



# Fluorescence Profile Monitor Optomechanics

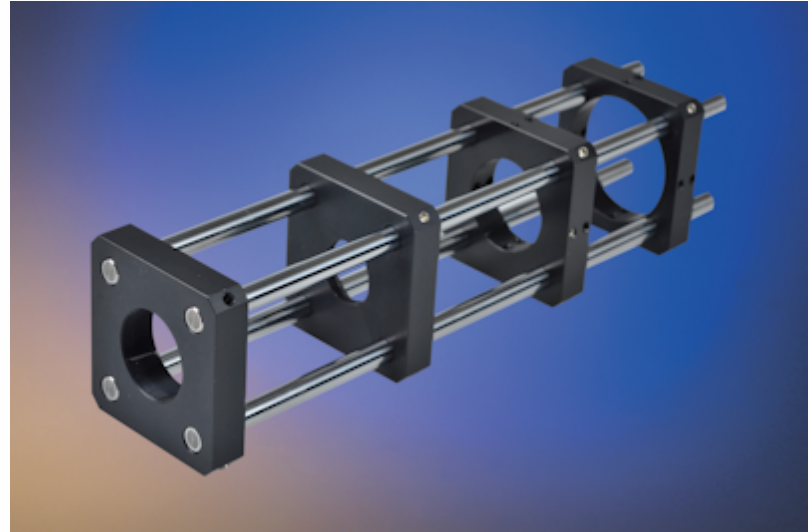
S. Udrea, P. Forck

GSI Helmholtz-Zentrum für Schwerionenforschung, Darmstadt, Germany

# Overview



UV-Apochromat



Cage system

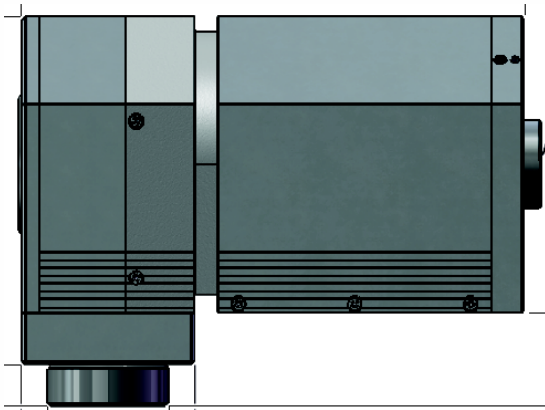
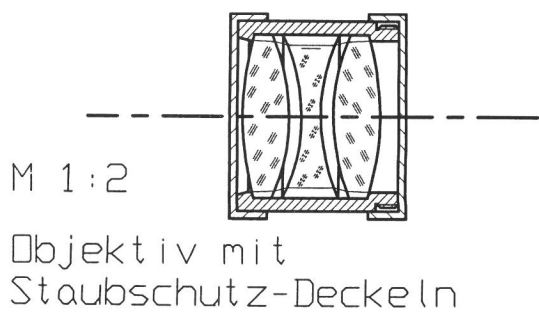
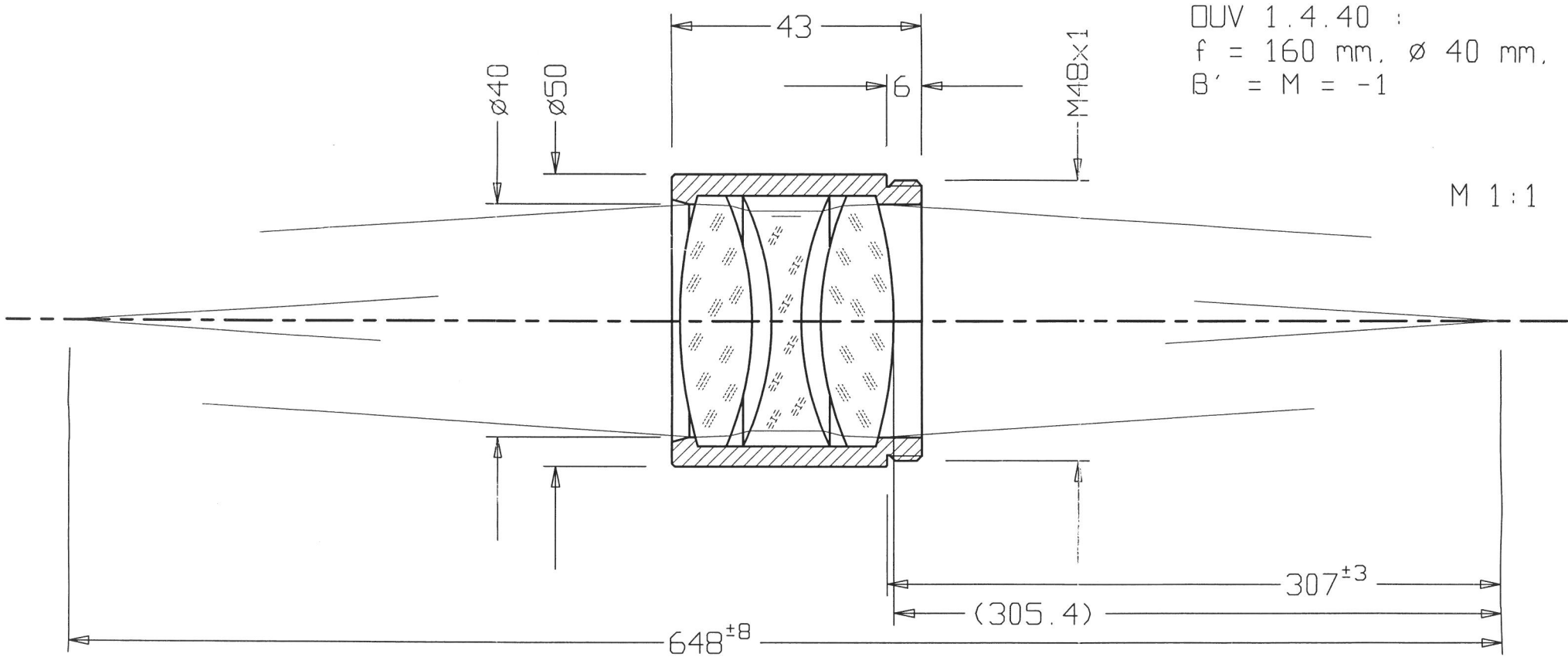


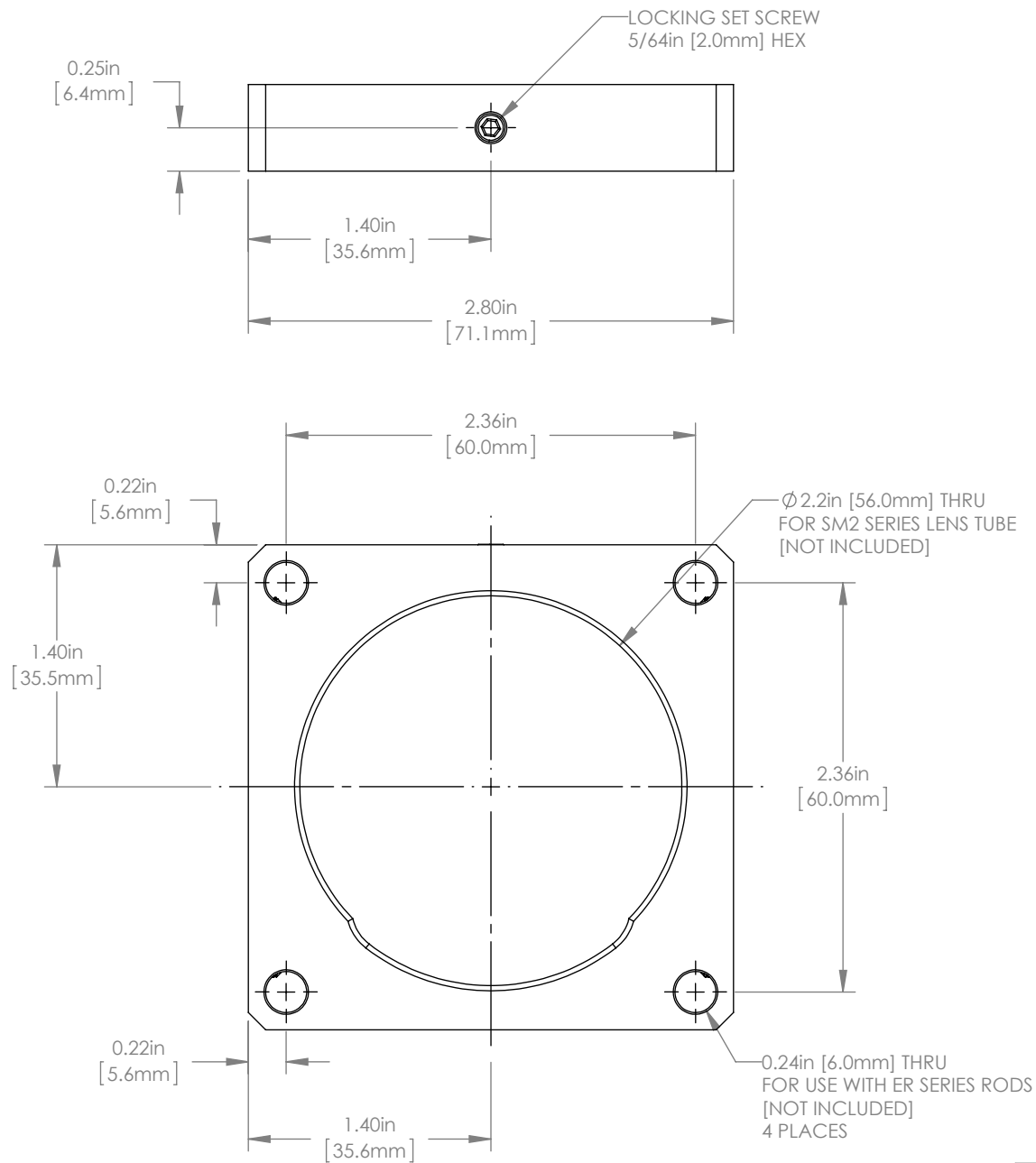
Image intensifier with lens relay



C-mount CMOS camera

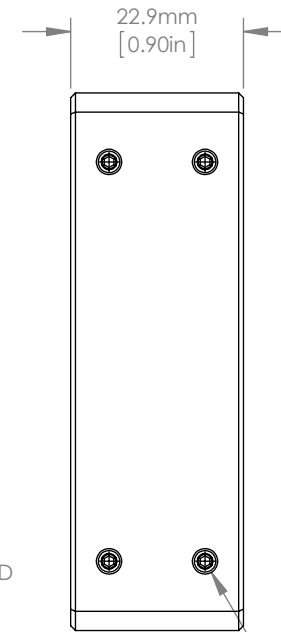
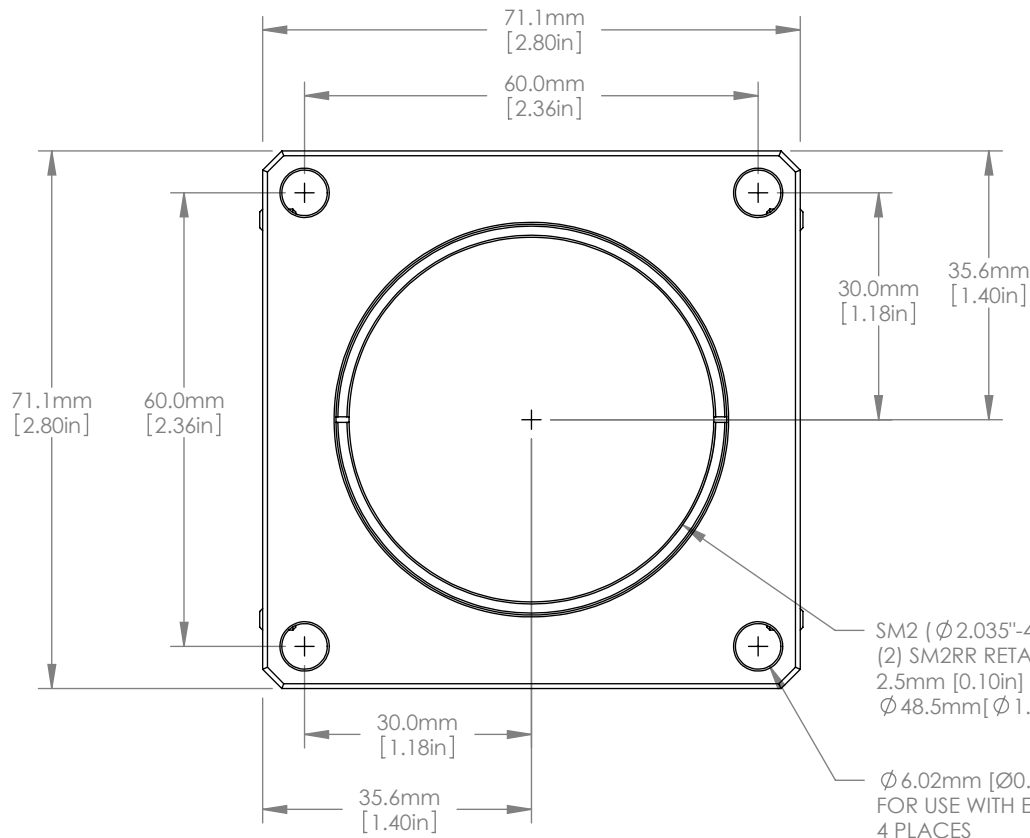


Bernhard Halle Nachfl. GmbH Optische Werkstätten Hubertusstr. 10, D-12163 Berlin			Maßstab 1:1 (1:2)	
			Flußspat und Quarz (krist.)	
			Bearb.	Datum 11.04.02
			Gepr.	Name LU
			Norm	
			Übersicht und Anschluß-Maße	
			UV-Achromat OUV 1.4.40 B'=-1	
			OUV 1440	
			Bl./var	
Zust.	Änderung	Datum	Name	



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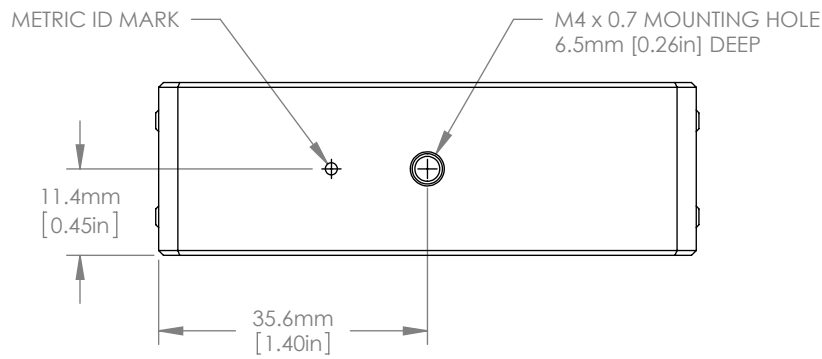
DRAWING PROJECTION			<b>THORLABS</b> www.thorlabs.com	
NAME	DATE	60mm CAGE PLATE FOR SM2 LENS TUBE		
DRAWN	HP	11 SEPT 12	REV A	
APPROVAL	TLB	11 SEPT 12	MATERIAL	ALUMINUM
COPYRIGHT © 2012 BY THORLABS				
VALUES IN PARENTHESIS ARE CALCULATED AND MAY CONTAIN ROUND OFF ERRORS			ITEM #	APPROX WEIGHT
			LCP09	30.5 g



SM2 (Ø 2.035"-40) SERIES INTERNAL THREAD  
 (2) SM2RR RETAINING RINGS INCLUDED  
 2.5mm [0.10in] THICK  
 Ø 48.5mm [Ø 1.90in] CLEAR APERTURE

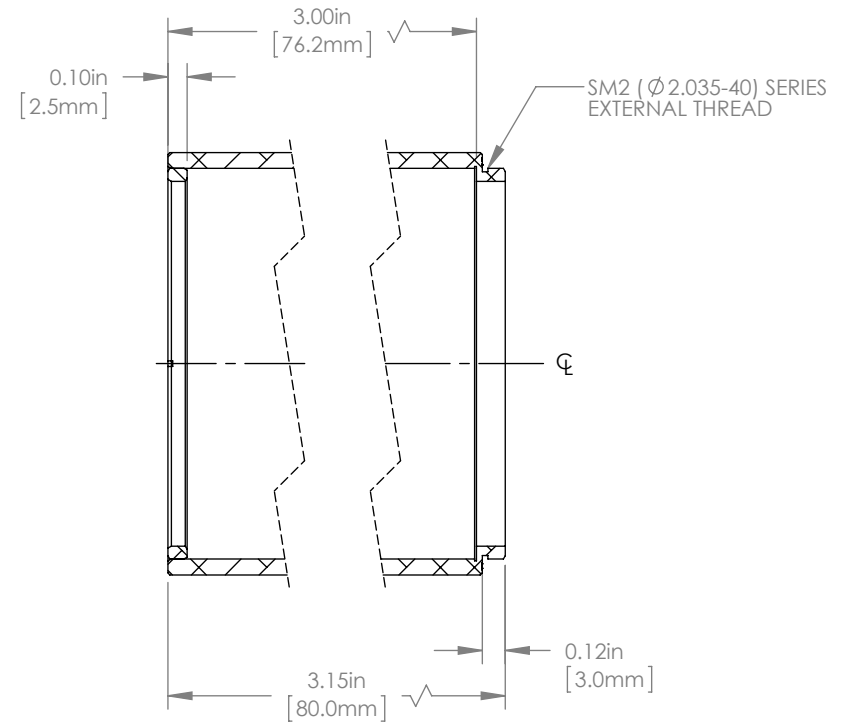
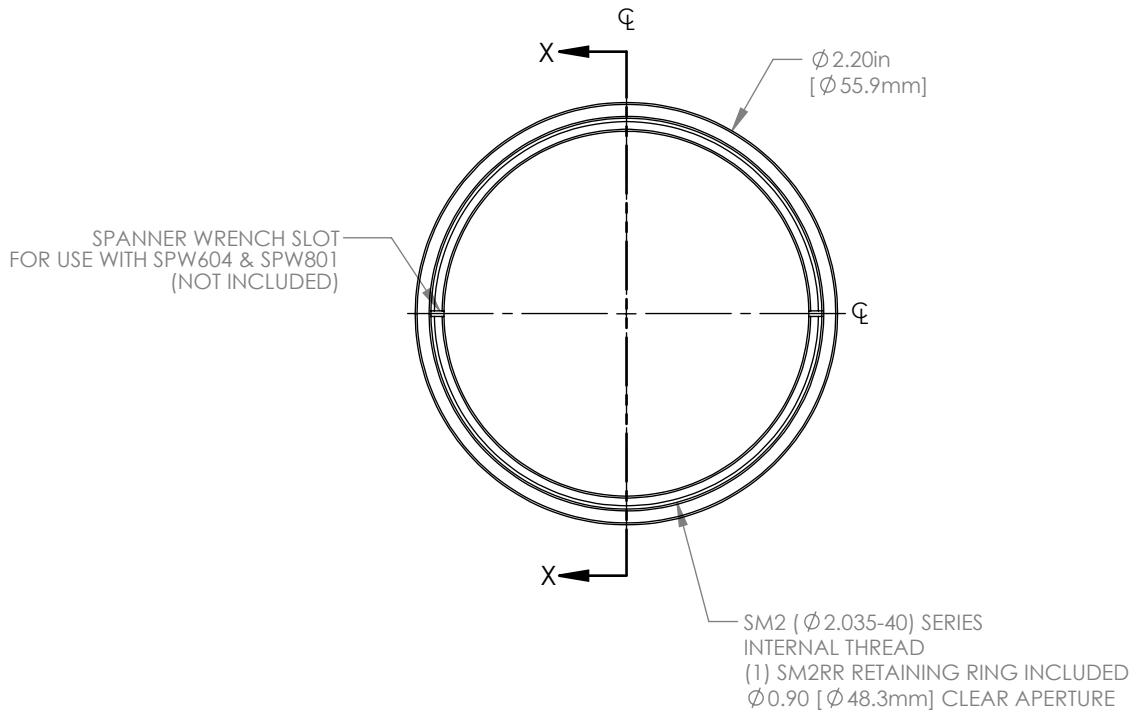
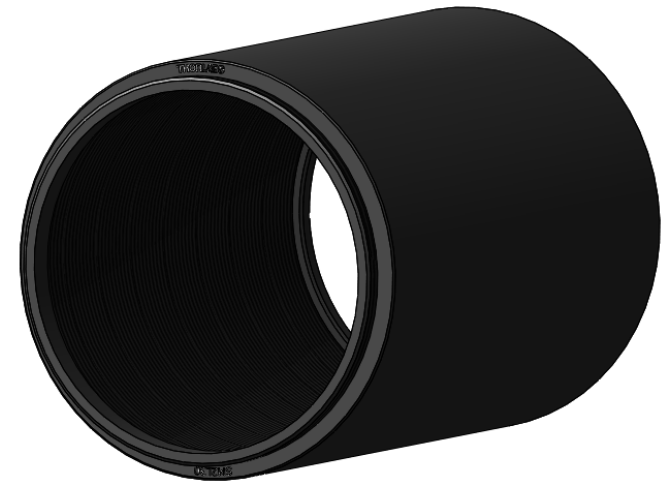
Ø 6.02mm [Ø 0.23in] THRU HOLE  
 FOR USE WITH ER SERIES RODS  
 4 PLACES

LOCKING SET SCREW  
 1.3mm [0.050in] HEX  
 4 PLACES  
 BOTH SIDES



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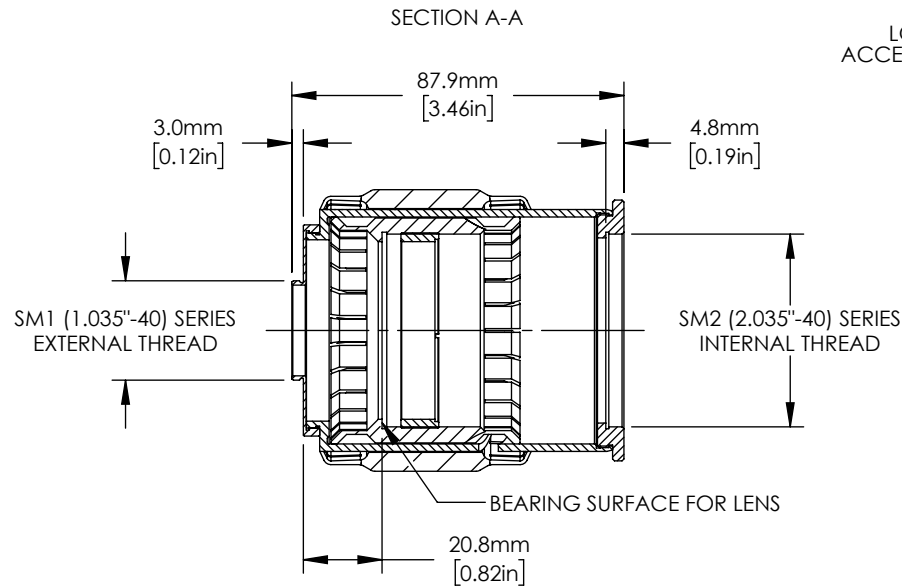
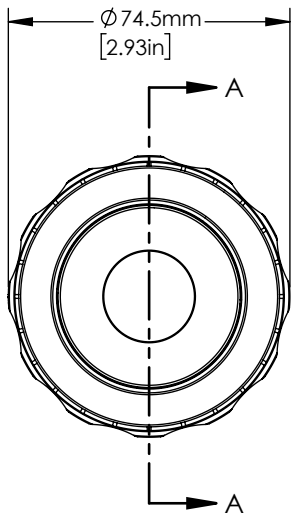
DRAWING PROJECTION			<b>THORLABS</b> www.thorlabs.com	
NAME	DATE	SM2 THREADED 60mm METRIC CAGE PLATE		
DRAWN	BM	08/AUG/10	MATERIAL	
APPROVAL	TC	08/AUG/10	ALUMINUM	REV C
COPYRIGHT © 2012 BY THORLABS				
VALUES IN PARENTHESIS ARE CALCULATED AND MAY CONTAIN ROUND OFF ERRORS			ITEM #	APPROX WEIGHT
			LCP01T/M	0.17kg



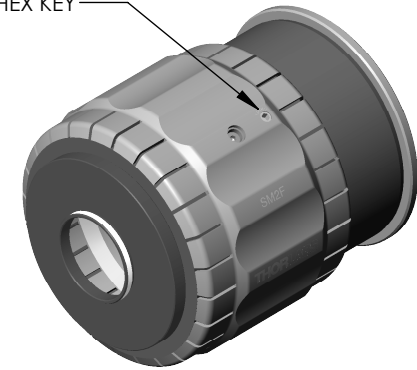
SECTION X-X

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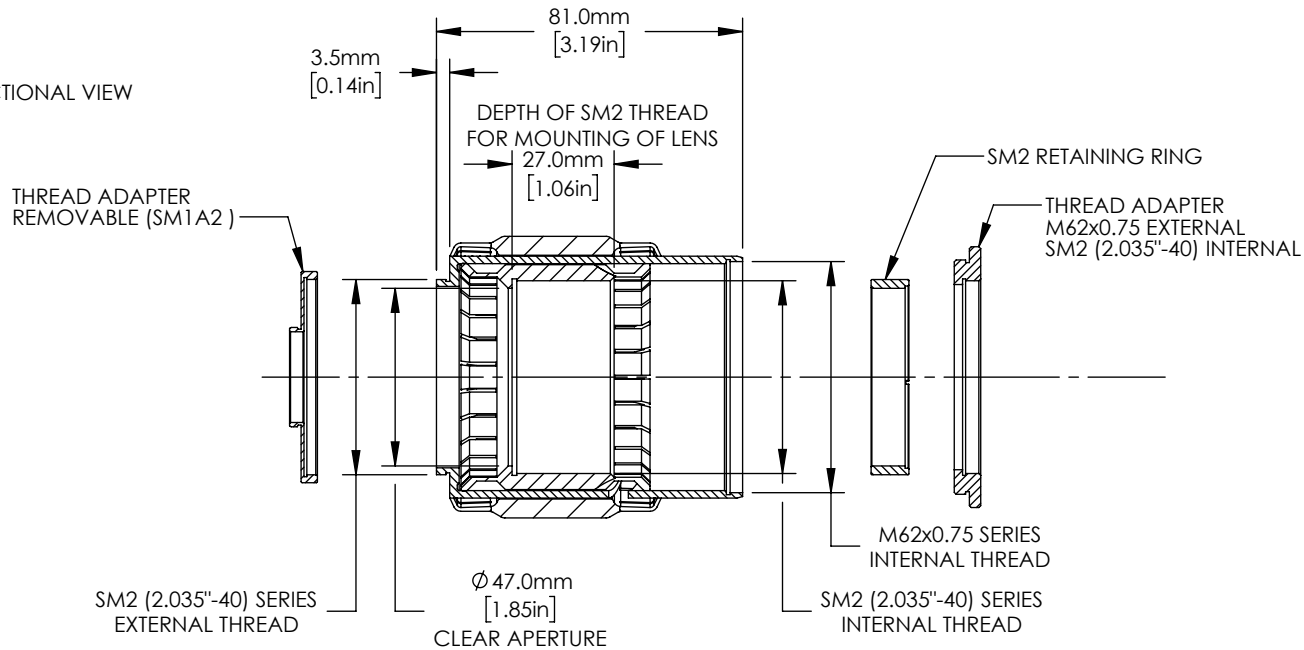
DRAWING PROJECTION			<b>THORLABS</b> www.thorlabs.com	
NAME	DATE	SM2 LENS TUBE, 3.0in DEEP		
DRAWN CT	28/SEP/15	MATERIAL		REV
APPROVAL AV	13/OCT/15	ANODIZED ALUMINUM		D
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VALUES IN PARENTHESIS ARE CALCULATED AND MAY CONTAIN ROUND OFF ERRORS				
ITEM #		APPROX WEIGHT		
SM2L30		80.1 g		



LOCKING SCREW  
ACCEPTS 2mm [5/64"]  
HEX KEY



EXPANDED SECTIONAL VIEW

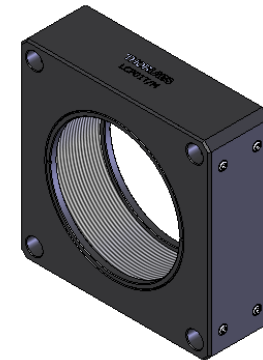
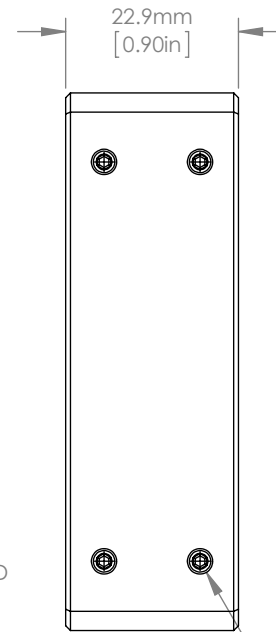
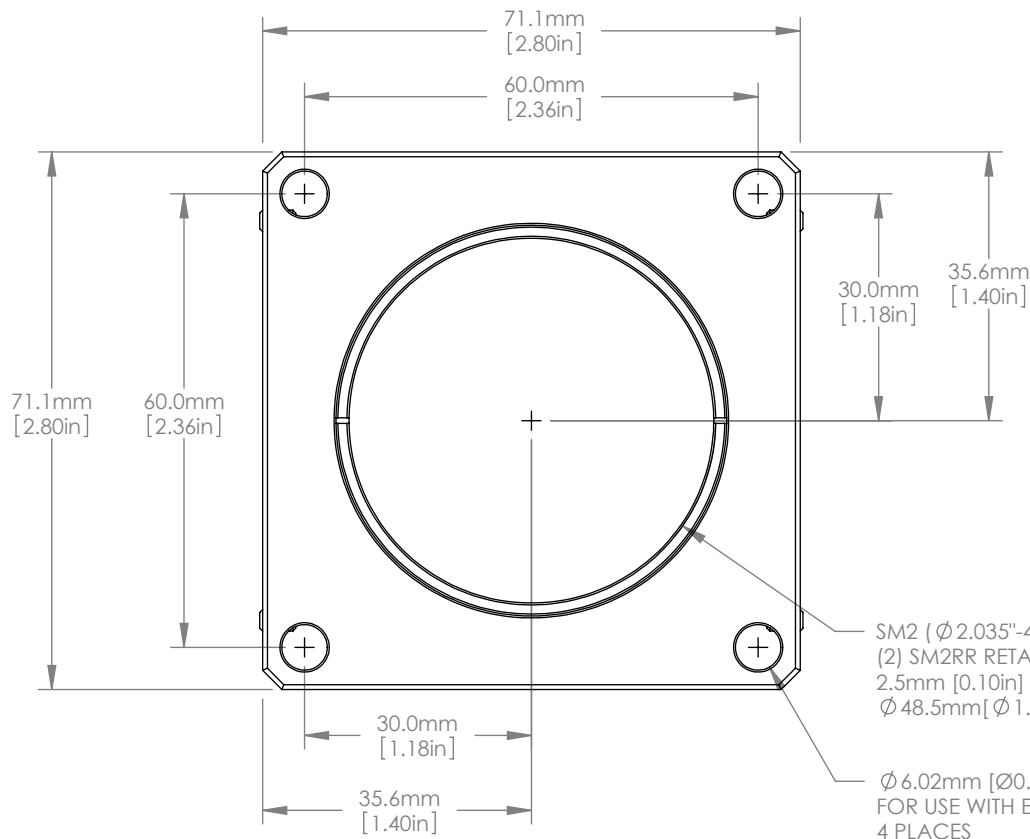


NOTES:

1. ADJUSTMENT RANGE 20mm [0.79in]
2. INCLUDED RETAINING RING: SM2 (2.035"-40) EXTERNAL THREAD, 10mm [0.39in] THICK
3. RECOMMENDED SPANNER WRENCH SPW604

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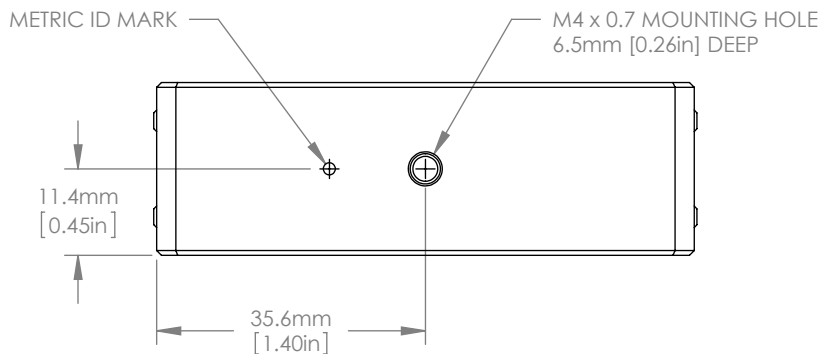
DRAWING PROJECTION			<b>THORLABS</b> www.thorlabs.com <b>ADJUSTABLE COLLIMATION OPTIC FOR 2" LENSES</b>	
NAME	DATE			
DRAWN	Hjt.	06/JUN/16	MATERIAL	
APPROVAL	KB	06/JUN/16		
COPYRIGHT © 2016 BY THORLABS			N/A	
VALUES IN PARENTHESIS ARE CALCULATED AND MAY CONTAIN ROUND OFF ERRORS			ITEM #	APPROX WEIGHT
			SM2F	0.20 kg
			REV	A



SM2 (Ø 2.035"-40) SERIES INTERNAL THREAD  
 (2) SM2RR RETAINING RINGS INCLUDED  
 2.5mm [0.10in] THICK  
 Ø 48.5mm [Ø 1.90in] CLEAR APERTURE

Ø 6.02mm [Ø 0.23in] THRU HOLE  
 FOR USE WITH ER SERIES RODS  
 4 PLACES

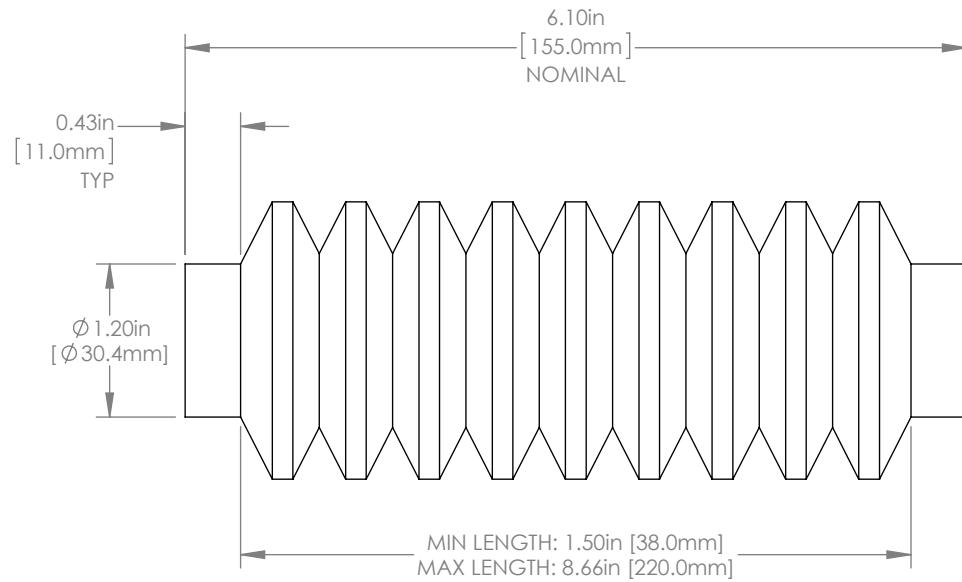
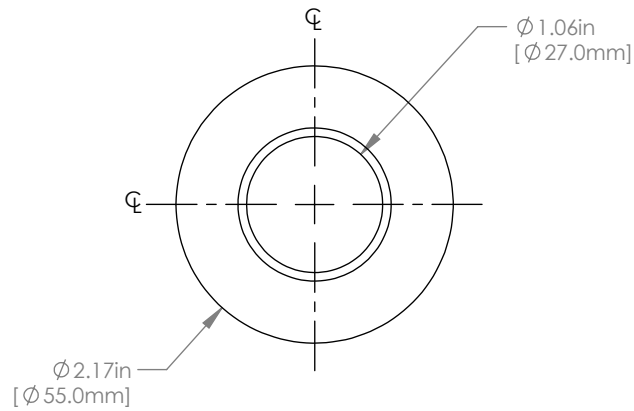
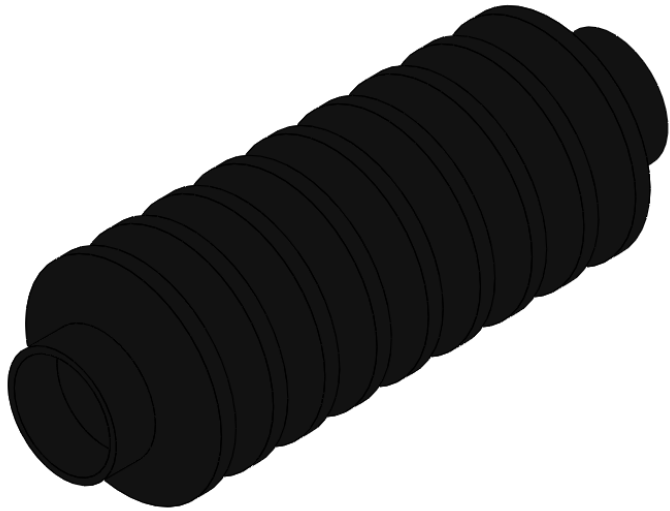
LOCKING SET SCREW  
 1.3mm [0.050in] HEX  
 4 PLACES  
 BOTH SIDES



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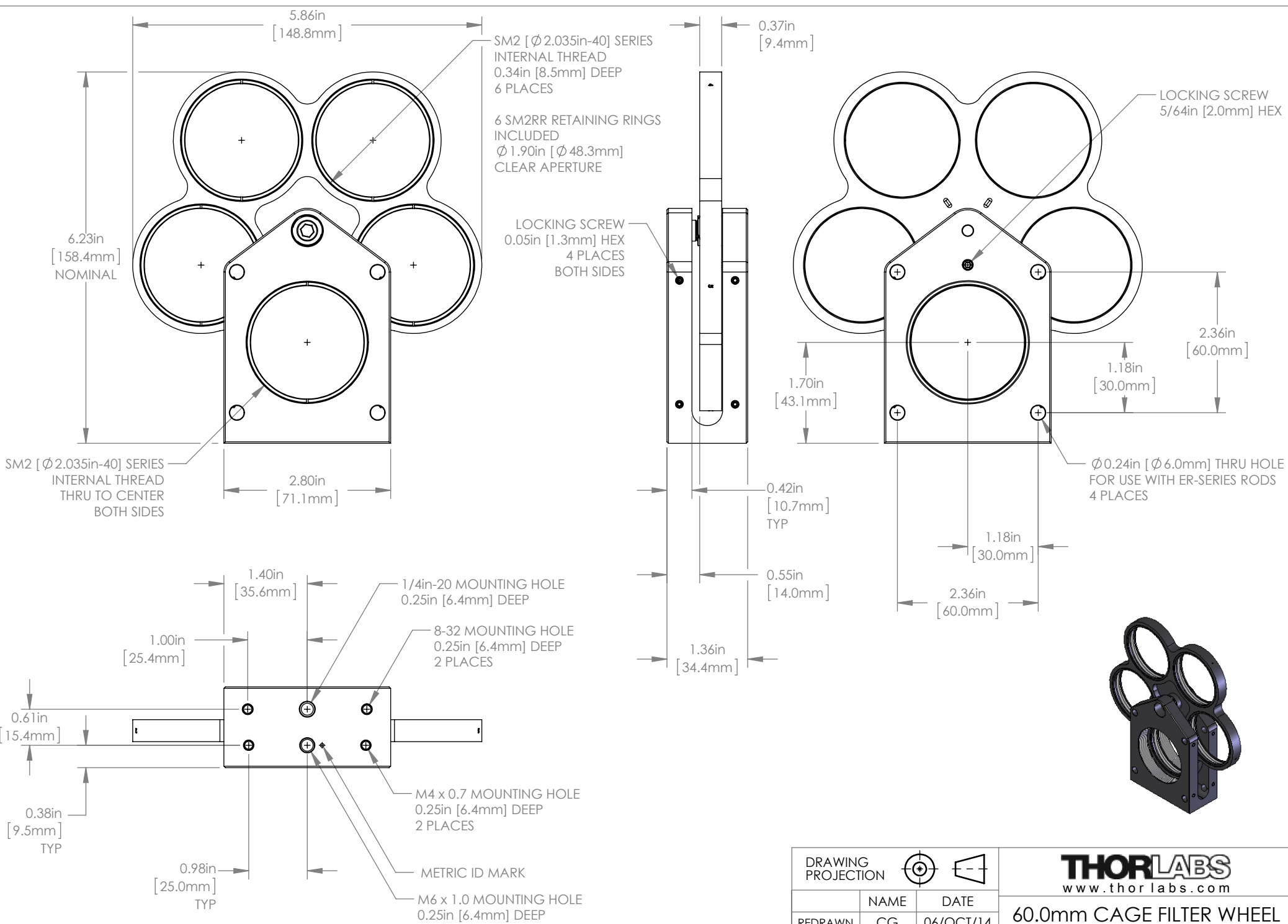
DRAWING PROJECTION			<b>THORLABS</b> www.thorlabs.com	
NAME	DATE	SM2 THREADED 60mm METRIC CAGE PLATE		
DRAWN	BM	08/AUG/10	MATERIAL	ALUMINUM
APPROVAL	TC	08/AUG/10	ITEM #	LCP01T/M
COPYRIGHT © 2012 BY THORLABS				
VALUES IN PARENTHESIS ARE CALCULATED AND MAY CONTAIN ROUND OFF ERRORS				
			APPROX WEIGHT	0.17kg
				REV C





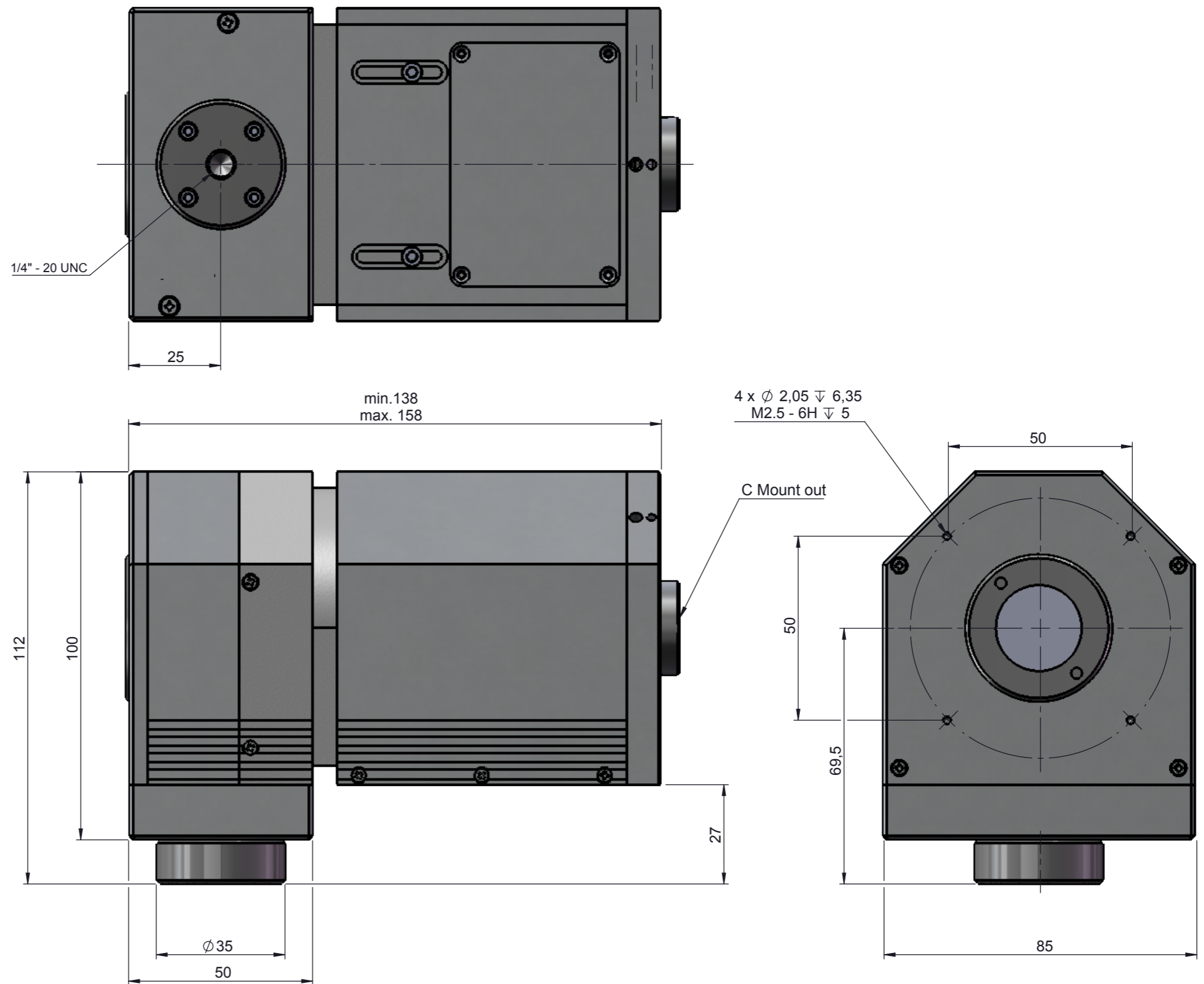
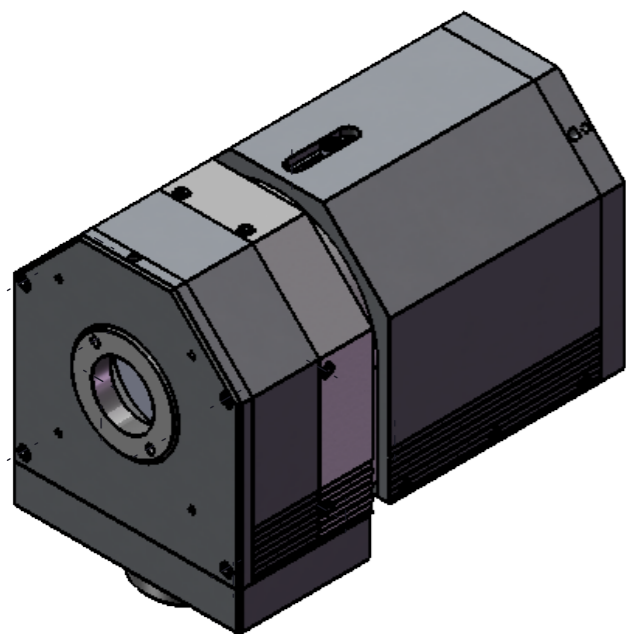
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DRAWING PROJECTION			<b>THORLABS</b> www.thorlabs.com	
NAME	DATE	BELLOWS FOR SM1 LENS TUBE		
REDRAWN AK	11/JUL/14	MATERIAL		REV B
APPROVAL CS	07/MAY/13	RUBBER		
COPYRIGHT © 2014 BY THORLABS		ITEM #	APPROX WEIGHT	
VALUES IN PARENTHESIS ARE CALCULATED AND MAY CONTAIN ROUND-OFF ERRORS		SM1B3	0.07 kg	



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DRAWING PROJECTION			<b>THORLABS</b> www.thorlabs.com	
REDRAWN	NAME	DATE	60.0mm CAGE FILTER WHEEL	
APPROVAL	CG	06/OCT/14	MATERIAL	
	AK	31/OCT/14	N/A	
COPYRIGHT © 2014 BY THORLABS			ITEM #	REV
VALUES IN PARENTHESIS ARE CALCULATED AND MAY CONTAIN ROUND OFF ERRORS			LCFW5	A
			APPROX WEIGHT	
			0.40 kg	



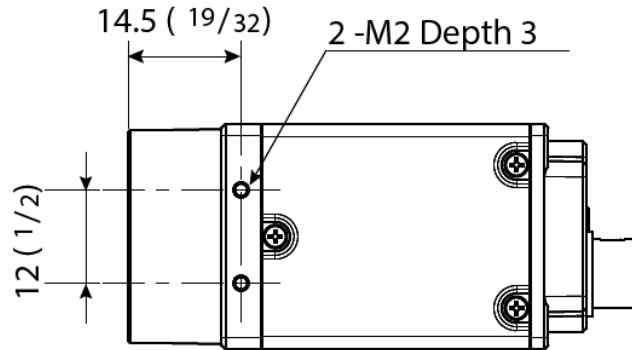
ISO 2768-1 f

				OBERFLÄCHE	WERKSTOFF	MAßSTAB
						1:2
				BENENNUNG		
				ProxiKit System		
001	Erstausgabe	Sanchez	14.12.2016			
REV.	ÄNDERUNG	NAME	DATUM			
		FREIGABE	ART-NR.:			
				ZCHG-NR.:		A3
						BL. 1/1

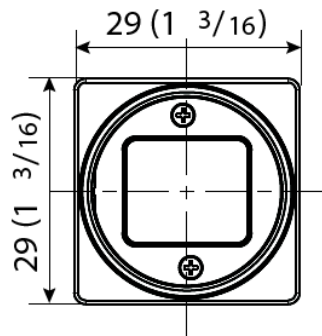
Schutzvermerk ISO 16016 beachten.  
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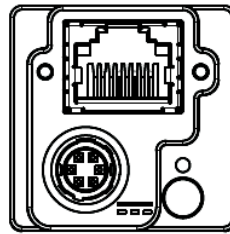
### Top



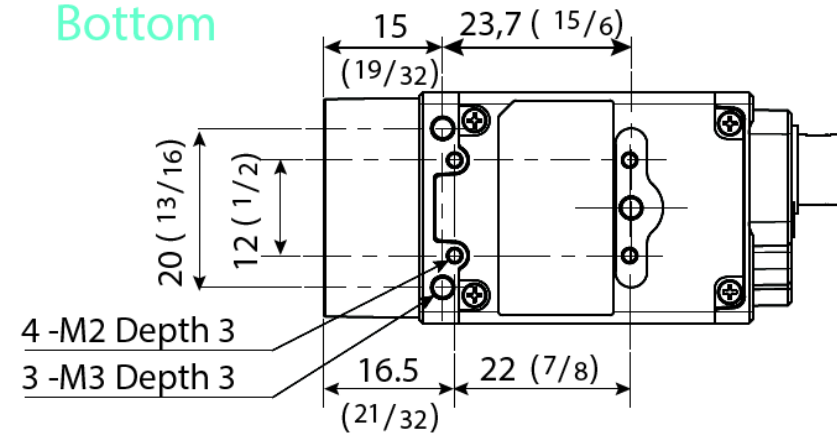
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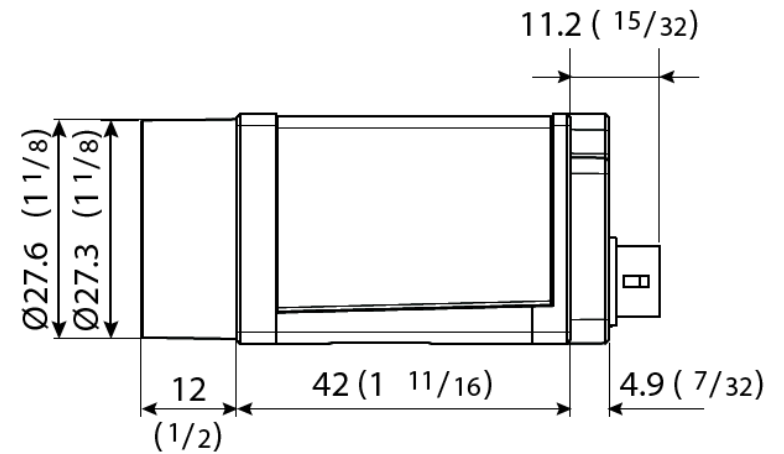
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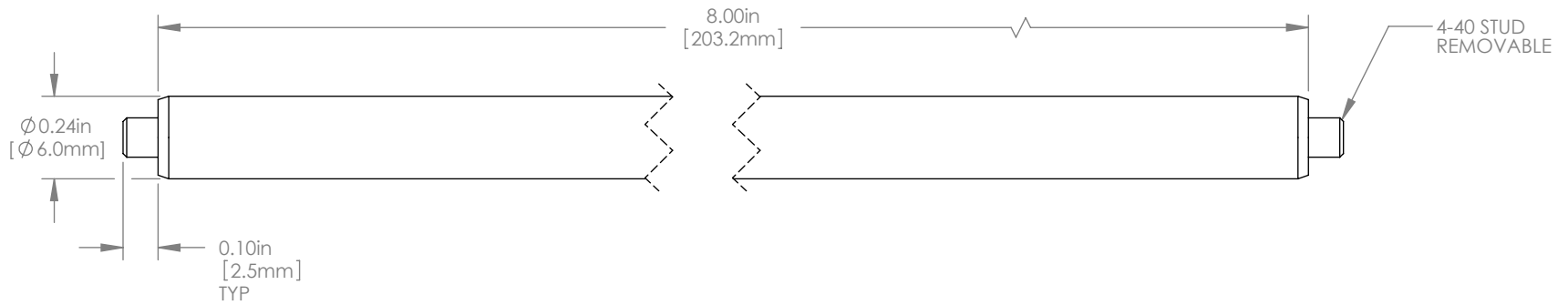
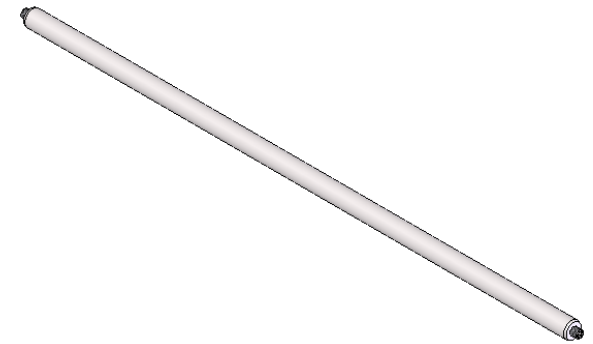


### Bottom



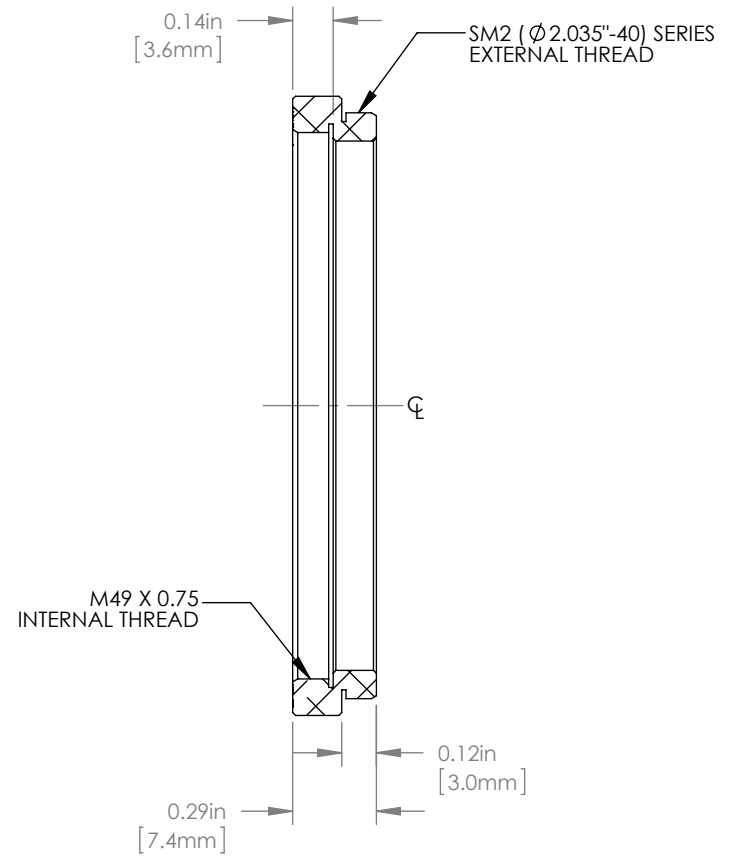
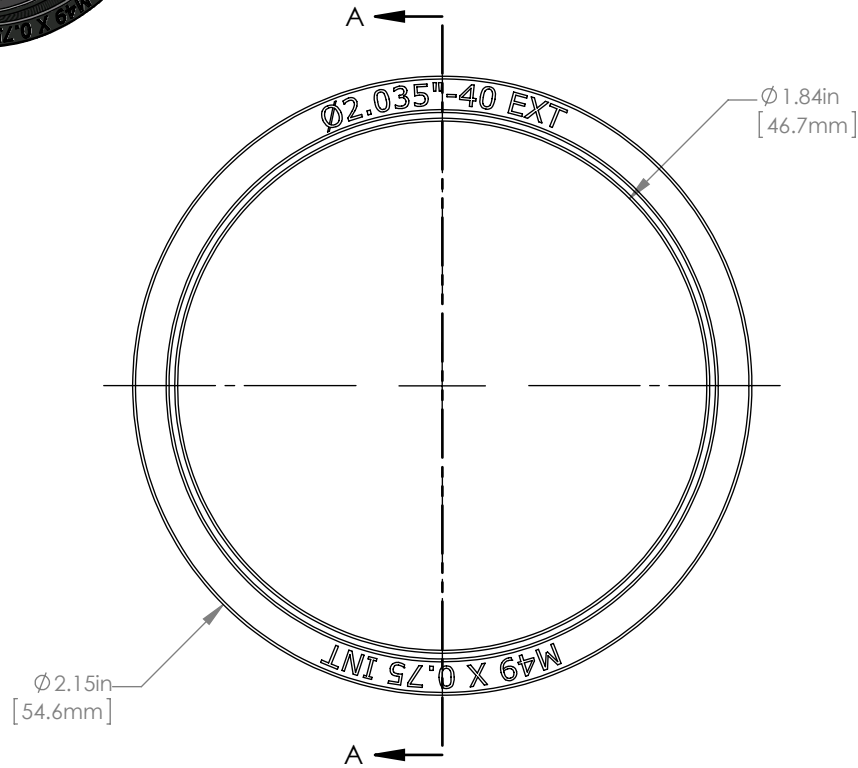
### Side





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DRAWING PROJECTION			<b>THORLABS</b> www.thorlabs.com	
	NAME	DATE	$\phi 6.0$ mm EXTENSION ROD, 8.00in LONG	
REDRAWN	CG	22/SEP/14	MATERIAL	
APPROVAL	BM	28/OCT/14	STAINLESS STEEL	REV B
COPYRIGHT © 2014 BY THORLABS			ITEM #	APPROX WEIGHT
VALUES IN PARENTHESIS ARE CALCULATED AND MAY CONTAIN ROUND OFF ERRORS			ER8	0.05 kg



SECTION A-A

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DRAWING PROJECTION			<b>THORLABS</b> www.thorlabs.com <b>M49 X 0.75 TO SM2          THREAD ADAPTER</b>	
NAME	DATE			
DRAWN	TLB	19/JUL/12	MATERIAL <b>ALUMINUM</b>	
APPROVAL	BM	24/JUL/12		
COPYRIGHT © 2012 BY THORLABS VALUES IN PARENTHESIS ARE CALCULATED AND MAY CONTAIN ROUND OFF ERRORS			ITEM # <b>SM2A27</b>	APPROX WEIGHT <b>0.01 kg</b>