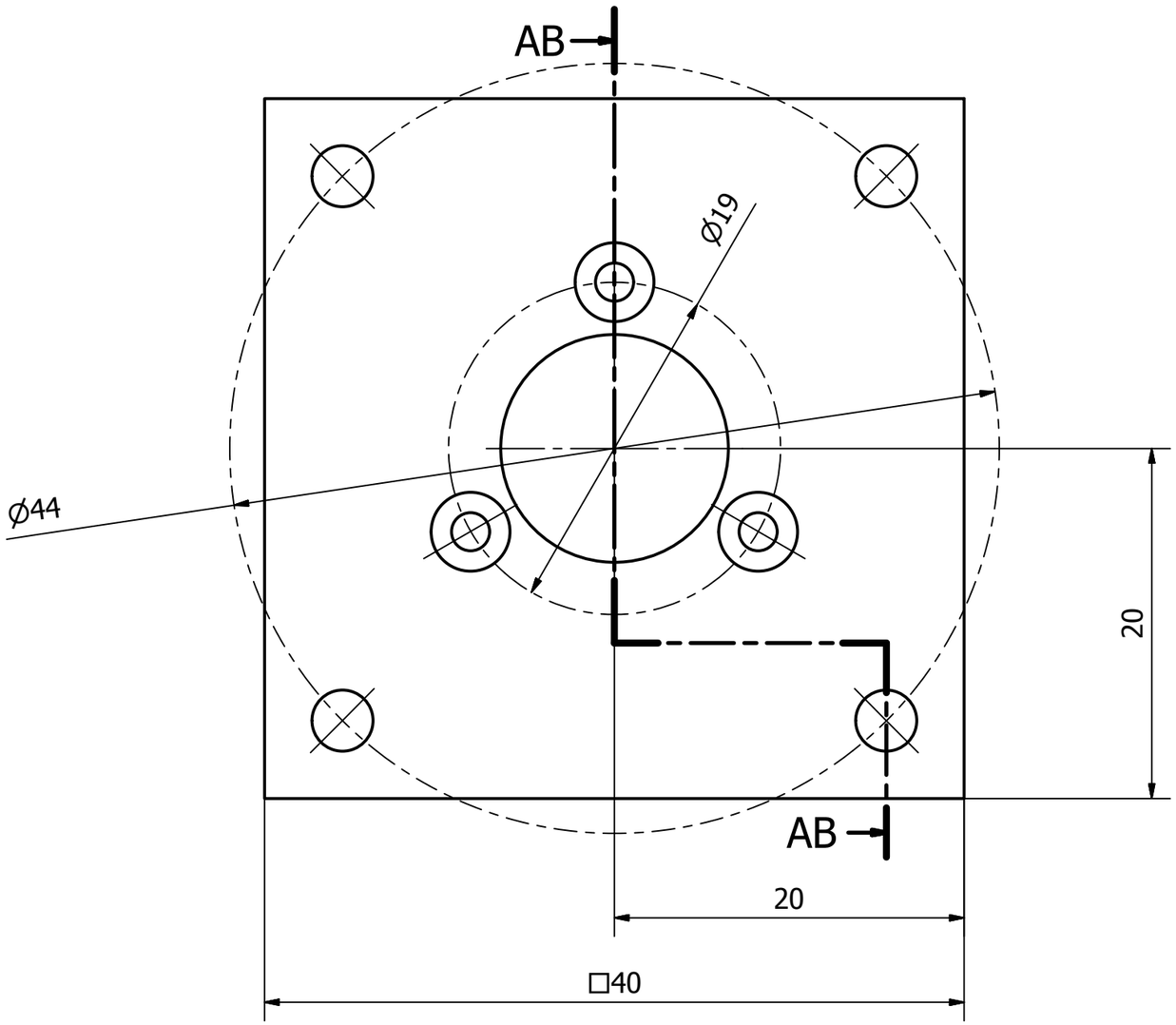
INSTITUT FÜR PHYS. CHEMIE
UNIVERSITÄT STUTTGART

MOTOR HOLDER ASSEMBLY

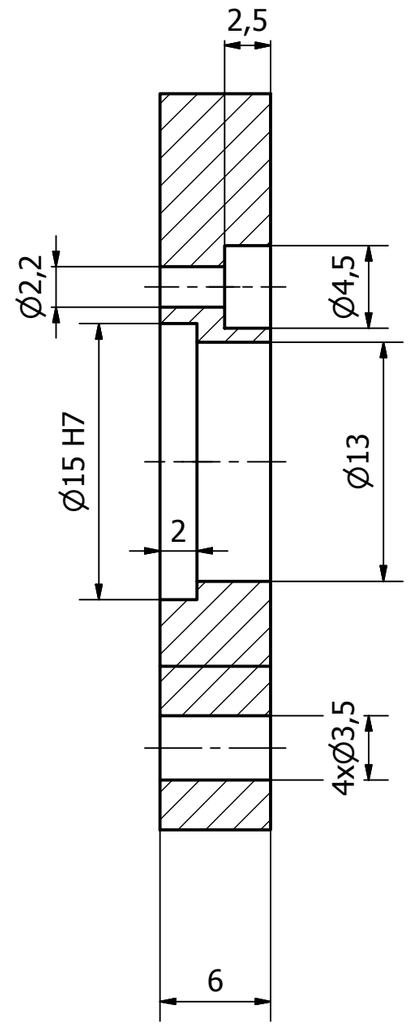
TORQUE PROBE

Edition

Sheet 30 / 33



AB-AB (3 : 1)



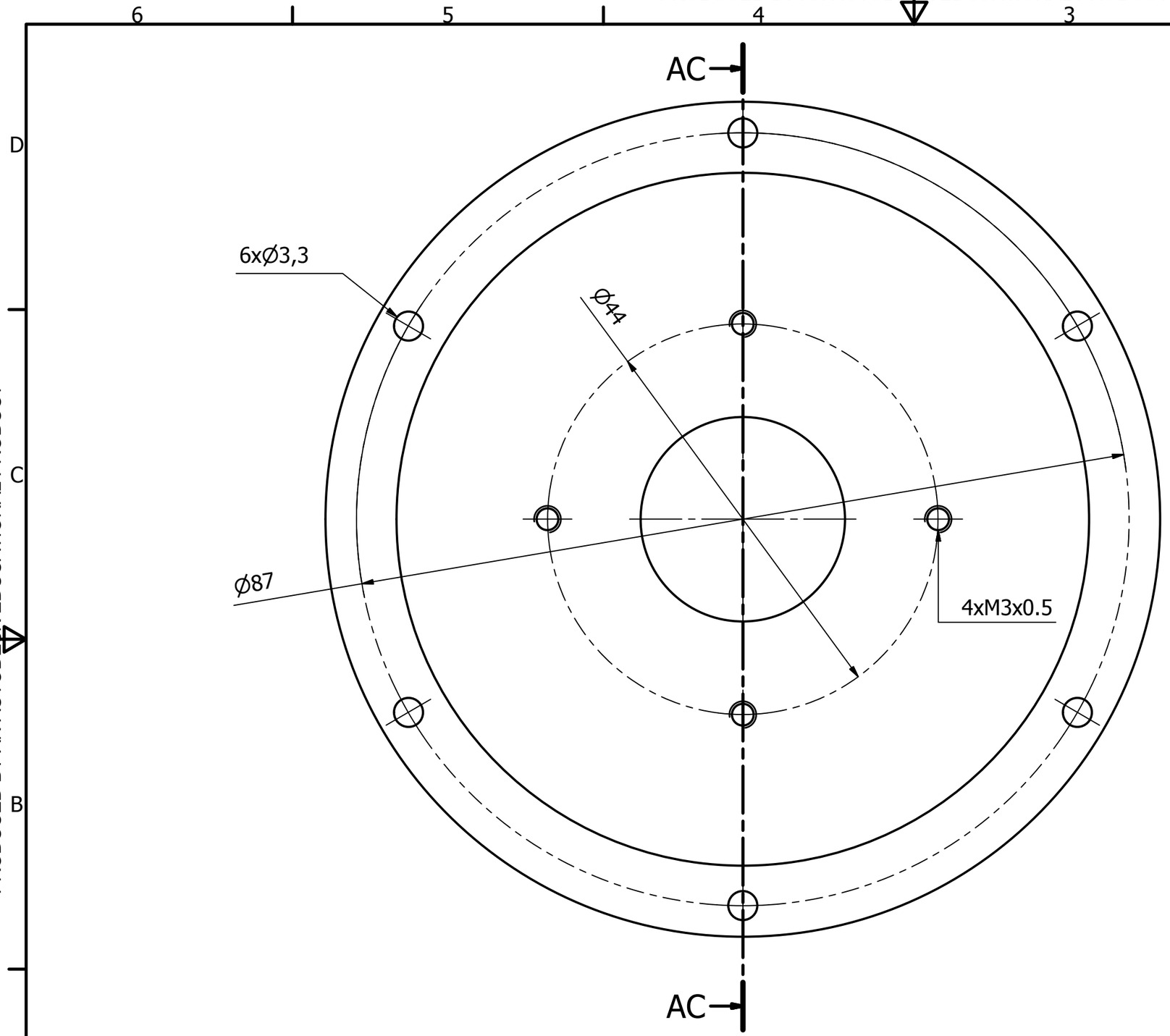
1 ST

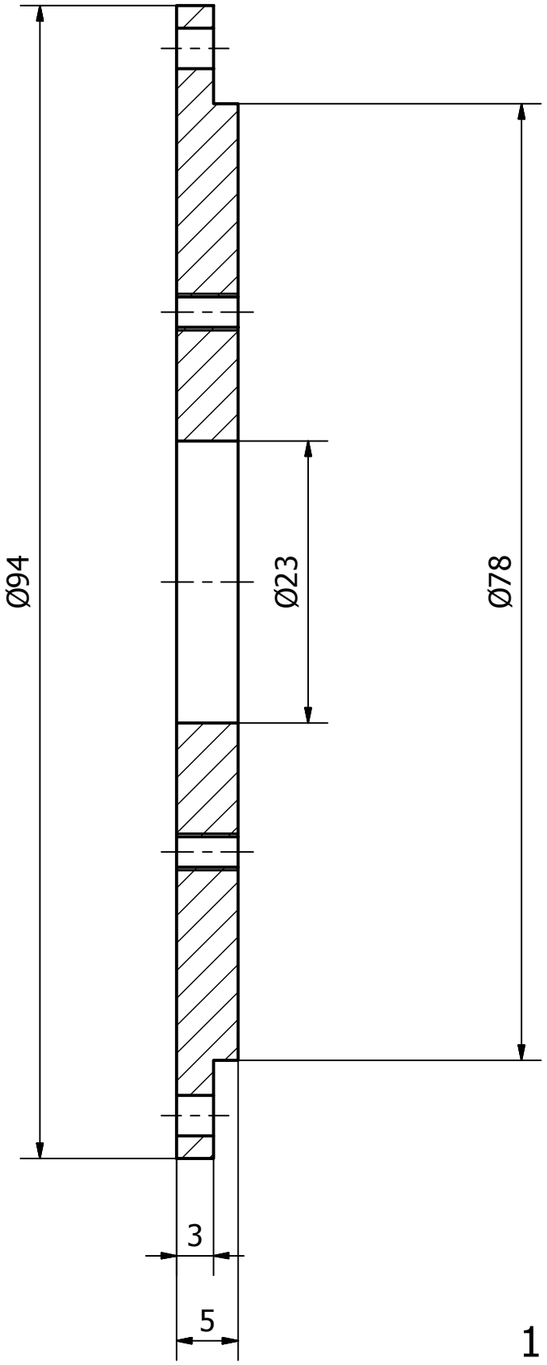
MATERIAL: ALUMINIUM

SCALE 3:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	MOTOR ADAPTER		
	TORQUE PROBE	Edition	Sheet 31 / 33





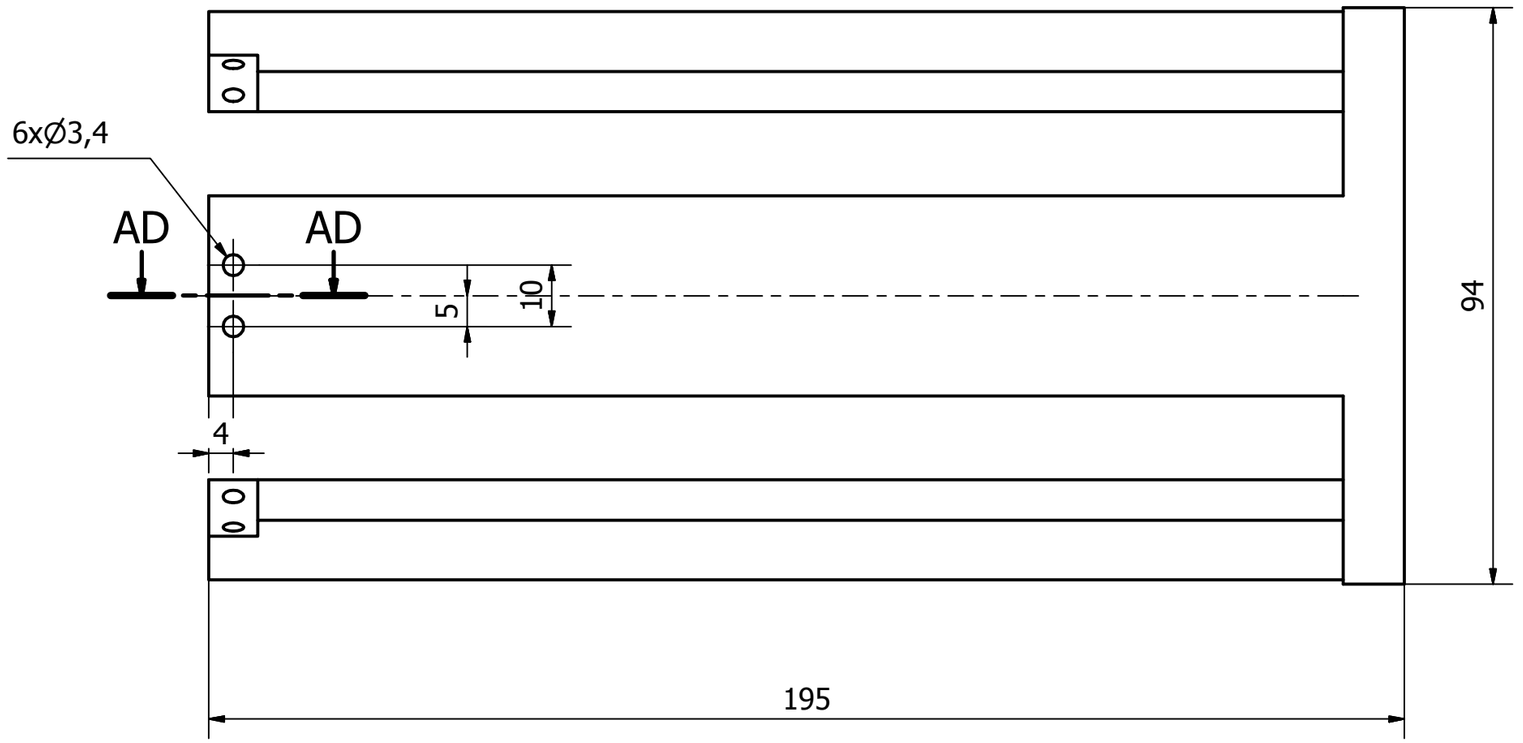
1 ST

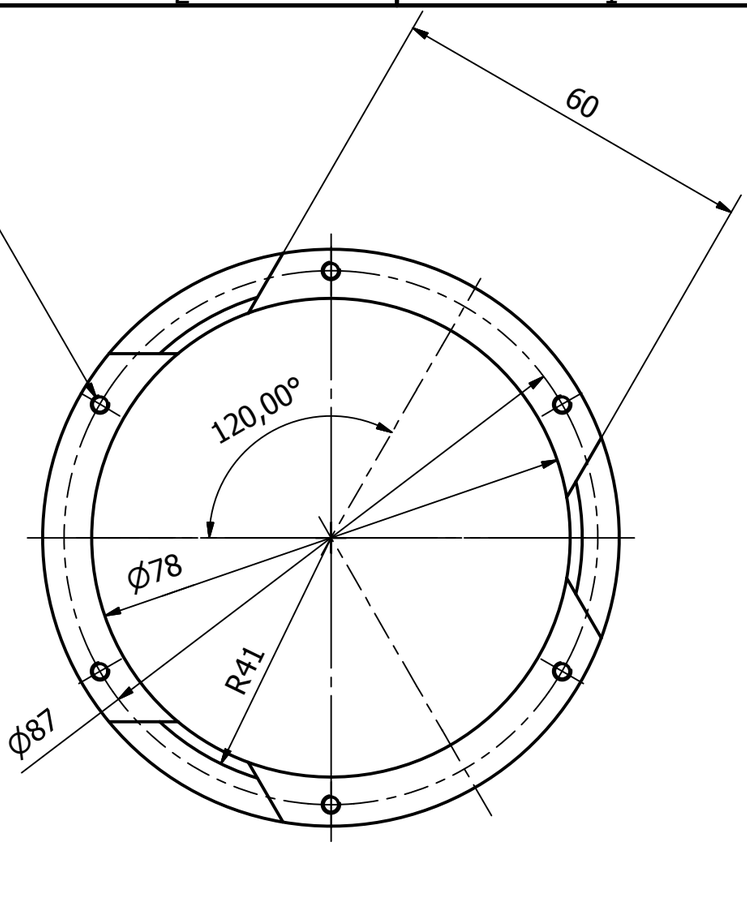
MATERIAL: ALUMINIUM

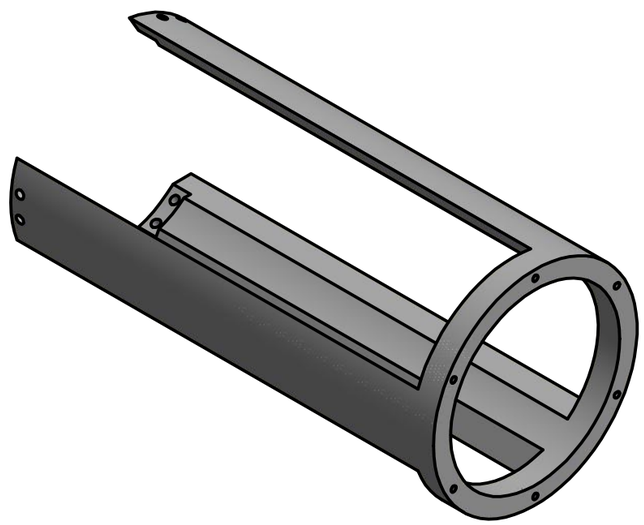
SCALE 2:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	MOTOR HOLDER TOP		
	TORQUE PROBE	Edition	Sheet 32 / 33







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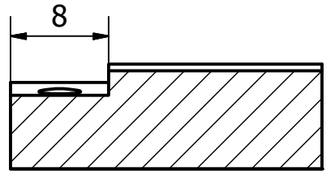

1 ST

MATERIAL: ALUMINIUM

SCALE 1:1

Designed by	Checked by	Approved by	Date		Date	
MICHAL KERN					7.7.2014	

INSTITUT FÜR PHYS. CHEMIE UNIVERSITÄT STUTTGART	MOTOR HOLDER TRIPOD		
	TORQUE PROBE	Edition	Sheet 33 / 33