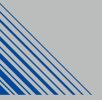


IONIX[®]

MAGNETRON SPUTTERING TECHNOLOGY



IONIX 6" Magnetron Assemblies
Specifications and reference dwg

THIN FILM CONSULTING 

» PRODUCT OVERVIEW

HIGH VACUUM MAGNETRON				
ITEM	SIZE	PART NUMBER	DESCRIPTION	VACUUM INTERFACE
4.1	6" Ø	IX6_A135_KF50	• 6" magnetron with DN 50 KF • targets 4–12 mm thick, sliding anode • discrete target clamp • indirect cooling • water tubes 6/4 mm or 8/6 mm • power connector coaxial type • reference drawing IX6_8043	DN 50 KF
		T075_K50_300	• OD 3/4" tube x 300 mm with DN 50 KF	
		T100_K50_300	• OD 1" tube x 300 mm with DN 50 KF	

OPTIONS				
4.2	6" Ø	IX6_A135-xx_xxxx	• IX6_A135 with argon injection • 1/8" or 3 mm tube	
4.3	6" Ø	IX6_A1xx_xxxx	• on request	
4.4	6" Ø	IX6_A1xx_yyyy	• CF or ISO flange mounting on request	

ACCESSORIES				
		QC_100_075	• quick coupling for 3/4" tube and 25.4 mm bore	
		QC_125_100	• quick coupling for 1" tube and 32 mm bore	
		RD3_5010	• RF- DC-connecting box, 7/16 jack, OD 1" tube	
		IFL_9105	• ± 30° tilt gimbal, DN 50 KF, edge welded	



2" HV
3" HV
4" HV
6" HV
8" HV
10" HV

» SPECIFICATIONS

6" HIGH VACUUM MAGNETRON	
Model No.	IX6_A135
Target	
< form	circular/planar
< diameter	6" ± 0.5 mm
< thickness	6 mm to 12 mm
< cooling	indirect
Operating pressure	
	Argon
< nonmagnetic targets	3×10^{-3} to 1×10^{-1} mbar
< best performance	5×10^{-3} to 5×10^{-2} mbar
< vacuum sealing	FPM
Electrical specifications	
< max. power, watts DC/RF	6000 DC W / 3000 W RF * **
< max. voltage DC	1000 V
< max. current DC	15 A
< rec. power supply	6 kW DC / 1.5 kW RF
Power connector	
< DC / RF	7/16 type
Cooling water	
< flow	1 l / (min x kW)
< min. flow	2 l/min
< max. inlet temperature	≤ 30 °C
< max. pressure	≤ 2 bar open drain
< water tubes	Ø 6 x Ø 4 / Ø 8 x Ø 6 mm PTFE

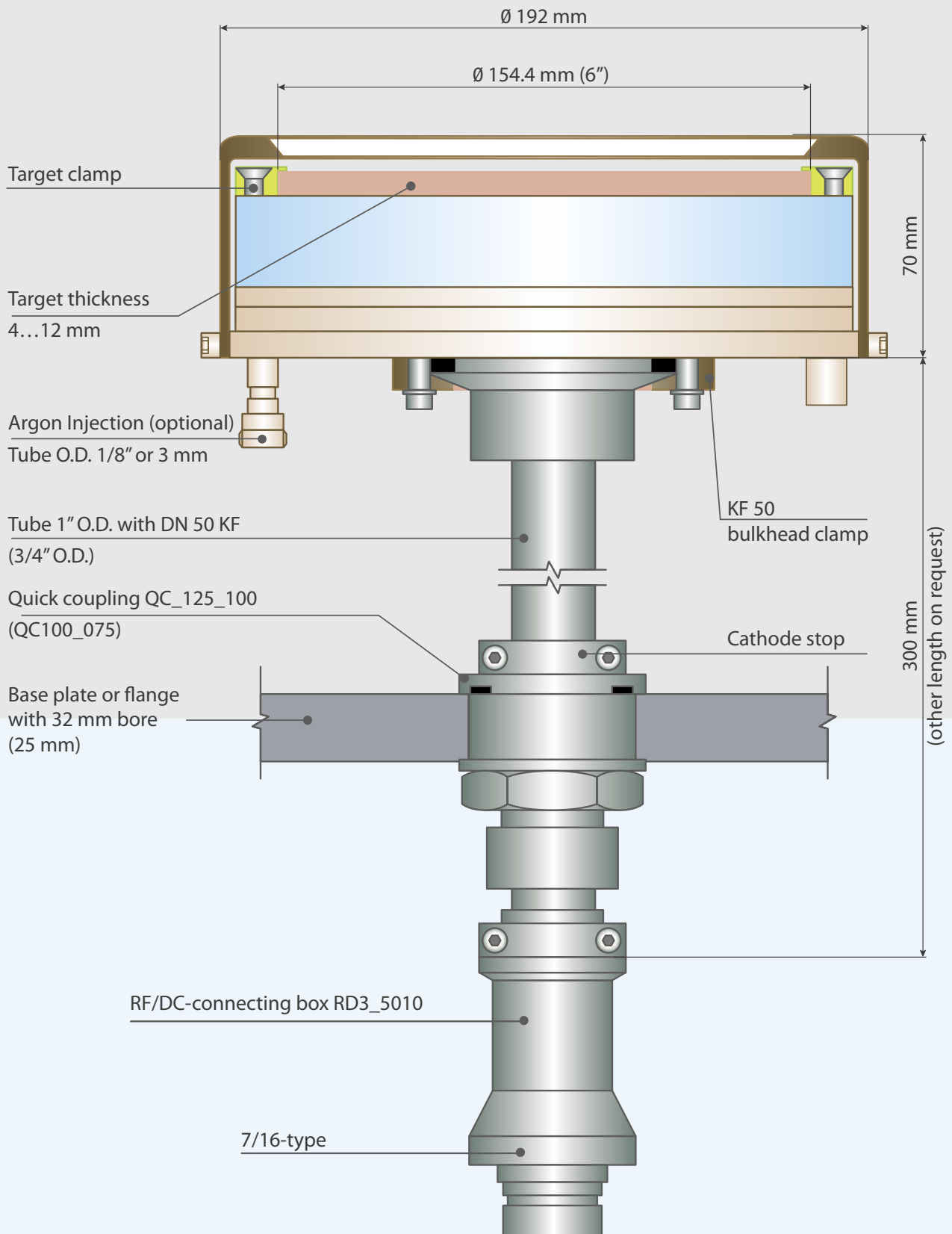
6" HIGH VACUUM MAGNETRON	
Magnet array	multipolar NdFeB
Bakeout temperature	
< max. temperature	60 °C
Magnetron dimensions	
< diameter	192 mm
< height	70 mm
< weight	9 kg
Interface	DN 50 KF
Proposed mounting style	tube Ø1" x 300 mm
Construction materials	stainless steel OFHC - type copper PTFE
Typical rates	
	Mo, 8 Å/s, 1 kW DC, 150 mm
	Cu, 24 Å/s, 1 kW DC, 150 mm
Accessories & Options	
< mounting option	tube Ø 3/4" x 300 mm
< quick coupling feedthrough	for tube Ø 1" and Ø 3/4"
< argon injection	model no. IX6_A135-xx
< power connector	7/16-type
< magnet array for magnetic materials	on request
< ± 30° tilt	✓
< flange mounting	✓
< SS target clamps for specified thickness	✓
< SS target clamps for bond targets	✓

* This value refers to the magnetron itself. The maximum power is determined by the target material and bonding technique.

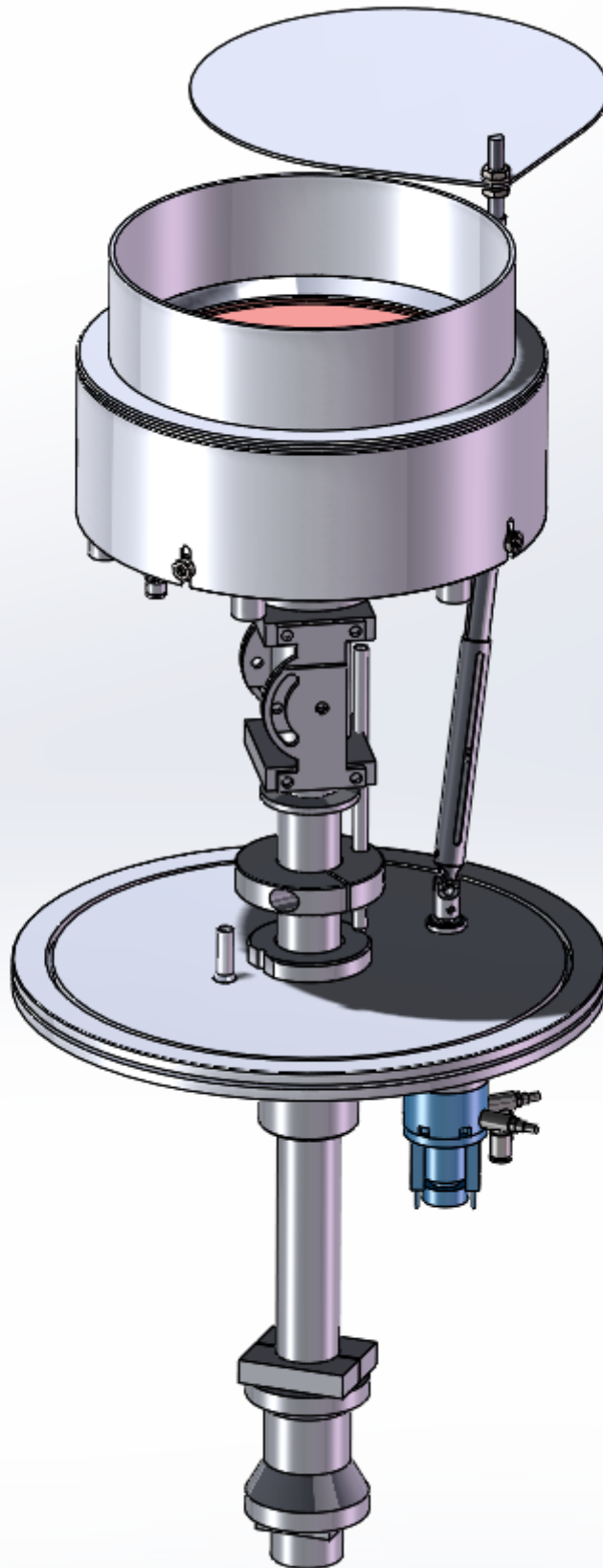
** RF-Version requires special connector and installation. More details on request.

REFERENCE VIEW

IX6_80300

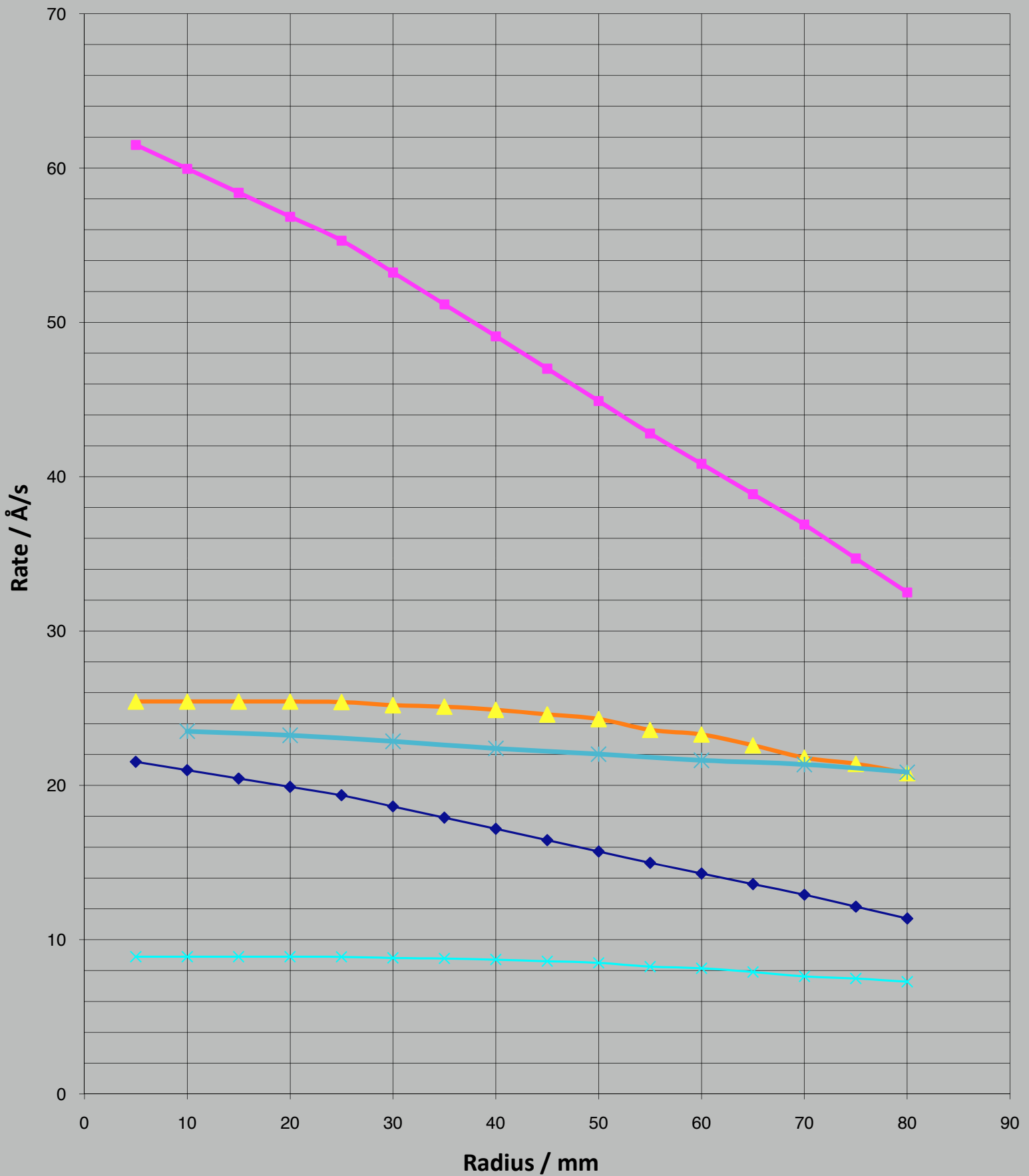


PLANAR MAGNETRON SPUTTERING SOURCE ION'X-6" HV

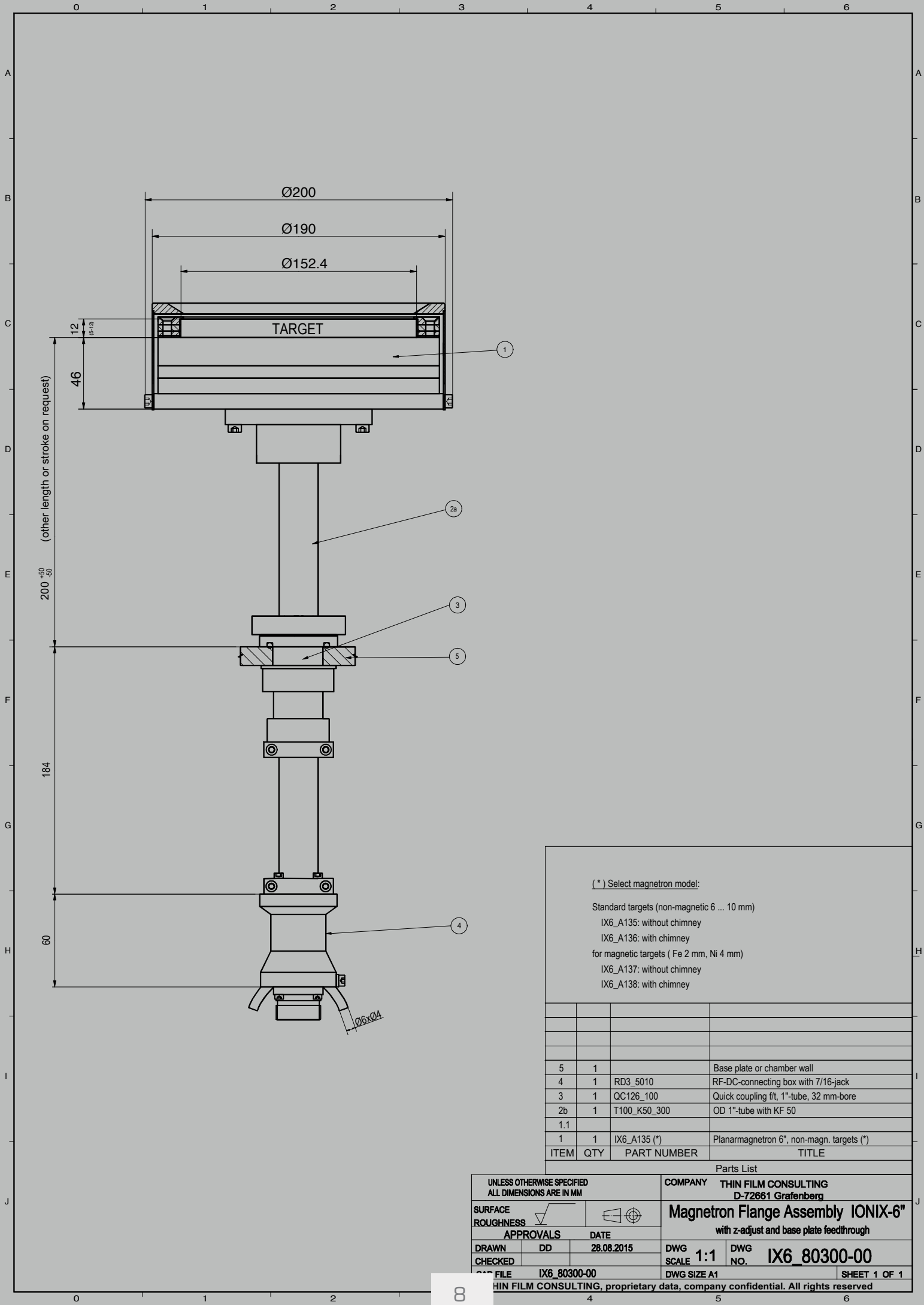


6" HV

FILM THICKNESS UNIFORMITY IONIX-6", 1 kW DC- power, Cu- and Mo- targets



■ Cu, 1,5x10⁻³ mbar, 100 mm;
 ▲ Cu, 1,5x10⁻³ mbar, 150 mm;
 ◆ Mo, 1,5x10⁻³ mbar, 100 mm;
 × Mo, 1,5x10⁻³ mbar, 150 mm;
 ✱ Pt, , 160 mm



(*) Select magnetron model:

Standard targets (non-magnetic 6 ... 10 mm)

IX6_A135: without chimney

IX6_A136: with chimney

for magnetic targets (Fe 2 mm, Ni 4 mm)

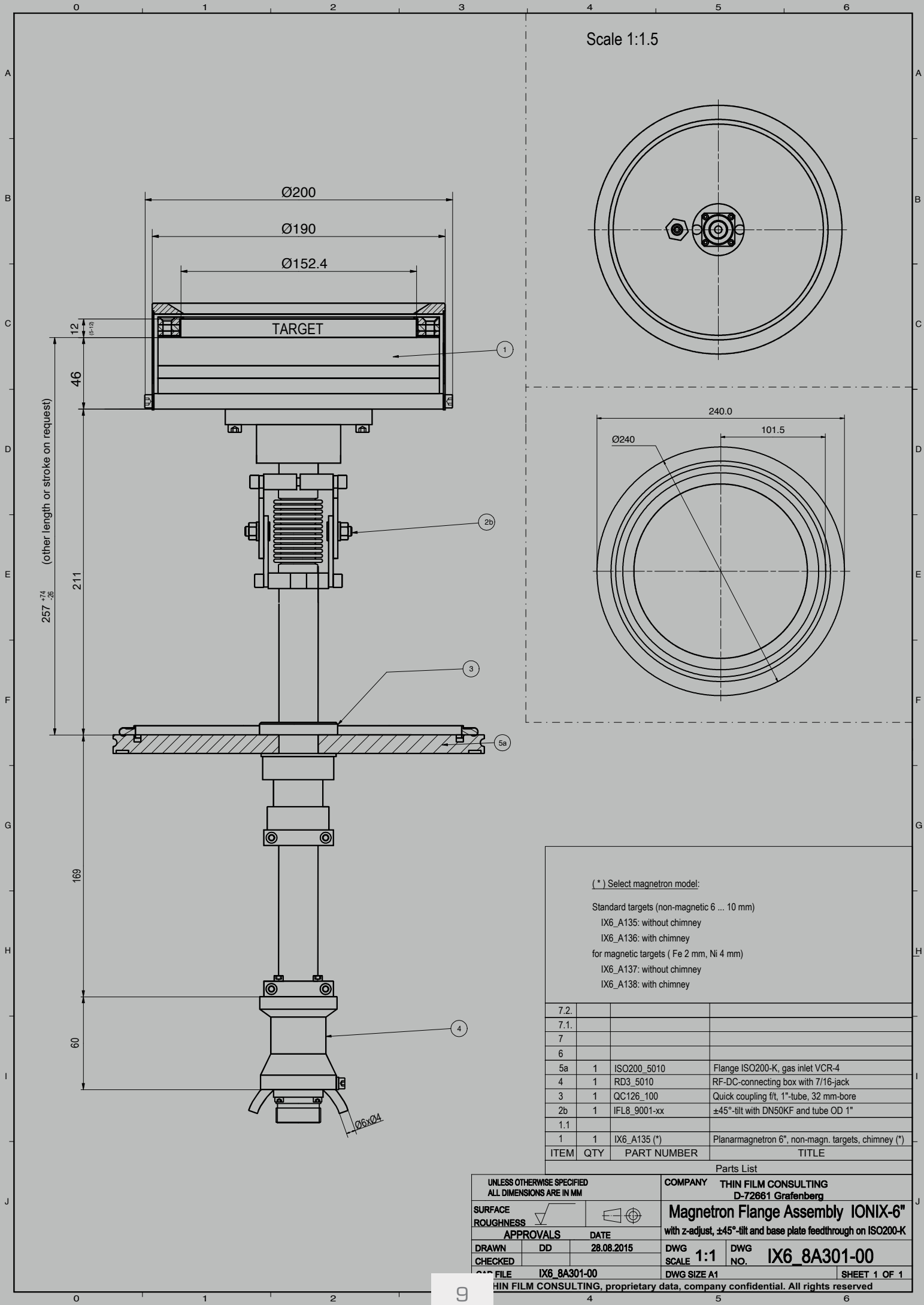
IX6_A137: without chimney

IX6_A138: with chimney

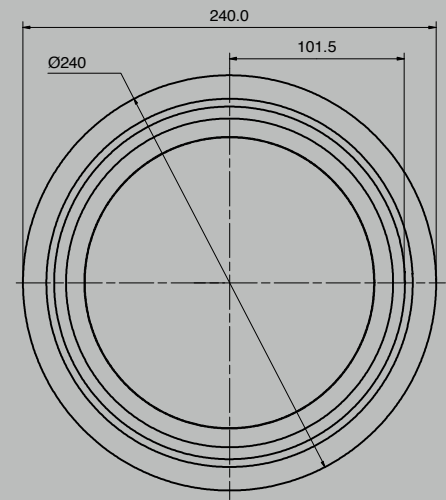
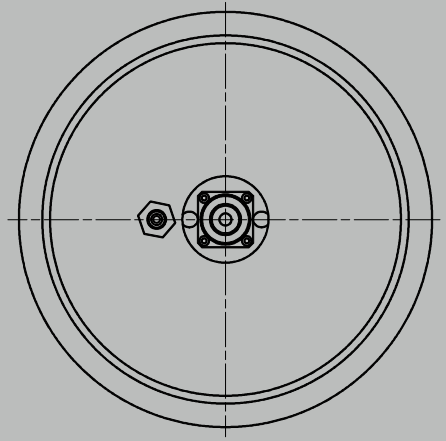
ITEM	QTY	PART NUMBER	TITLE
5	1		Base plate or chamber wall
4	1	RD3_5010	RF-DC-connecting box with 7/16-jack
3	1	QC126_100	Quick coupling fit, 1"-tube, 32 mm-bore
2b	1	T100_K50_300	OD 1"-tube with KF 50
1.1			
1	1	IX6_A135 (*)	Planarmagnetron 6", non-magn. targets (*)
ITEM	QTY	PART NUMBER	TITLE

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM			COMPANY THIN FILM CONSULTING D-72661 Grafenberg	
SURFACE ROUGHNESS 				Magnetron Flange Assembly IONIX-6" with z-adjust and base plate feedthrough
APPROVALS		DATE		
DRAWN	DD	28.08.2015		
CHECKED				
DWG FILE IX6_80300-00		DWG SCALE 1:1		DWG NO. IX6_80300-00
		DWG SIZE A1		SHEET 1 OF 1
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Scale 1:1.5



(*) Select magnetron model:

Standard targets (non-magnetic 6 ... 10 mm)

IX6_A135: without chimney

IX6_A136: with chimney

for magnetic targets (Fe 2 mm, Ni 4 mm)

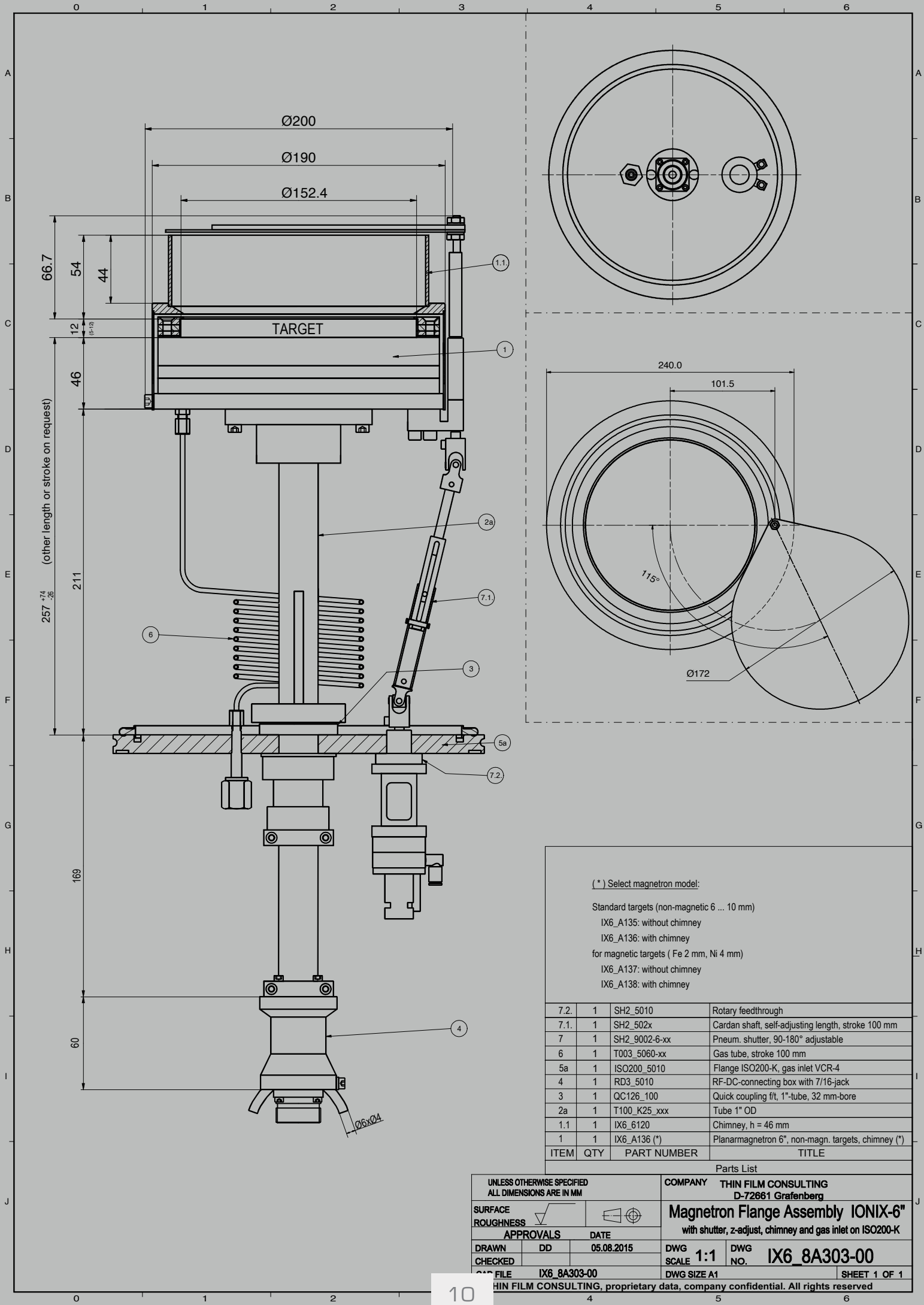
IX6_A137: without chimney

IX6_A138: with chimney

7.2.			
7.1.			
7			
6			
5a	1	ISO200_5010	Flange ISO200-K, gas inlet VCR-4
4	1	RD3_5010	RF-DC-connecting box with 7/16-jack
3	1	QC126_100	Quick coupling fit, 1"-tube, 32 mm-bore
2b	1	IFL8_9001-xx	±45°-tilt with DN50KF and tube OD 1"
1.1			
1	1	IX6_A135 (*)	Planarmagnetron 6", non-magn. targets, chimney (*)
ITEM	QTY	PART NUMBER	TITLE

Parts List

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM		COMPANY THIN FILM CONSULTING D-72661 Grafenberg	
SURFACE ROUGHNESS 		Magnetron Flange Assembly IONIX-6" with z-adjust, ±45°-tilt and base plate feedthrough on ISO200-K	
APPROVALS		DATE	
DRAWN	DD	28.08.2015	
CHECKED			
FILE	IX6_8A301-00	DWG SCALE	1:1
THIN FILM CONSULTING, proprietary data, company confidential. All rights reserved		DWG NO.	IX6_8A301-00
		DWG SIZE	A1
		SHEET 1 OF 1	



(*) Select magnetron model:

Standard targets (non-magnetic 6 ... 10 mm)

IX6_A135: without chimney

IX6_A136: with chimney

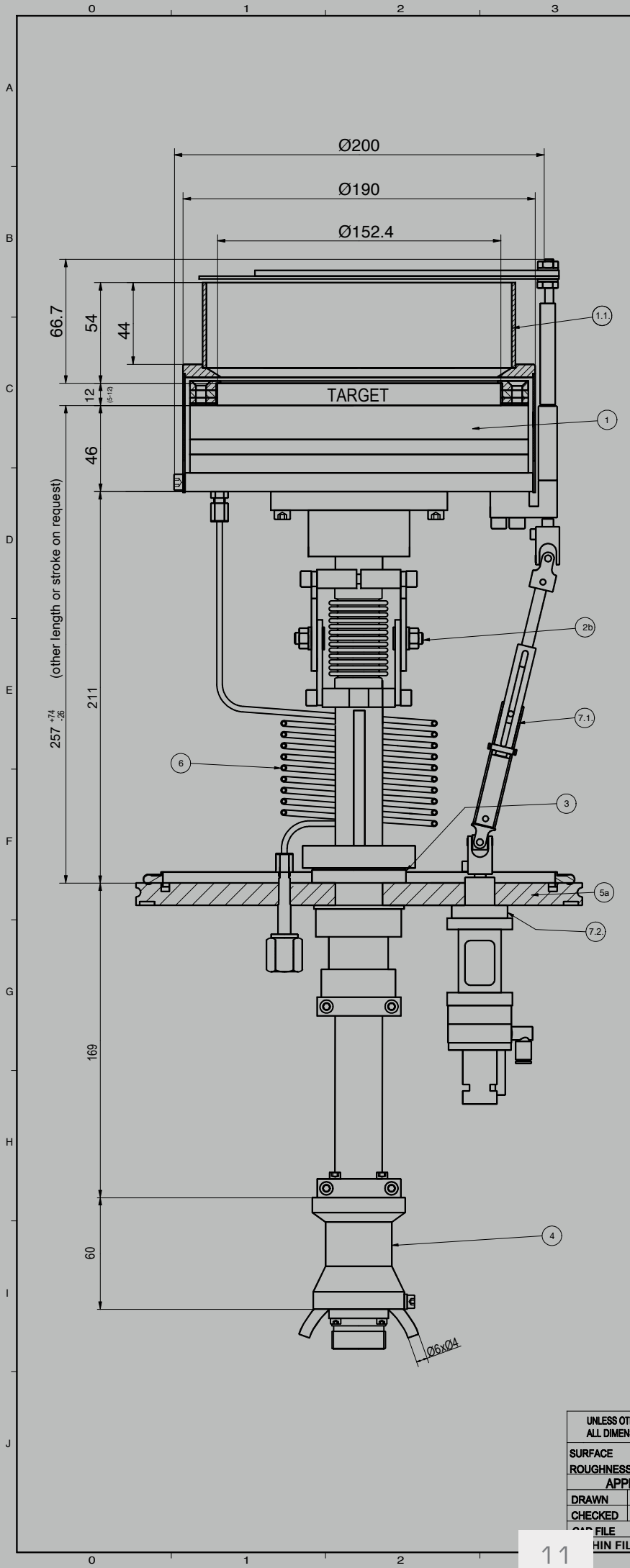
for magnetic targets (Fe 2 mm, Ni 4 mm)

IX6_A137: without chimney

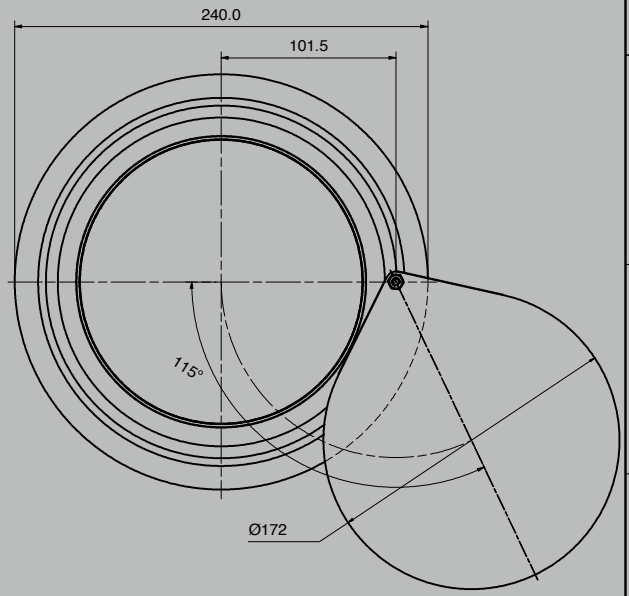
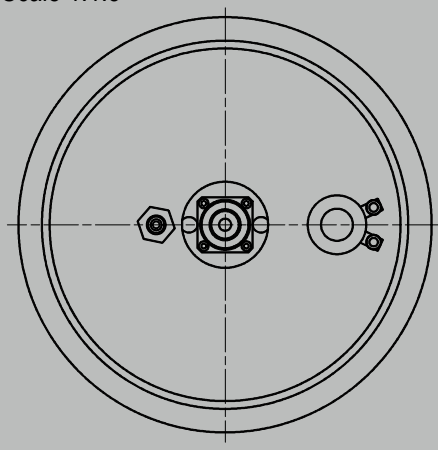
IX6_A138: with chimney

7.2.	1	SH2_5010	Rotary feedthrough
7.1.	1	SH2_502x	Cardan shaft, self-adjusting length, stroke 100 mm
7	1	SH2_9002-6-xx	Pneum. shutter, 90-180° adjustable
6	1	T003_5060-xx	Gas tube, stroke 100 mm
5a	1	ISO200_5010	Flange ISO200-K, gas inlet VCR-4
4	1	RD3_5010	RF-DC-connecting box with 7/16-jack
3	1	QC126_100	Quick coupling fit, 1"-tube, 32 mm-bore
2a	1	T100_K25_xxx	Tube 1" OD
1.1	1	IX6_6120	Chimney, h = 46 mm
1	1	IX6_A136 (*)	Planarmagnetron 6", non-magn. targets, chimney (*)
ITEM	QTY	PART NUMBER	TITLE

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM		COMPANY THIN FILM CONSULTING D-72661 Grafenberg	
SURFACE ROUGHNESS 		Magnetron Flange Assembly IONIX-6" with shutter, z-adjust, chimney and gas inlet on ISO200-K	
APPROVALS		DATE	
DRAWN	DD	05.08.2015	
CHECKED			
CAD FILE	IX6_8A303-00		
DWG SCALE 1:1		DWG NO.	IX6_8A303-00
DWG SIZE A1		SHEET 1 OF 1	
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Scale 1:1.5



(*) Select magnetron model:

Standard targets (non-magnetic 6 ... 10 mm)

IX6_A135: without chimney

IX6_A136: with chimney

for magnetic targets (Fe 2 mm, Ni 4 mm)

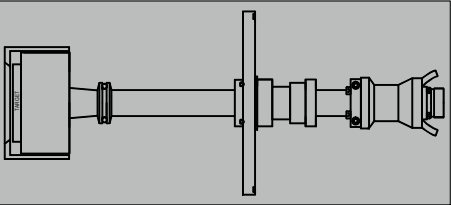
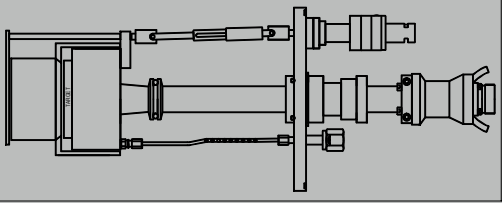
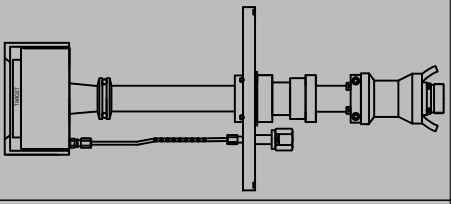
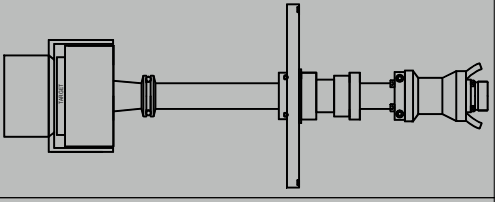
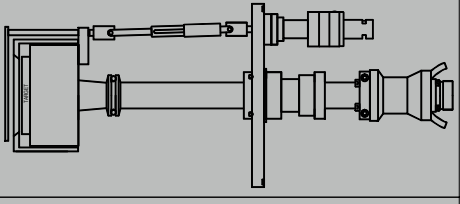
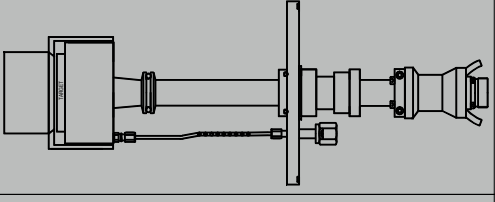
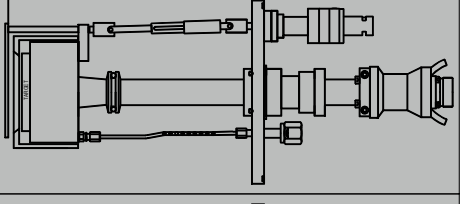
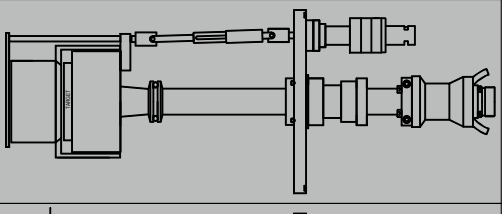
IX6_A137: without chimney

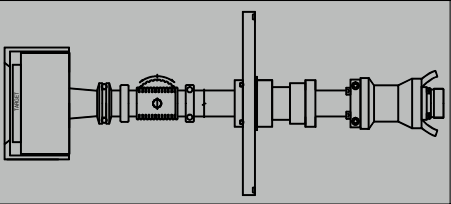
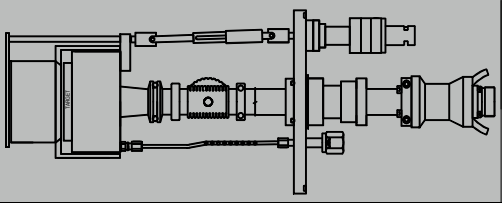
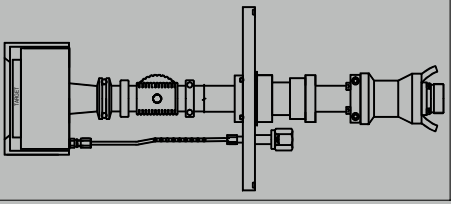
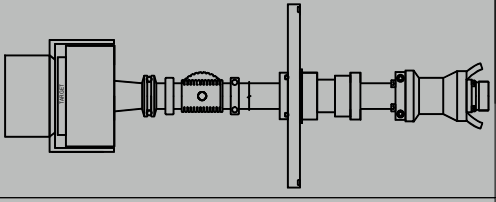
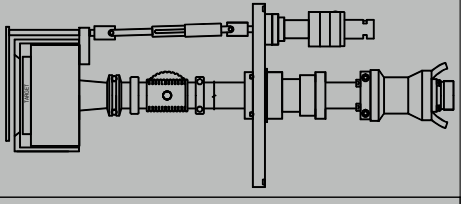
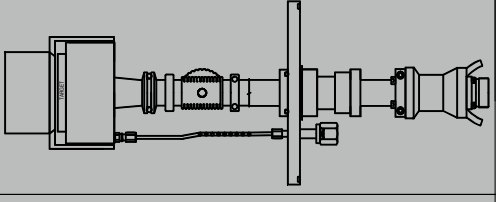
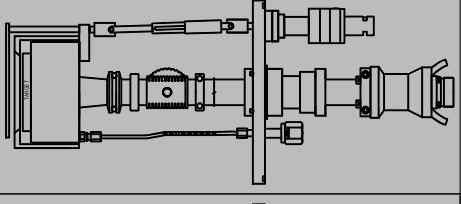
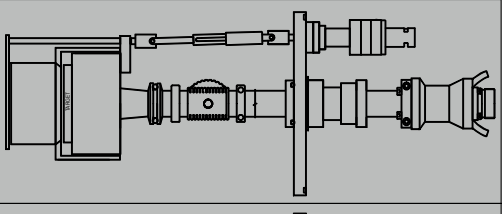
IX6_A138: with chimney

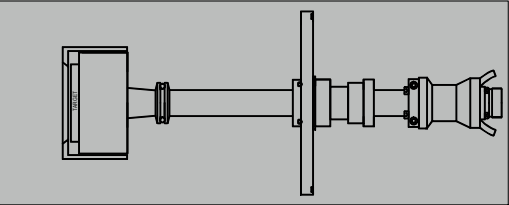
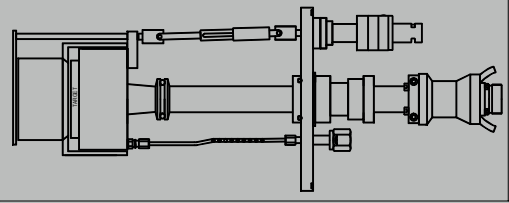
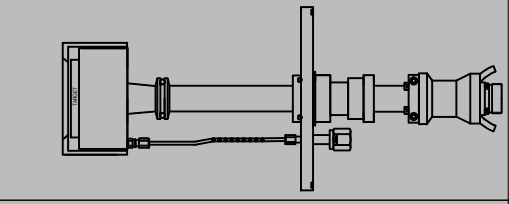
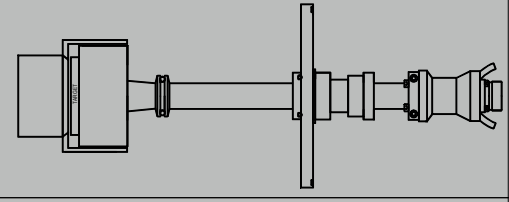
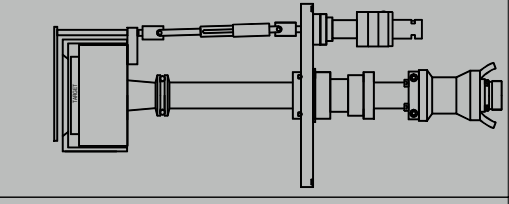
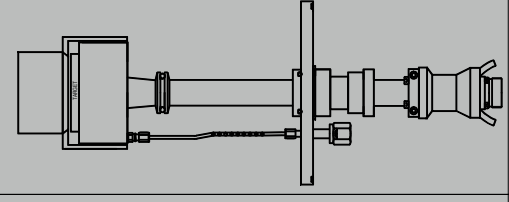
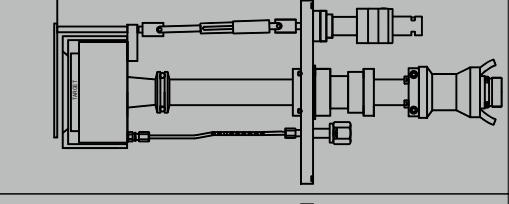
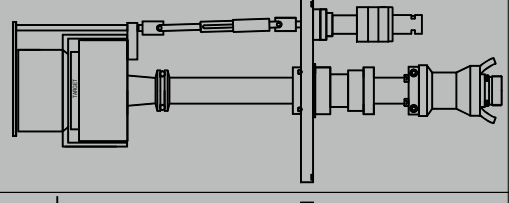
7.2.	1	SH2_5010	Rotary feedthrough
7.1.	1	SH2_502x	Cardan shaft, self-adjusting length, stroke 100 mm
7	1	SH2_9002-6-xx	Pneum. shutter, 90-180° adjustable
6	1	T003_5060-xx	Gas tube, stroke 100 mm
5a	1	ISO200_5010	Flange ISO200-K, gas inlet VCR-4
4	1	RD3_5010	RF-DC-connecting box with 7/16-jack
3	1	QC126_100	Quick coupling fit, 1"-tube, 32 mm-bore
2b	1	IFL8_9001-xx	±45°-tilt with DN50KF and tube OD 1"
1.1	1	IX6_6120	Chimney, h = 46 mm
1	1	IX6_A136 (*)	Planarmagnetron 6", non-magn. targets, chimney (*)
ITEM	QTY	PART NUMBER	TITLE

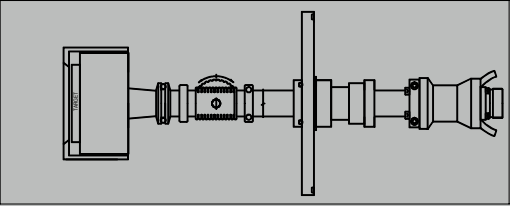
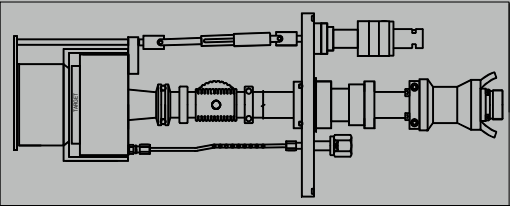
Parts List

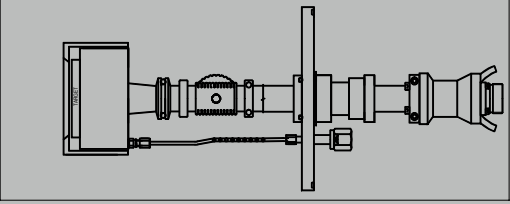
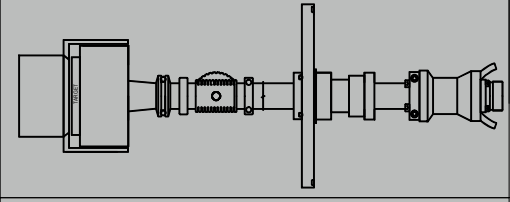
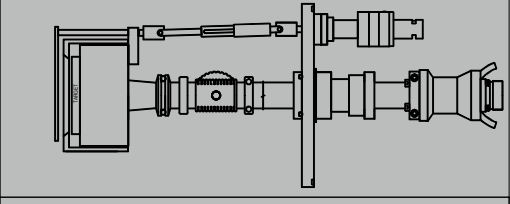
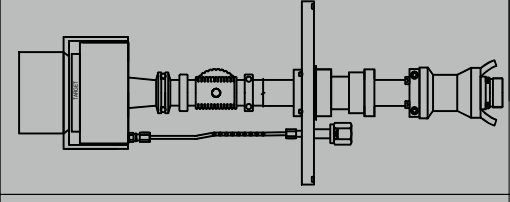
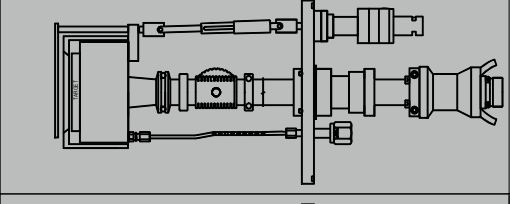
UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM		COMPANY THIN FILM CONSULTING D-72661 Grafenberg	
SURFACE ROUGHNESS 		Magnetron Flange Assembly IONIX-6" with shutter, ±45°-tilt, z-adjust, chimney, gas inlet on ISO200-K	
APPROVALS		DATE	
DRAWN	DD	05.08.2015	
CHECKED			
FILE	IX6_8A302-00	DWG SCALE	1:1
THIN FILM CONSULTING, proprietary data, company confidential. All rights reserved		DWG NO.	IX6_8A302-00
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_9A303					
					

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