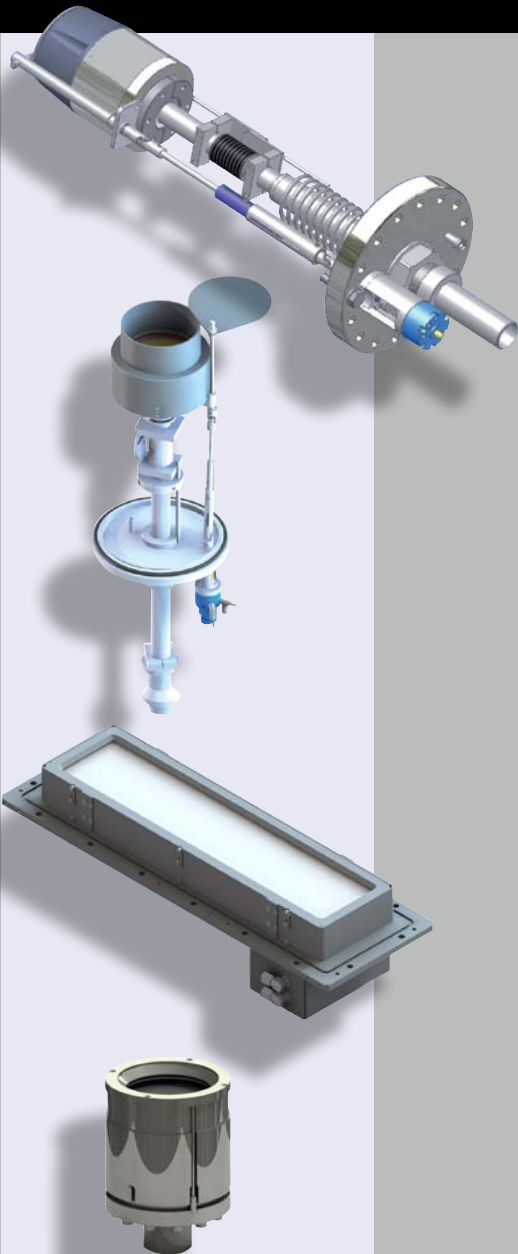


IONIX[®]

MAGNETRON SPUTTERING TECHNOLOGY



IONIX 4" Magnetron Assemblies
Specifications and reference dwg

THIN FILM CONSULTING 

PLANAR MAGNETRON SPUTTERING SOURCE ION`X-4" HV

» INTRODUCTION



- 4" target diameter
- DN 25 KF vacuum interface
- mounting on Ø 1" or Ø 3/4" tube
- optional magnet array for ferromagnetic targets



quality · know-how · performance

» PRODUCT OVERVIEW

HIGH VACUUM MAGNETRON				
ITEM	SIZE	PART NUMBER	DESCRIPTION	VACUUM INTERFACE
3.1	4" Ø	IX4_A135_KF25	• 4" magnetron with DN 25 KF • targets 4–10 mm thick, sliding anode • discrete target clamp • indirect cooling • water tubes 6/4 mm • power connector coaxial type • reference drawing IX4_80300	DN 25 KF
		T075_K25_300	• OD 3/4" tube x 300 mm with DN 25 KF	
		T100_K25_300	• OD 1" tube x 300 mm with DN 25 KF	

OPTIONS				
3.2	4" Ø	IX4_A1xx_xxxx	• IX4 with argon injection • 1/8" or 3 mm tube	
3.3	4" Ø	IX4_A138_xxxx	• IX4 for ferromagnetic targets • 4 mm Ni, 2 mm Fe	
3.4	4" Ø	IX4_x1xx_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	
		IFL5_9005-xx	• ± 30° adjustment with DN 25 KF on one end	



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

» SPECIFICATIONS

4" HIGH VACUUM MAGNETRON	
Model No.	IX4_A135
Target	
< form	circular/planar
< diameter	4" ± 0.25 mm
< thickness	4 mm to 10 mm
< cooling	indirect
Operating pressure	Argon
< nonmagnetic targets	3 x 10 ⁻³ to 1 x 10 ⁻¹ mbar
< best performance	5 x 10 ⁻³ to 5 x 10 ⁻² mbar
< vacuum sealing	FPM
Electrical specifications	
< max. power, watts DC/RF	3000 DC W / 1500 W RF * **
< max. voltage DC	1000 V
< max. current DC	10 A
< rec. power supply	3 kW DC / 1 kW RF
Power connector	
< DC / RF	7/16 type
Cooling water	
< flow	1 l / (min x kW)
< min. flow	1 l/min
< max. inlet temperature	≤ 30 °C
< max. pressure	≤ 2 bar open drain
< water tubes	Ø 6 x Ø 4 mm PTFE

4" HIGH VACUUM MAGNETRON	
Magnet array	permanent NdFeB
Bakeout temperature	
< max. temperature	60 °C
Magnetron dimensions	
< diameter	132 mm
< height	60 mm
< weight	5 kg
Interface	DN 50 KF
Proposed mounting style	tube Ø1" x 300 mm
Construction materials	stainless steel OFHC - type copper PTFE
Typical rates	
	Mo, 7 Å/s, 1 kW DC, 200 mm
	Cu, 20 Å/s, 1 kW DC, 200 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. IX4_A13x_yy
< power connector	N-type, HN-type
< magnet array for magnetic materials	IX4_A138 Fe 2 mm, Ni 4 mm
< ± 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.

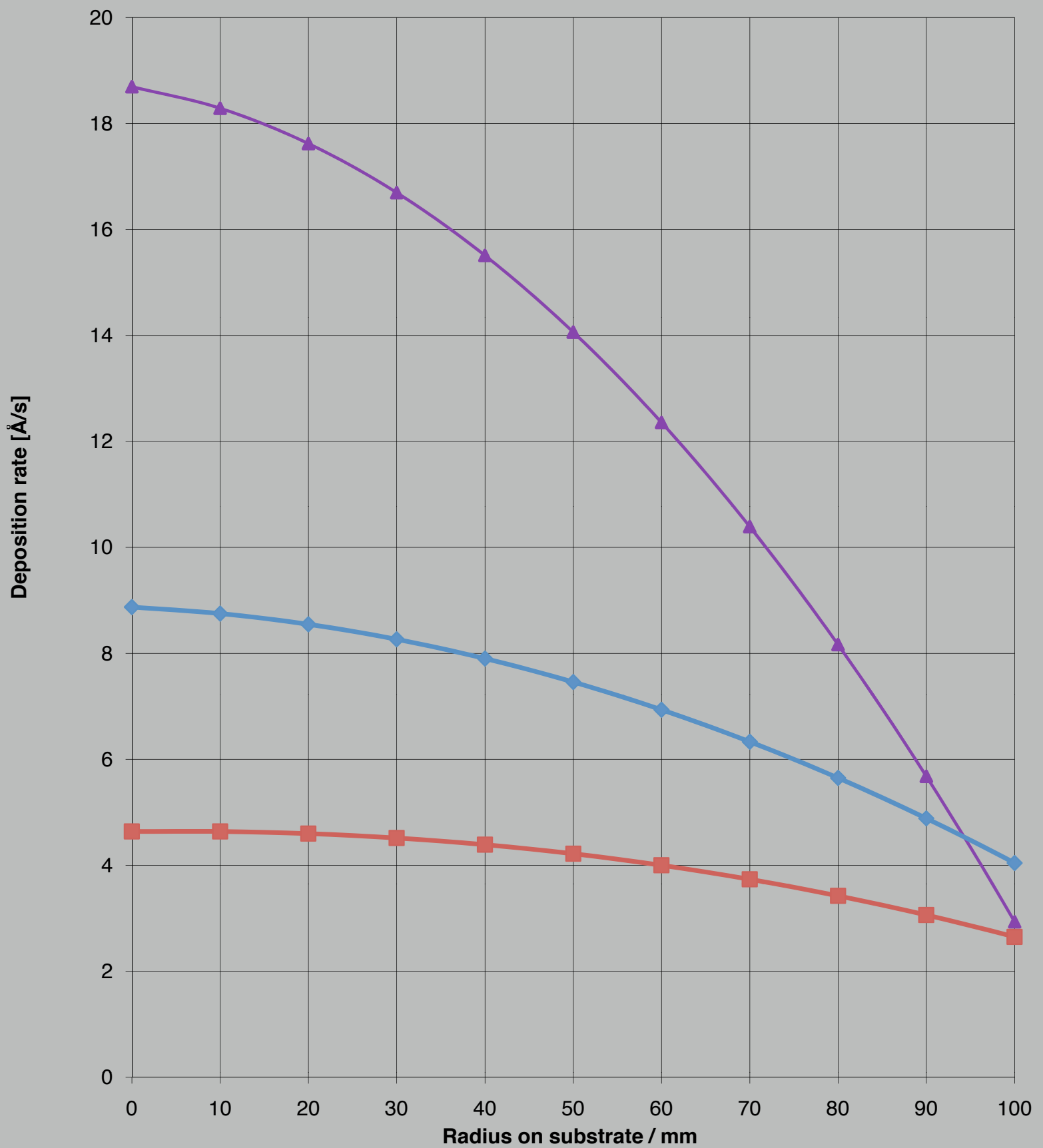
** RF-Version requires special connector and installation. More details on request.

PLANAR MAGNETRON SPUTTERING SOURCE ION'X-4" HV



4" HV

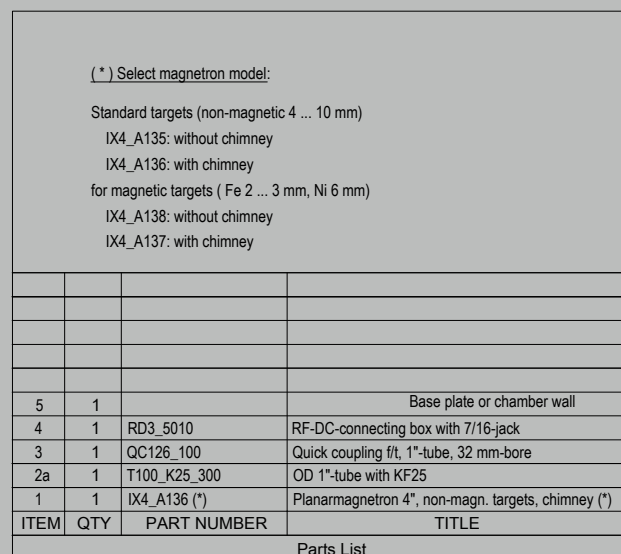
FILM THICKNESS UNIFORMITY IONIX-4", 1 kW DC-power, Al-target 8 mm



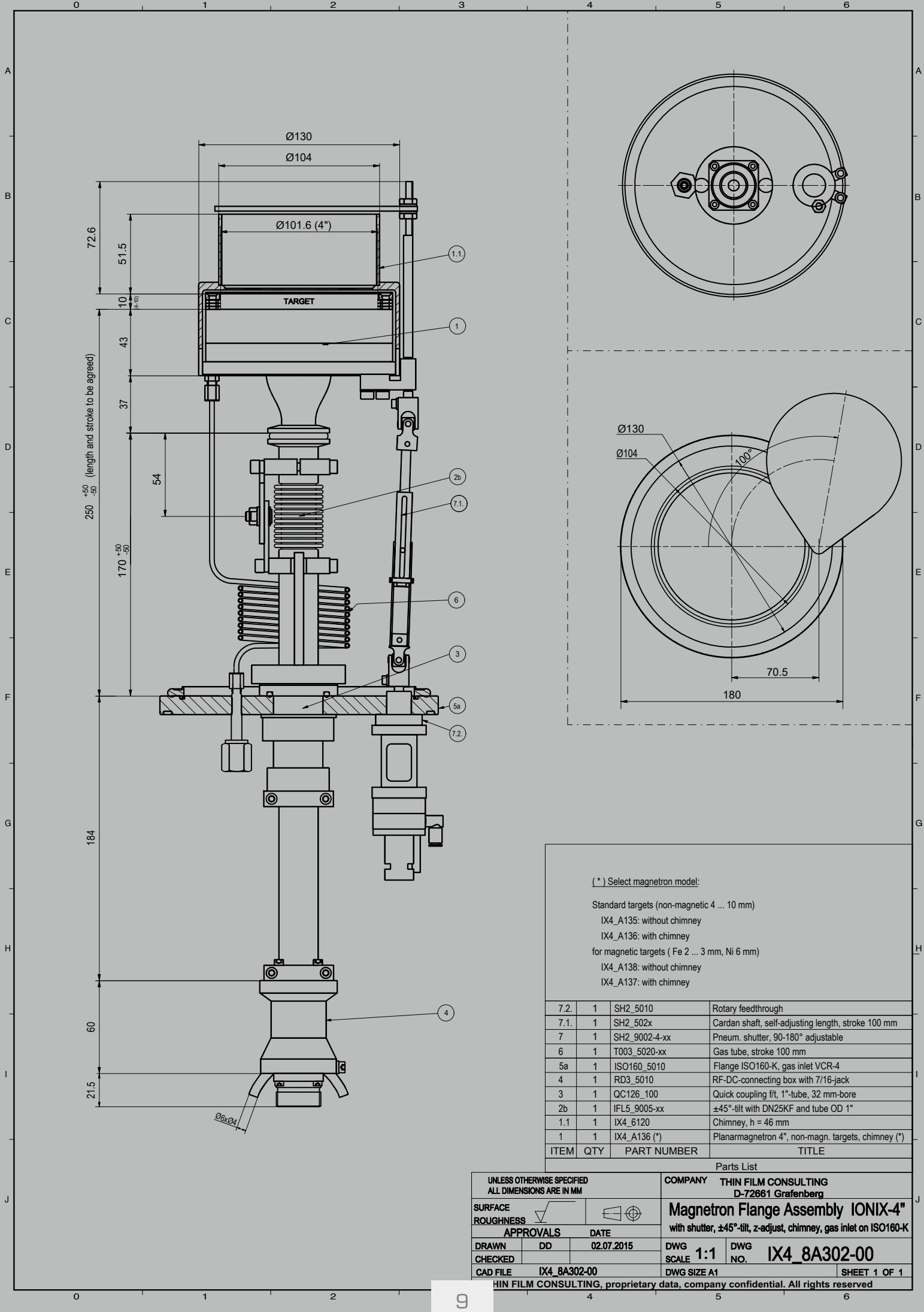
Al 100mm, 1x10⁻³, 1 kW

Al 150mm, 1x10⁻³, 1 kW

Al 200mm, 1x10⁻³, 1 kW



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(*) Select magnetron model:

Standard targets (non-magnetic 4 ... 10 mm)

IX4_A135: without chimney

IX4_A136: with chimney

for magnetic targets (Fe 2 ... 3 mm, Ni 6 mm)

IX4_A138: without chimney

IX4_A137: 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_9002-4-xx	Pneum. shutter, 90-180° adjustable
6	1	T003_5020-xx	Gas tube, stroke 100 mm
5a	1	ISO160_5010	Flange ISO160-K, gas inlet VCR-4
4	1	RD3_5010	RF-DC-connecting box with 7/16-jack
3	1	QC126_100	Quick coupling f/t, 1"-tube, 32 mm-bore
2b	1	IFL5_9005-xx	±45°-tilt with DN25KF and tube OD 1"
1.1	1	IX4_6120	Chimney, h = 46 mm
1	1	IX4_A136 (*)	Planarmagnetron 4", non-magn. targets, chimney (*)
ITEM	QTY	PART NUMBER	TITLE

Parts List

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN MM

SURFACE
ROUGHNESS

APPROVALS

DRAWN DD

CHECKED

CAD FILE IX4_8A302-00

DATE 02.07.2015

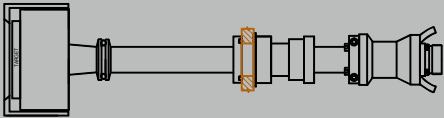
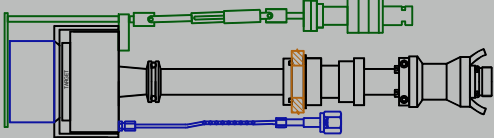
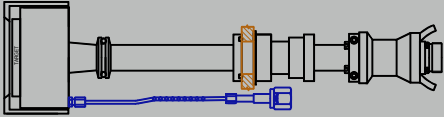
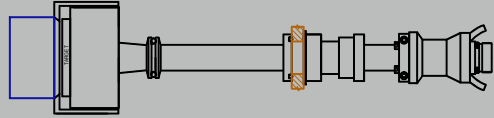
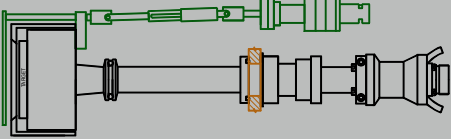
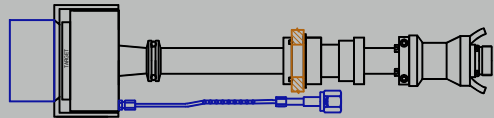
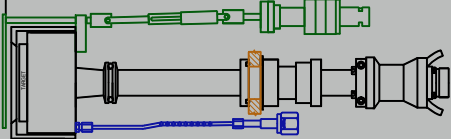
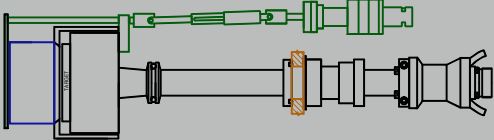
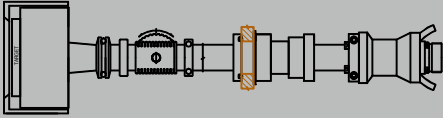
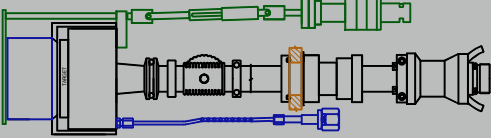
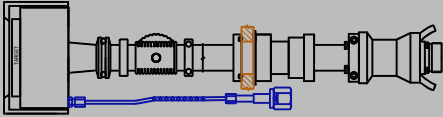
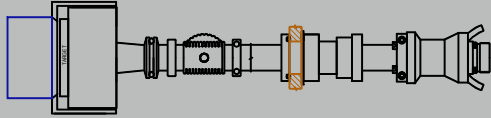
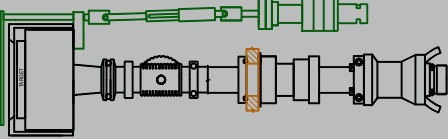
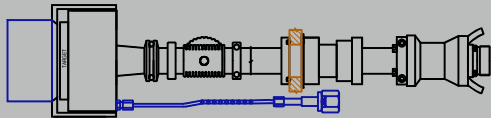
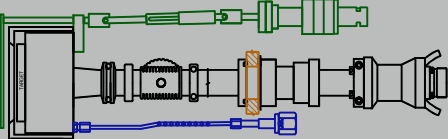
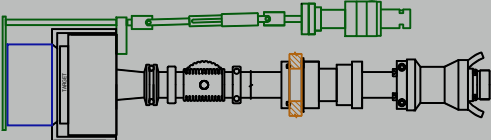
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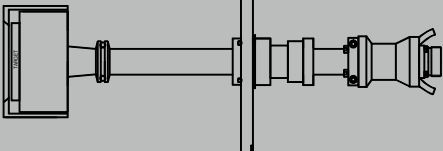
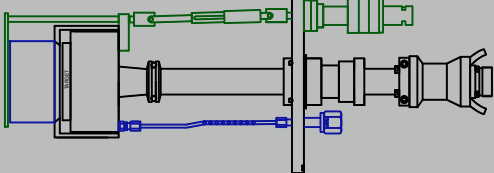
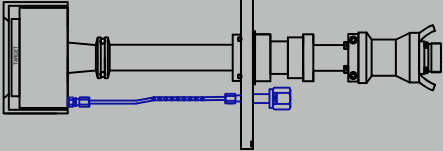
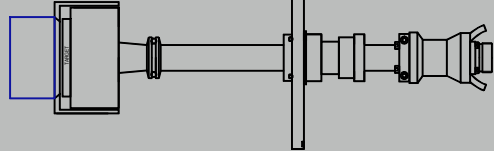
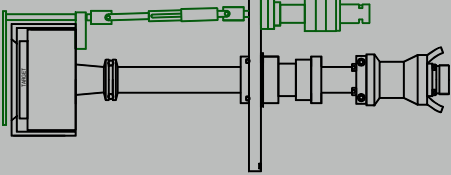
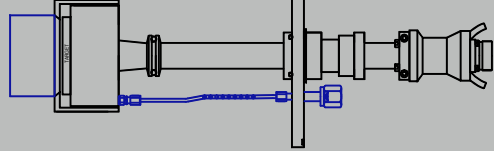
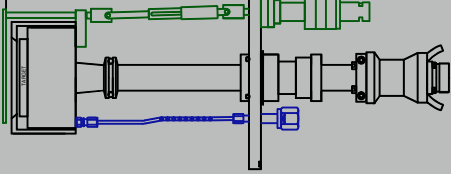
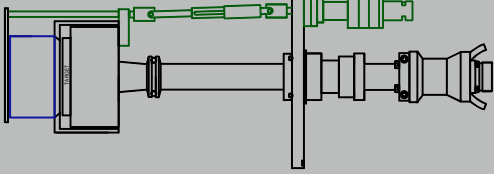
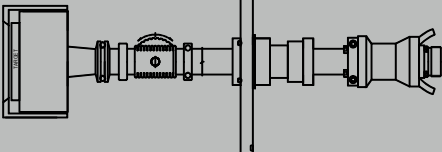
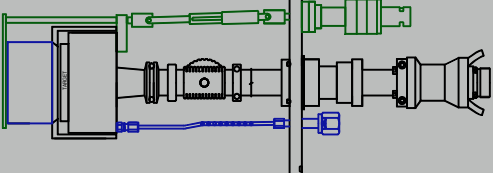
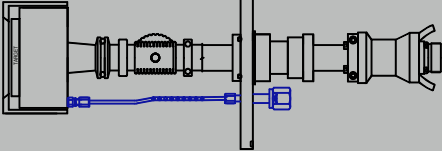
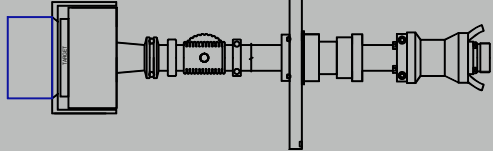
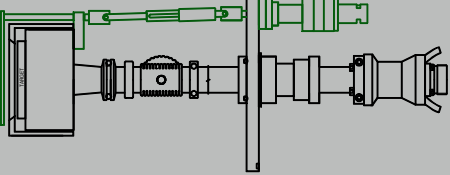
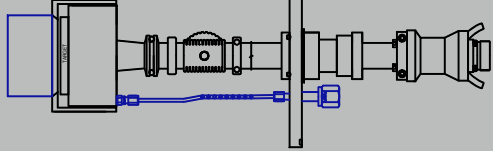
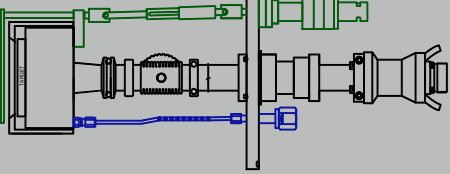
DWG NO. IX4_8A302-00

SHEET 1 OF 1

COMPANY THIN FILM CONSULTING
D-72661 Grafenberg

Magnetron Flange Assembly IONIX-4"
with shutter, ±45°-tilt, z-adjust, chimney, gas inlet on ISO160-K

_90300	
_90303	
_90304	
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