

HIGH POWER LED COLLIMATOR SOURCES

An LED collimator consists of a collimating lens and an LED emitter. The LED emitter is placed at the focal plane of the collimating lens. The collimating lens thus images the LED emitter into infinity. Mightex LED collimators employ a high-NA aspherical collimating lens for precision collimation and high light throughput. LED collimators can be used as the light source in an illumination system. For example LED collimators can replace the standard lamp assembly in a microscope to provide stable, intense, and fast-modulated illumination. Typically the rest of the illumination optics will image the LED emitter onto the pupil of the imaging optics whereas the lens aperture on the collimator where intensity is uniform will be projected onto the object. In other illumination applications similar arrangement should be made to produce uniform and efficient illumination.

The LED emitters are mounted directly onto the metal base of the collimator which also features an integrated heat sink. This configuration minimizes thermal resistance between the LED emitter and the heat sink resulting in better heat dissipation. The collimating lens can be adjusted if needed for precise collimation. A locking ring fixes the lens position after adjustment. The collimators have been pre-adjusted in the factory.

Multi-chip LED emitters have been added to the product portfolio. Some of these 7W to 15W LEDs have total optical power exceeding 1W, quadrupling the power of a single-chip LED. Models with higher powers (7W and higher) feature a cooling fan, and have a different formfactor compared to other models. Please examine the installation drawings carefully. Power supply for the cooling fan is included in the price of the LED collimator sources. The LED collimators include a 1.5-meter cable with two bare-wire terminals at the end.

The light sources can be driven by Mightex LED controllers or other LED controllers and current sources. An optional focusing module can be mounted on the front of the LED collimator to focus light into a tight spot which is an image of the LED emitter. One of the applications with the focusing module is coupling LED light into a fiber or a light guide.

Additional interchangeable collimating lenses are available to produce different beam sizes with the same light source.

FEATURES

- Interchangeable aspherical collimating lens
- High numerical aperture (NA)
- High power (up to 50W)
- Wide range of available wavelengths
- Adjustable focus
- Optional focusing module
- Optional lightguide adapter
- Multiple mounting features for lab and OEM applications
- Integrated heat sink
- Cooling fan for >7W models

APPLICATIONS

- Microscope illuminator
- General purpose light source
- Fiber coupling (with optional focusing module)



PERFORMANCE SPECIFICATIONS

Deep UV LCS



Part Number	Nominal Wavelength (nm)	Beam Diameter (mm)	Half Diverging Angle (deg.)	I _{op} (mA)	V _{op} (V)	Typical Output ¹ Power (mW)
LCS-0265-02-23	265	23	1	350	6.3	5
LCS-0280-03-23	280	23	1	500	5.8	30
LCS-0285-03-23	285	23	1	500	5.8	35
LCS-0300-03-23	300	23	1	500	6	25
LCS-0310-03-23	310	23	1	500	5.8	30
LCS-0325-03-23	325	23	1	500	5.4	15
LCS-0340-02-22	340	22	1.7	500	4.3	23

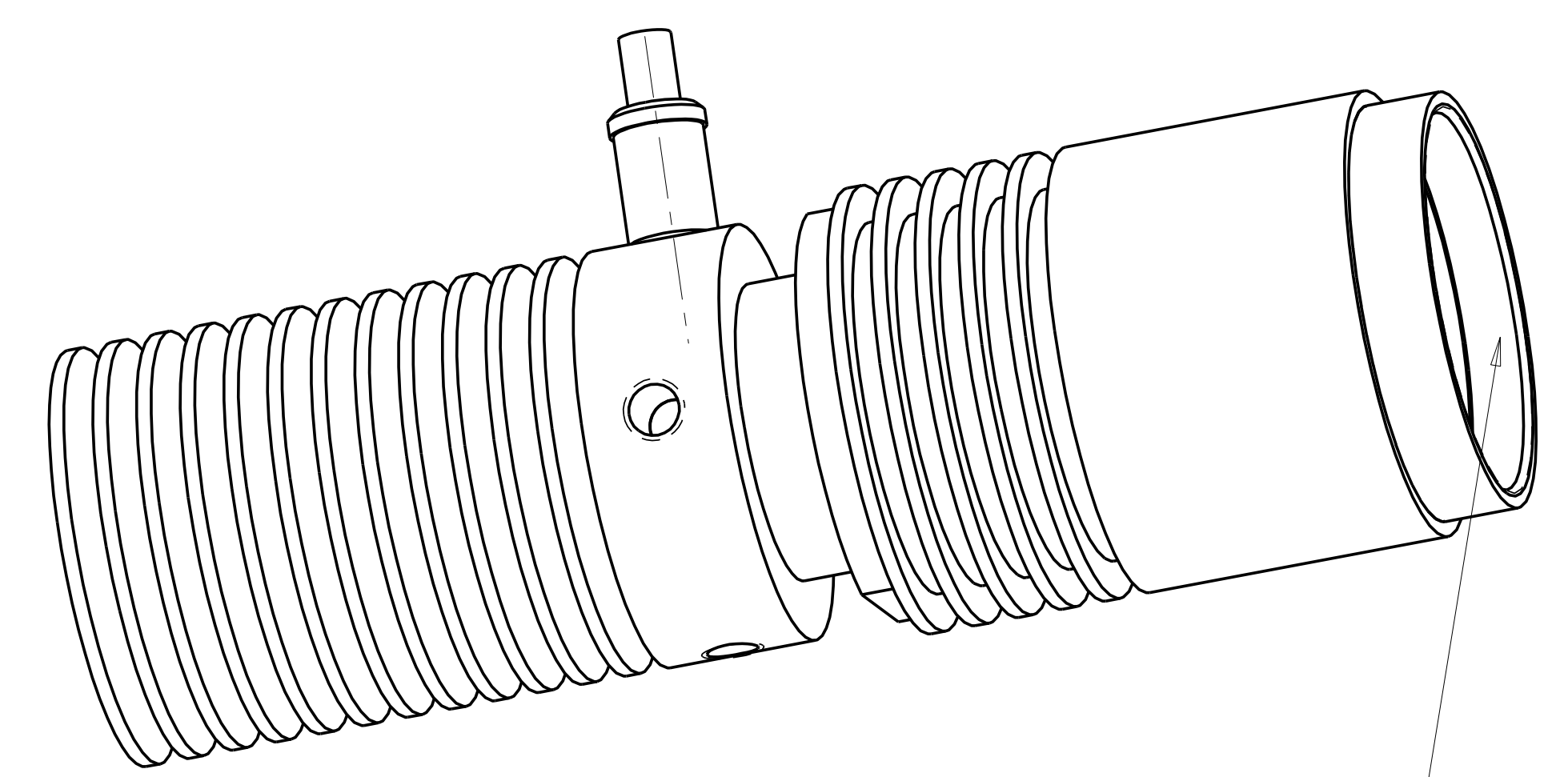
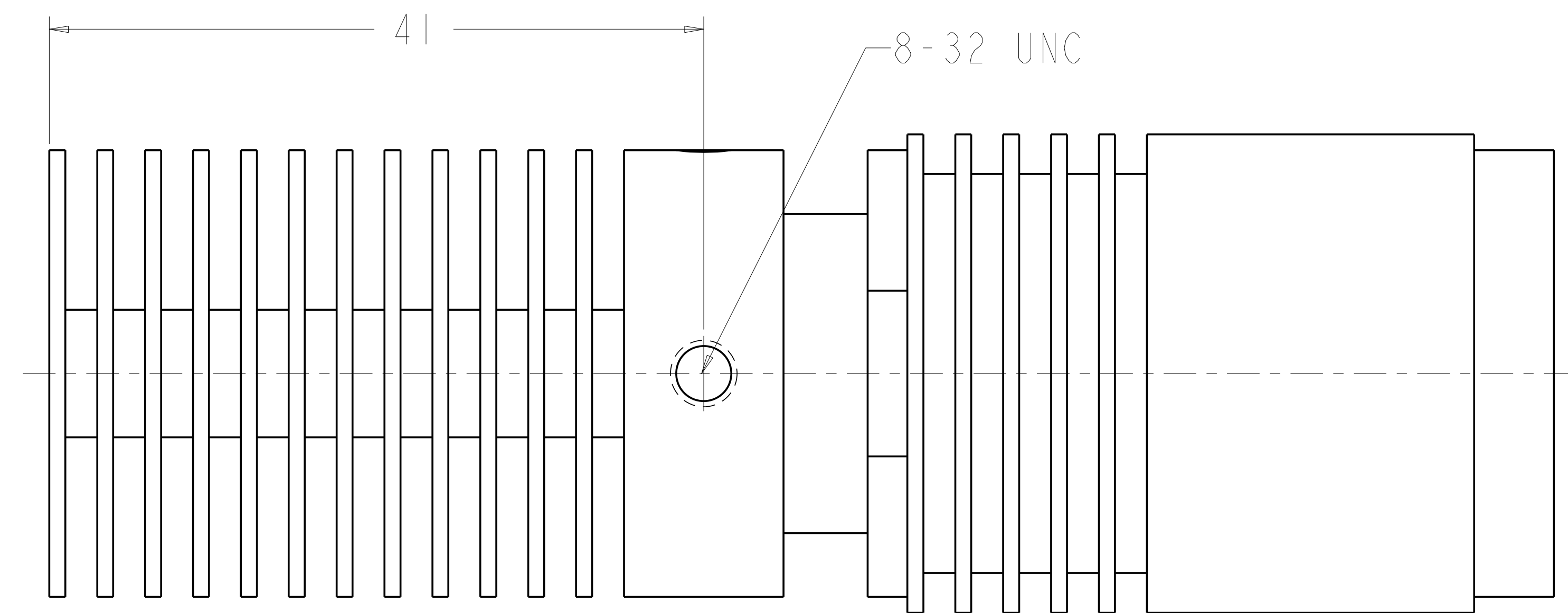
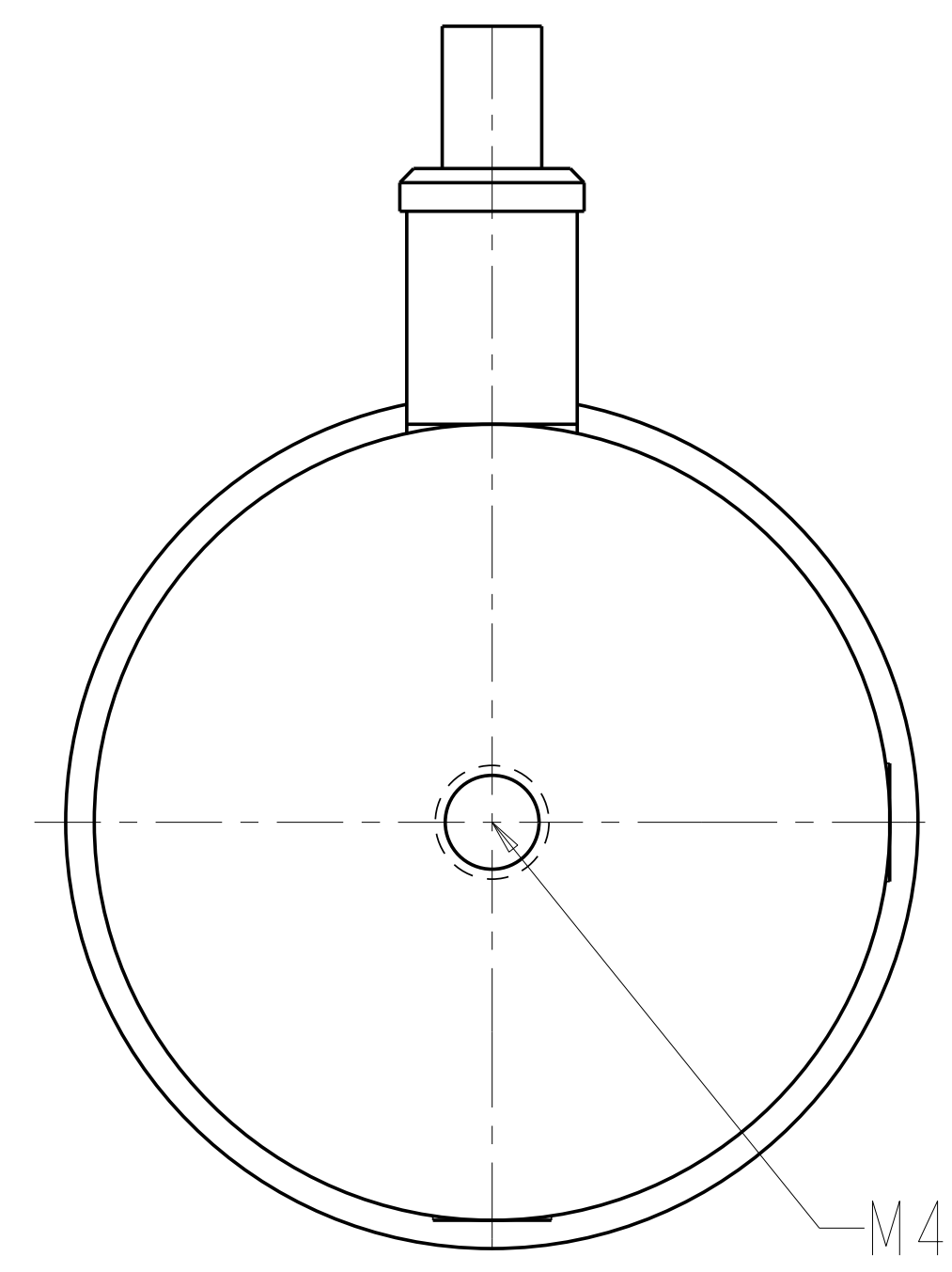
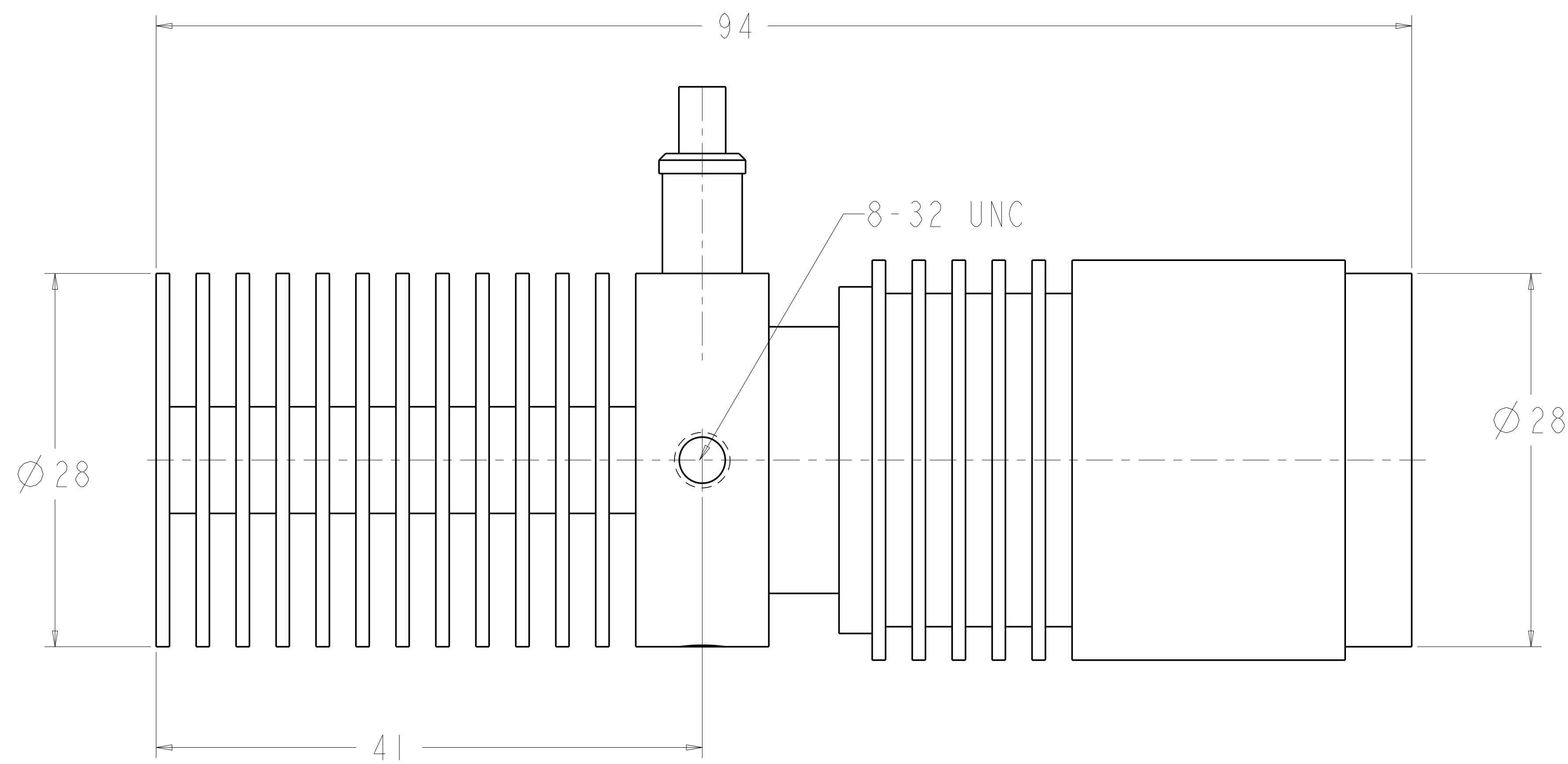
¹ Due to variations in the manufacturing process and operating parameters such as temperature and current, the actual output of any given LED may vary. Specifications are intended to be used as a guideline.

Type A LCS | *passively cooled*



Part Number	Nominal Wavelength (nm)	Half Diverging Angle (deg.)				I _{op} (mA)	V _{op} (V)	Typical Output Power ² (mW)
		φ11mm ¹	φ22mm ¹	φ38mm ¹	φ48mm ¹			
LCS-0340-02-xx	340	3.4	1.7	1	0.75	500	4.3	23
LCS-0365-04-xx	365	6.8	3.4	2	1.5	1000	3.65	500
LCS-0380-03-xx	380	3.4	1.7	1	0.75	1000	3.2	120
LCS-0385-04-xx	385	6.8	3.4	2	1.5	1000	3.65	500
LCS-0390-03-xx	390	3.4	1.7	1	0.75	1000	3.1	250
LCS-0395-03-xx	395	3.4	1.7	1	0.75	1000	3.1	270
LCS-0400-01-xx	400	5	2.5	1.5	1.1	350	3.5	100
LCS-0400-03-xx	400	3.4	1.7	1	0.75	1000	3.1	265
LCS-0405-03-xx	405	3.4	1.7	1	0.75	1000	3	325
LCS-0410-03-xx	410	3.4	1.7	1	0.75	1000	3	315
LCS-0415-03-xx	415	3.4	1.7	1	0.75	1000	3	310
LCS-0420-03-xx	420	3.4	1.7	1	0.75	1000	3	310
LCS-0425-03-xx	425	3.4	1.7	1	0.75	1000	3	290
LCS-0455-03-xx	455	3.4	1.7	1	0.75	1000	3.9	280
LCS-0470-03-xx	470	3.4	1.7	1	0.75	1000	3.9	200
LCS-0490-01-xx	490	3.4	1.7	1	0.75	350	3.5	140
LCS-0505-03-xx	505	3.4	1.7	1	0.75	1000	3.9	135

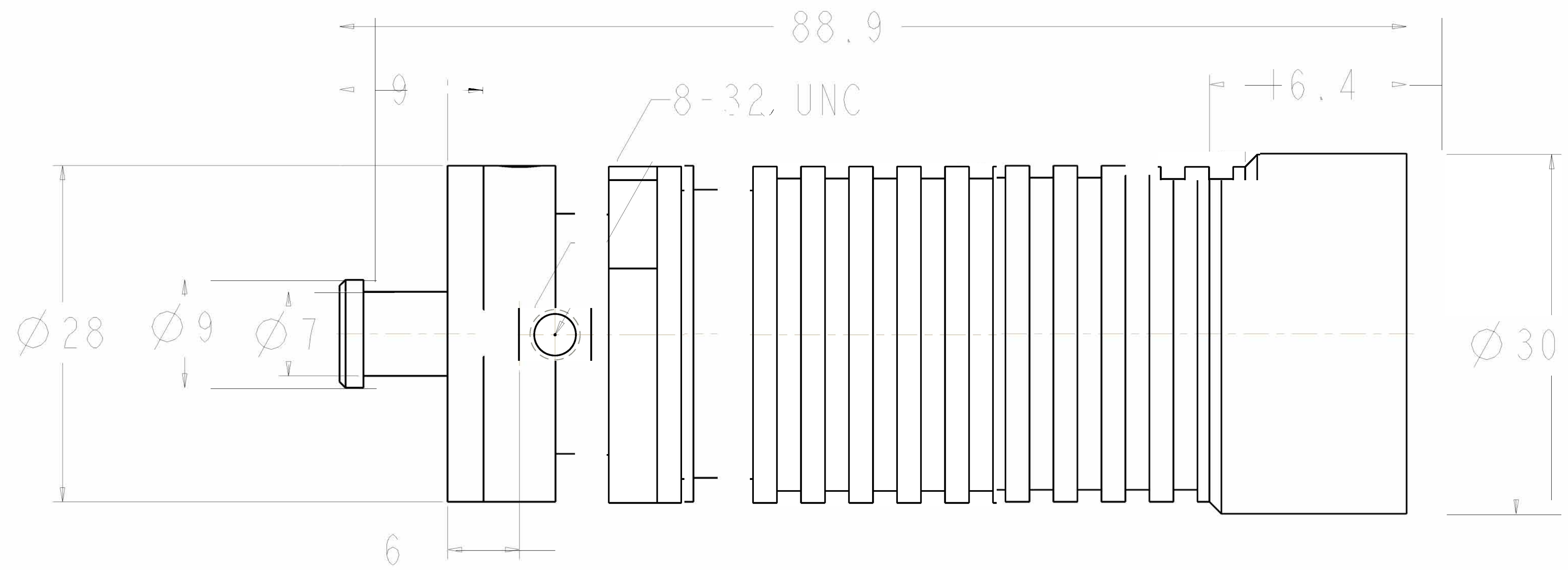
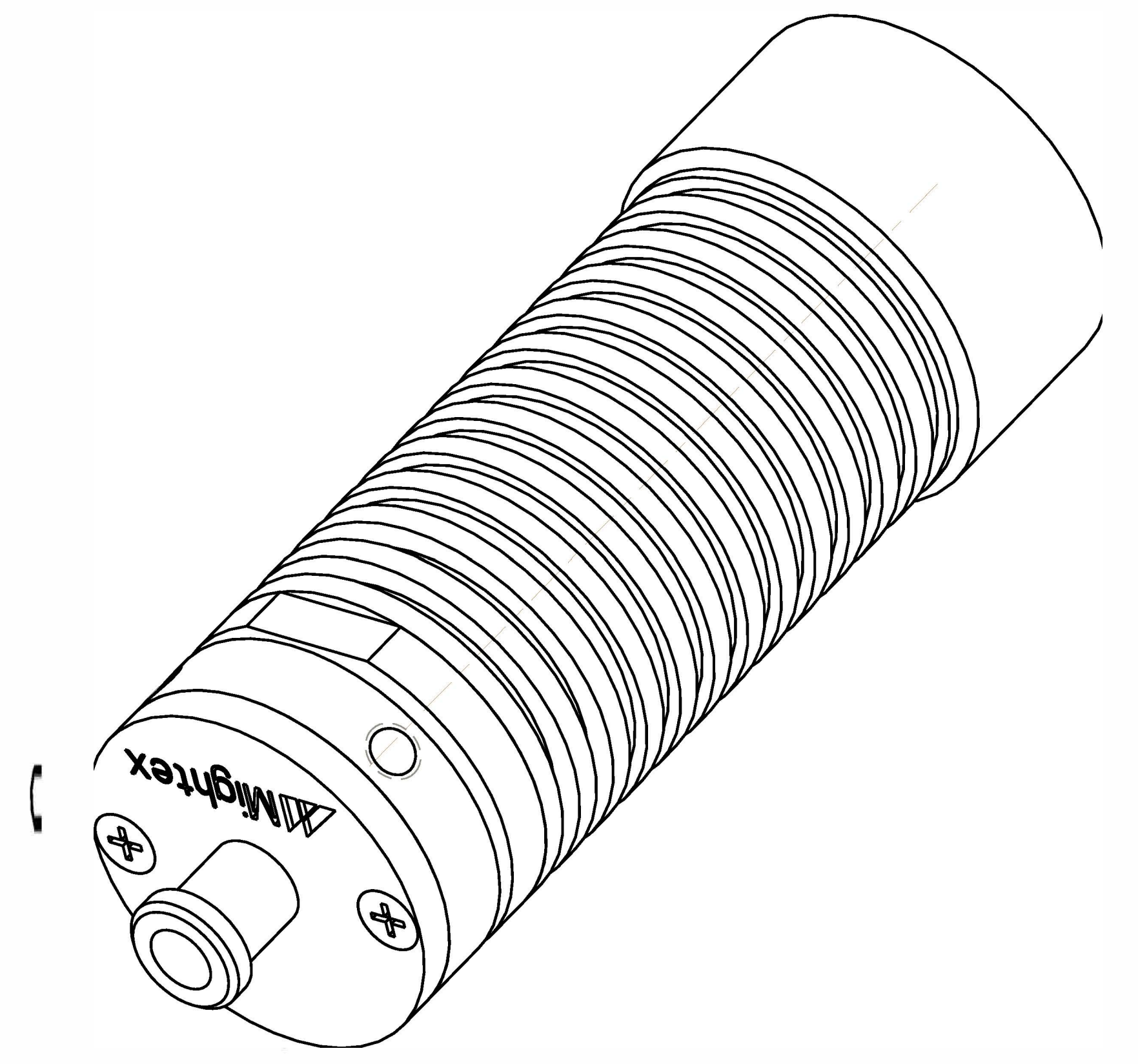
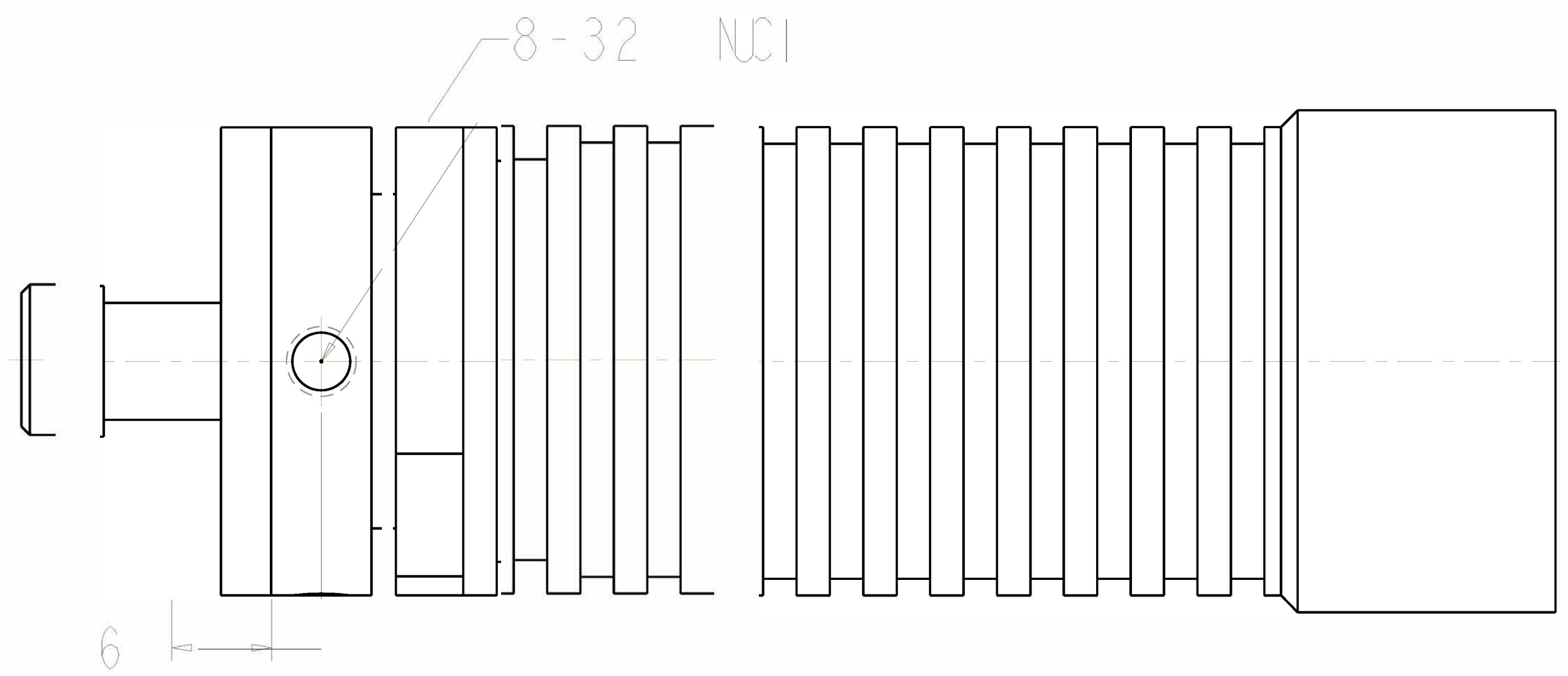
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MATERIAL:	THE INFORMATION AND DATA CONTAINED HEREIN CONFORMS TO ASME Y14.5M-1994	DRAWN: WALT	DATE: 12-JUN-09	Mightex Systems
ALT MATL:	ALL UNTOLERANCED DIMENSIONS ARE BASIC	EDGE/COR BREAK:	RADII INSIDE:	
CASE DEPTH:	UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MM	RADII OUTSIDE:	THIRD ANGLE PROJ	SIZE NO. 170000
HARDNESS:		UNLESS OTHERWISE SPECIFIED: 6.3 SURFACE FINISH	PRO/ENGINEER®	REL NO. SHEET 3 OF 8
SURFACE TREATMENT:				



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MATERIAL:	ASME Y14.5M-1994	DRAWN:	DATE: 07-Jan	Mightex Systems
SCALE:	BASIC	TO:	EDGE/COR BREAK	
FINISH:	UNLESS OTHERWISE SPECIFIED	RADI:	INSIDE	
TOLERANCE:	MM	RADI:	OUTSIDE	
		UNLESS OTHERWISE SPECIFIED	175°C ± 1.0	SIZE: D 175CC3J00
		0.3 SURFACE FINISH		REL NO.
				SHEET 2 OF 2