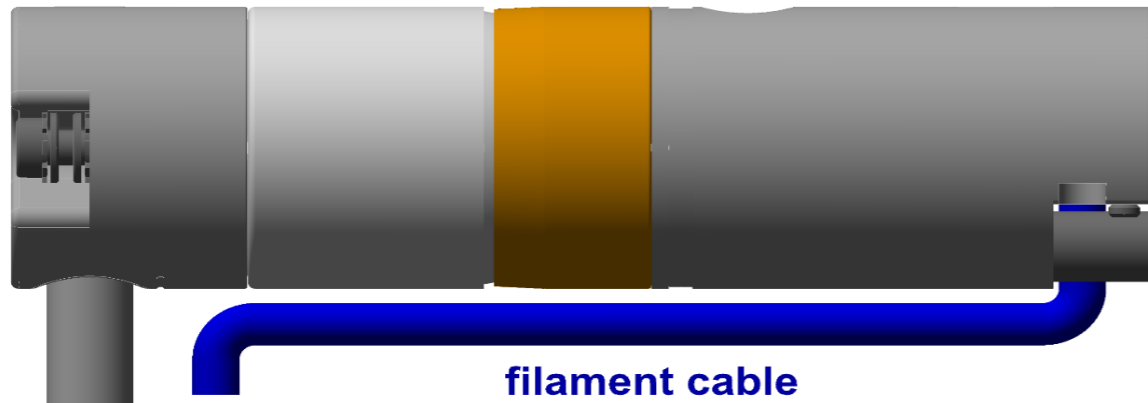


**Sample values**

High voltage:	max. 50 kV
Power:	10 - 50 W
Length:	145 mm
Target material:	Cu/Cr/Rh/Mo/W
Target angle:	6°/12°
Emission angle:	18°, 60°x10°
Focal spot size:	30 - 200 µm

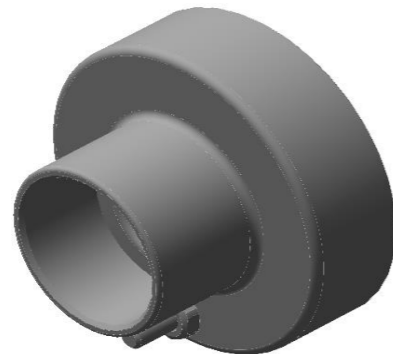
**Accessories**



high voltage cable

filament cable

Consisting of:	Description	Price
1 m Mammoflex	cable included	0,00 €
1 m heating cable		
Beschreibung		
The high voltage cable ( Mammoflex ) and the filament cable of 1 m length is in the tube price included. The high voltage cable is glued in the high-voltage ceramic insulator and therefore required little maintenance only.		
Difference cable lengths are charge with a one-time fee of 15€ plus 25€ per running meter high-voltage and filament cable.		
The maximum cable length is 5 m.		

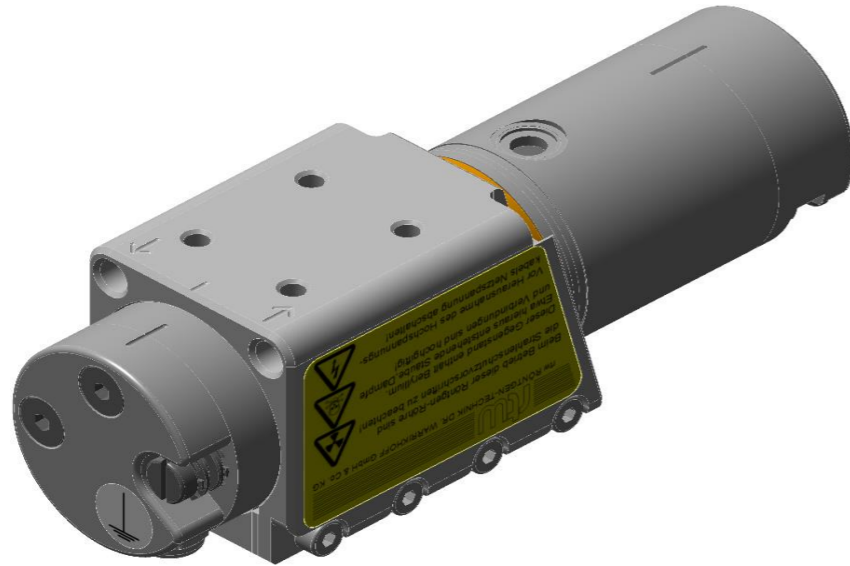


Consisting of:	Description	Price
1425	Cable flange (straight)	25,00 €
Description		
Should there be the requirement for a cable running straight out from the tube body, we can offer this with the cable flange (straight), identification no. 1425 at additional costs.		



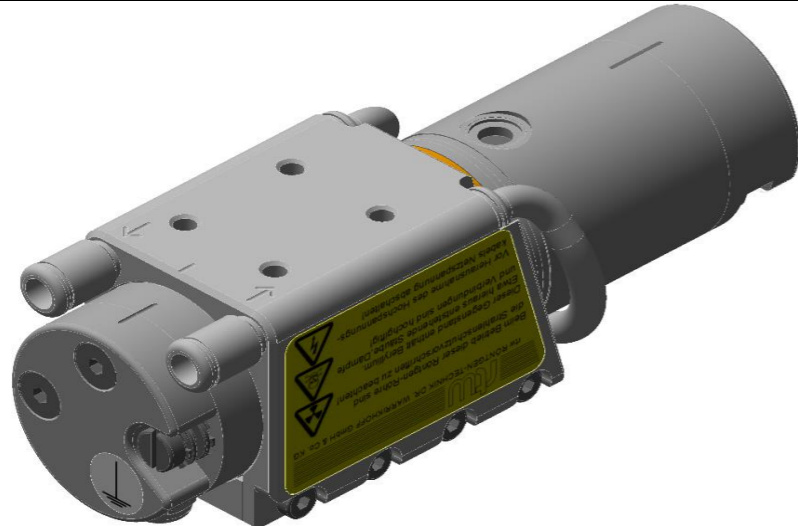
Consisting of:	Description	Price
2614	Filament cable connection 90°	0,00 €
Description		
The filament cable is running 90° out of the tube holder. Should there be the requirement for a cable running straight out from the tube holder, we can offer this at quotation.		

**Set 1**



Consisting of:	Description	Price
3249	Tube holder anode modified for cooling by conduction	205,00 €
2614	Description	
2810	The tube holder will be assembled directly on the ceramic insulator itself. In this way the MCBI can be clamped and can be mounted on the OEM equipment easily. The holder is designed to allow the benefit of conduction cooling. The assembly holes allow optimized positioning. The holder is made of pure copper to support the best heat transfer and the utmost best cooling.	
3371		
3372		
3443		

**Set 2**

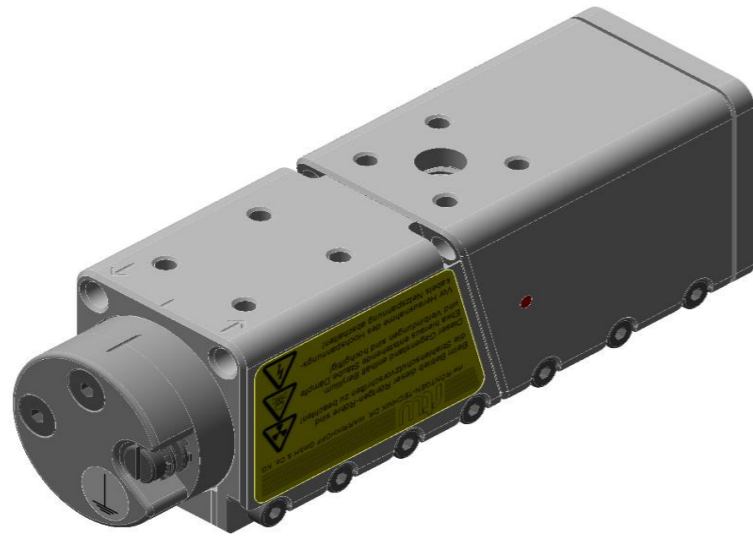


Consisting of:	Description	Price
3249	Tube holder anode modified for connection to a water cooling circuit	275,00 €
3282		
3283		
2614	Description	
2810	With this modification the holder is equipped with a fully integrated water cooling circuit. The water connections are equipped with fittings to connect on heat exchangers. Cooling the X-ray tube by water gives the best results for good cooling and for high temperature stability needed for precise measurement applications.	
3371		
3372		
3443		

**Set 3**

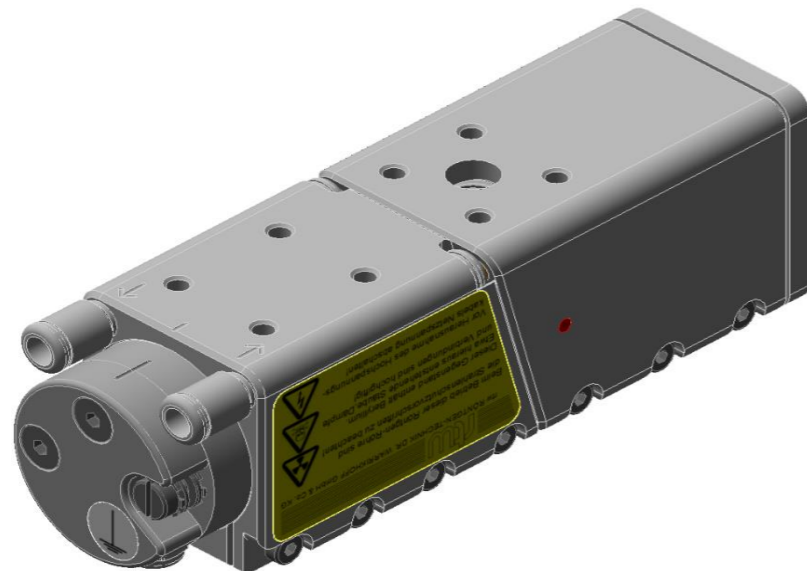
Consisting of:	Description	Price
	Tube holder anode modified for cooling with CPU cooler with air fan	not available
	Description	
	With this modification the holder is equipped with a standard CPU cooler with air fan. Cooling the X-ray tube with air can be a very efficient and light weight solution. Different air fans and coolers, like the arctic freezer, can be used. The speed of the fan and heat sensors will control a sufficient cooling and will prevent an overheat of the tube.	

**Set 4**



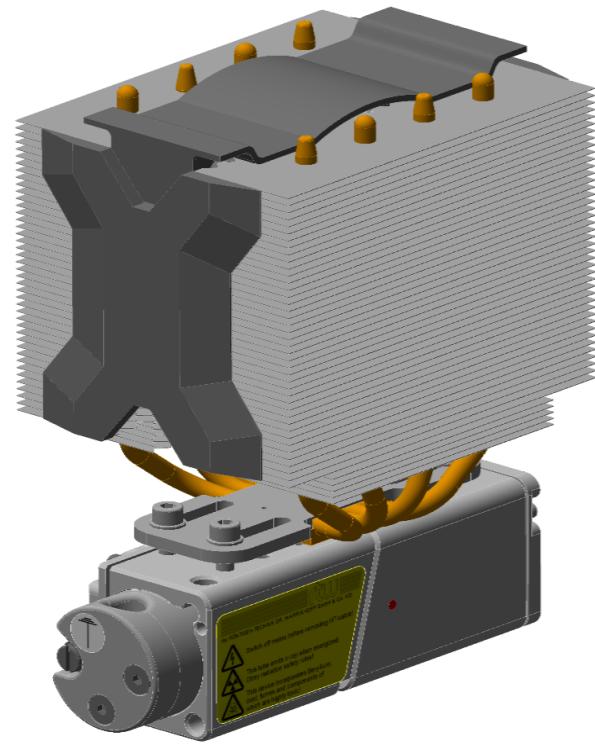
Consisting of:	Description	Price
3249	Tube holder anode and tube holder cathode modified for cooling by conduction	447,00 €
3250		
3256		
2614	Description	
2810	This extension of the holder on the cathode side allows not only to cool down the anode as well as the cathode, moreover the whole X-ray radiation protection is given. The X-ray tube holder is made out of pure copper and will support water cooling or air cooling or conduction cooling. The factory mounting threads enable the customer for precise positioning and assembling of X-ray shutters or X-ray optics. The two tubes holder weights of about 880g.	
3371		
3372		
3446		
3362		
3363		
3401		
3116		

**Set 5**



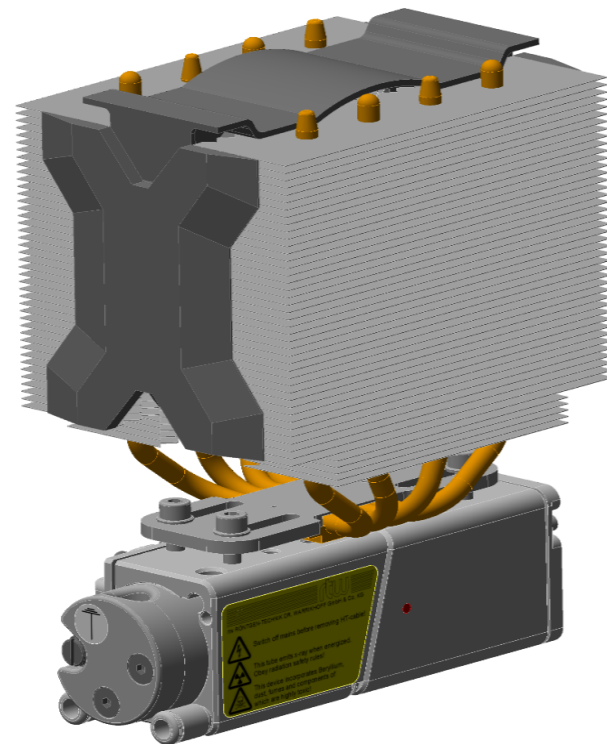
Consisting of:	Description	Price
3249	Tube holder anode and tube holder cathode modified for connection to a water cooling circuit	475,00 €
3250		
3256		
3282	Description	
3365	This device enables our OEM partner to cool down the cathode additionally with water. By doing that the cathode can work on a constant temperature and high stable X-ray emission in short- and long term can be achieved.	
3366		
2614		
2810		
3371		
3372		
3446		
3362		
3401		
3116		

**Set 6**



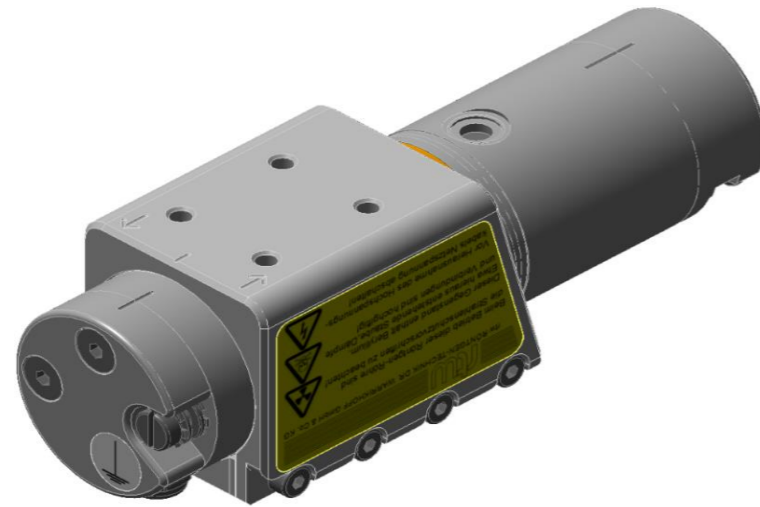
Consisting of:	Description	Price
3249	Tube holder anode and tube holder cathode modified for cooling with CPU cooler with air fan	552,00 €
3250		
3256		
3389		
	Description	
2810	By adding the cathode holder to the assembly the scattered radiation is reduced and the radiation protection as well as the cooling of the cathode for stable X-ray emission is achieved. Furthermore the cooling performance can be improved when a second cooling device on the cathode is added too. If the customer likes to add a custom-designed cooling device he can use set 4. This set provides several assembly holes for mounting the desired device.	
3371		
3372		
3446		
3362		
3363		
3401		
3116		
3671		
3107		
2027		

**Set 7**



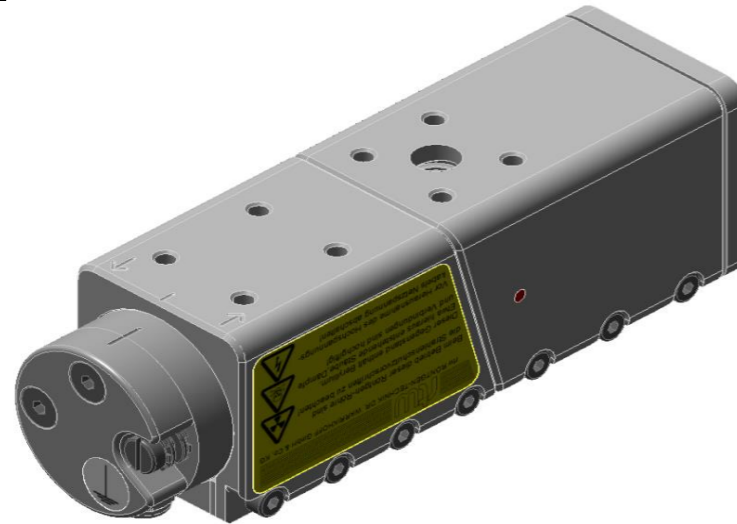
Consisting of:	Description	Price
3249	Tube holder anode and tube holder cathode modified for air- or water cooling	582,00 €
3250		
3256		
3282		
3365	Description	
3366	This fully equipped set provides a wide variety of cooling methods. If conduction cooling may be sufficient in laboratory, additional air forced cooling enables higher power. If ambient temperature rises, a water cooling system will cool down the X-ray tube to the required safe values. All 3 cooling methods can be driven together or separately upon desire.	
3389		
2810		
3371		
3372		
3446		
3362		
3363		
3401		
3116		
3671		
3107		
2027		

**Set 9**



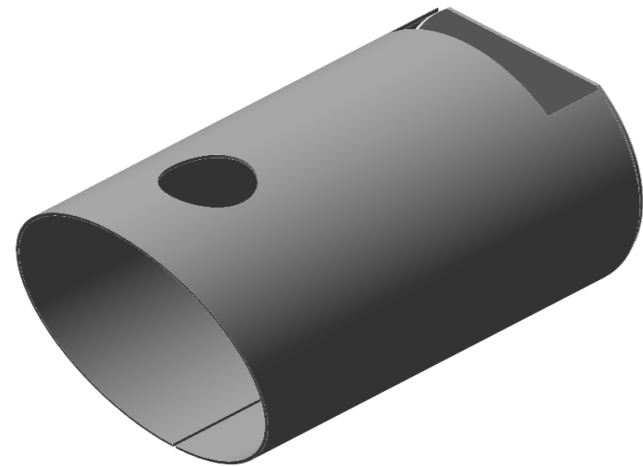
Consisting of:	Description	Price
3480	Tube holder anode made out of aluminum modified for cooling by conduction	150,00 €
2614		
2810		
3371	Description	
3372	The holder is made out of aluminum. The advantage is a reduction in weight. The aluminum holder has a weight of 140 g.	
3443		

**Set 10**



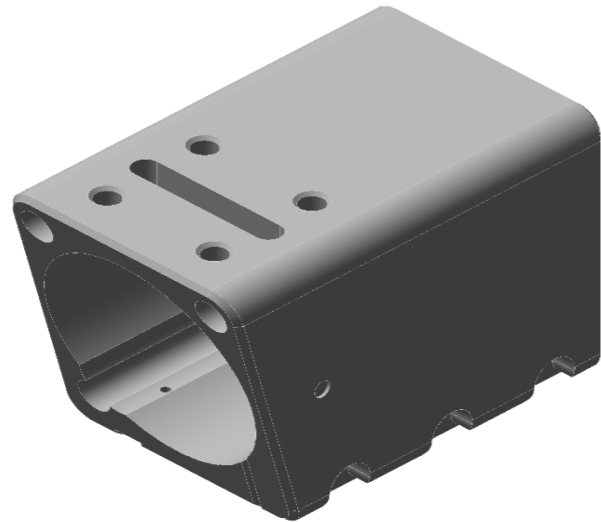
Consisting of:	Description	Price
3480	Tube holder anode and tube holder cathode made out of aluminum modified for cooling by conduction	350,00 €
3481		
3482		
2614	Description	
2810	The holder are made out of aluminum. The advantage is a reduction in weight. With this set the holder are only available in combination with a mu-metal shielding. This set is above all applicable for mobile inspection. The aluminum holder has a weight of 300 g.	
3371		
3372		
3446		
3362		
3363		
3401		
3116		

**Zusatz 1**



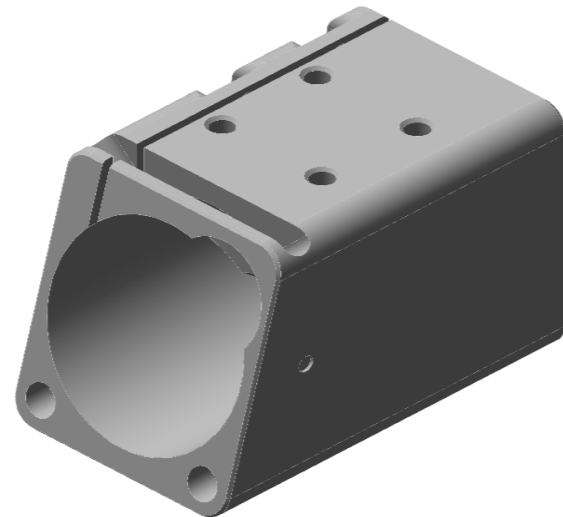
Consisting of:	Description	Price
3429	Mu-metal shielding	80,00 €
3450		
	Description	
	The mu-metal shielding prevents a drift of the focal spot on the target, which can be caused due to magnetic fields occurring e.g. with servomotors or during mobile inspection.	

**Zusatz 2**



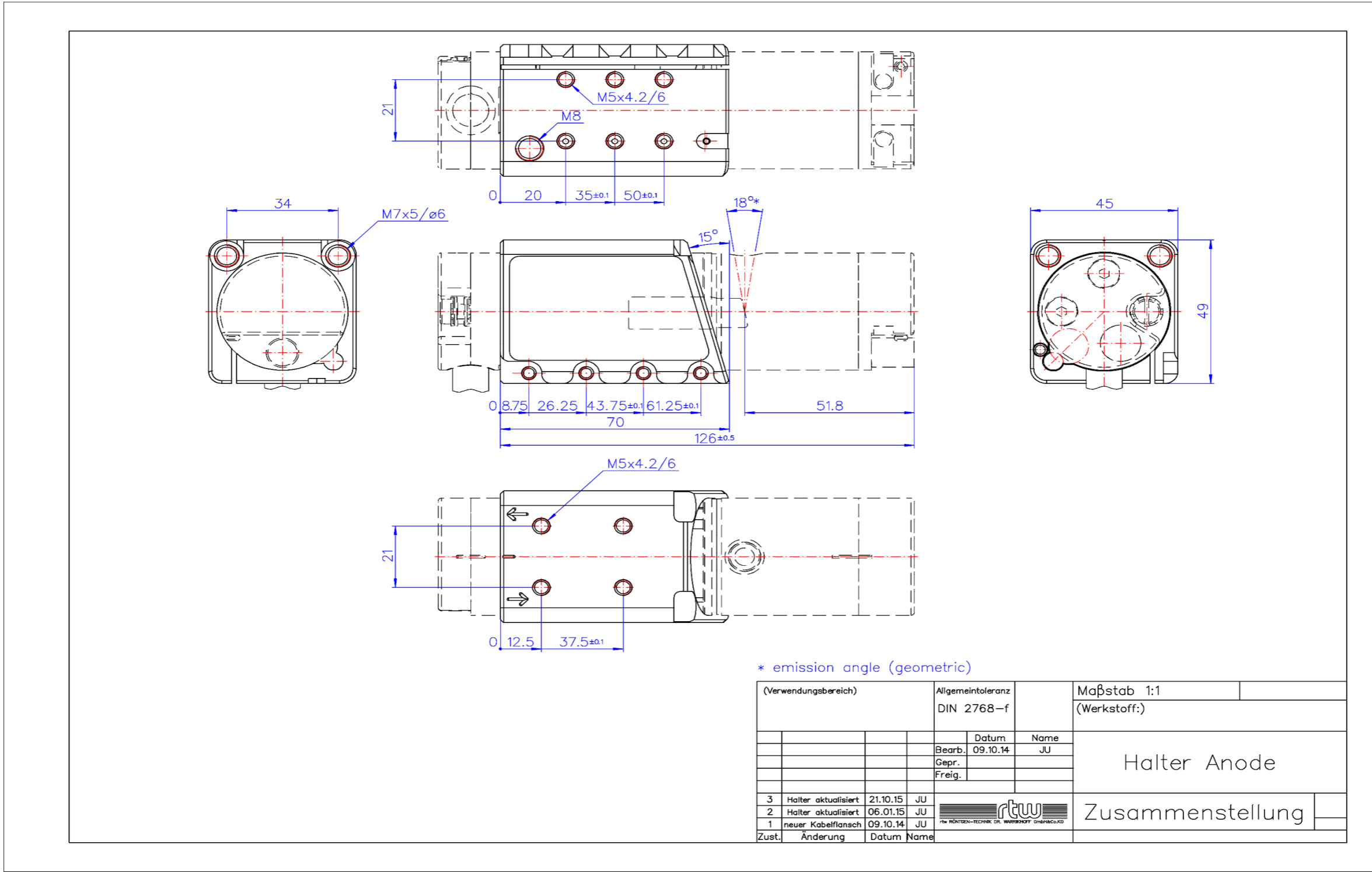
Consisting of:	Description	Price
3564	Tube holder cathode with beam angle 60° x 10°	55,00 €
	Description	
	Thr tube holder 60°x10° extends the emission angle to a fan beam of 60°x10°.	
	The holder must be choose with any set out of this list. We charge the add on only.	

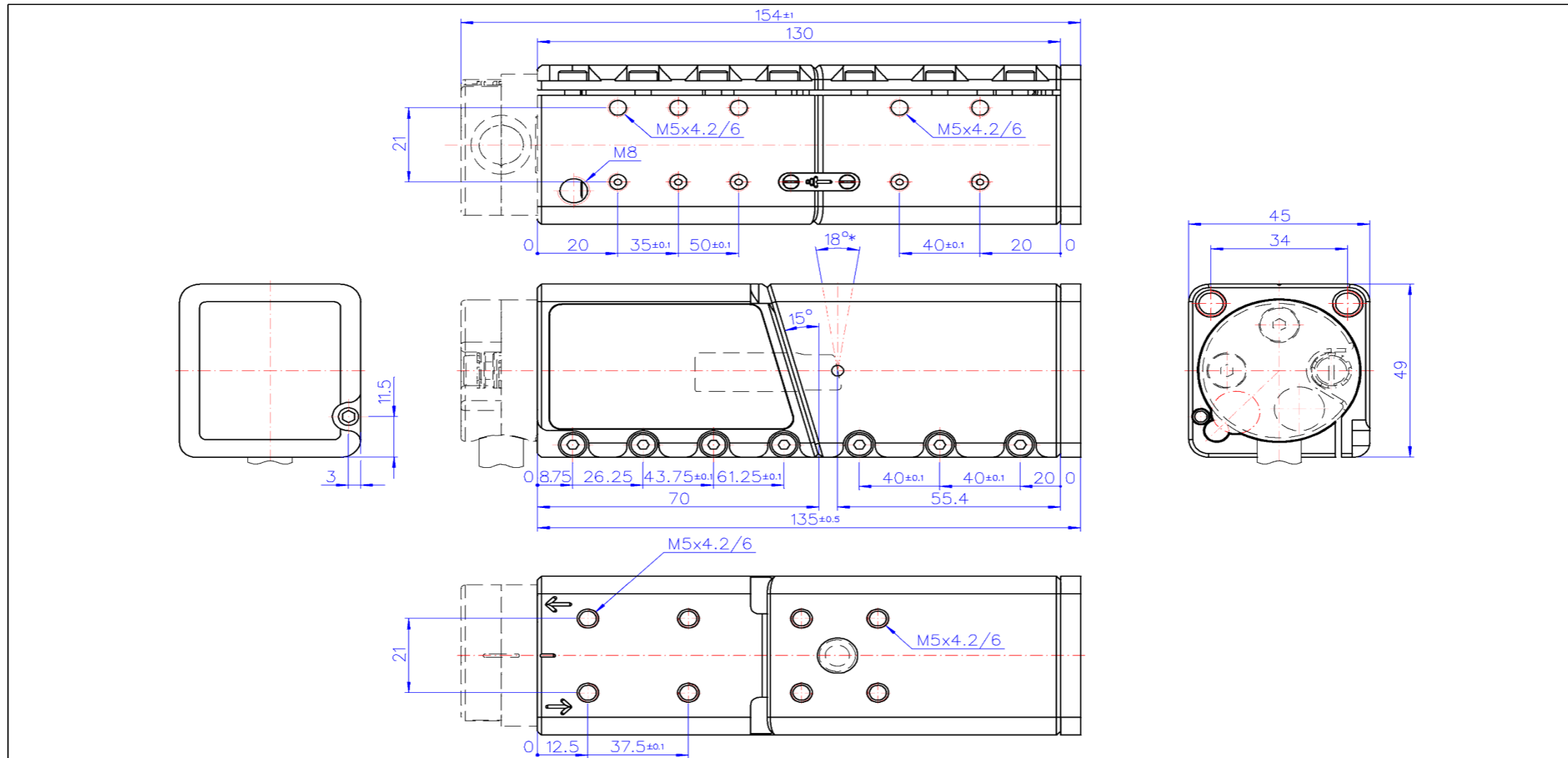
**Zusatz 3**




Consisting of:	Description	Price
3565	Tube holder cathode with beam angle 90° x 10°	93,00 €
	Description	
	Thr tube holder 90°x10° extends the emission angle to a fan beam of 90°x10°.	
	The holder must be choose with any set out of this list. We charge the add on only.	

Drawings





\* emission angle (geometric)

(Verwendungsbereich)		Allgemeintoleranz DIN 2768-f		Maßstab 1:1 (Werkstoff:) ---	
		Datum	Name	Halter Anode + Halter Kathode	
		Bearb. 13.10.14	JU		
		Gepr.			
		Freig.		Zusammenstellung	
2	Halter aktualisiert	23.10.15	JU		
1	Halter aktualisiert	06.01.15	JU		
Zust.	Änderung	Datum	Name		