

BOXIN

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Machine Vision Product Brochure





COMPANY INTRODUCTION

Boxin is a private enterprise founded in 2001. It is a manufacturing company(NAICS333314)who dedicate providing optical products and services for Machine Vision, Modern Industries, Scientific Research & Education, Laser Application, Medical Instrument and Automation Equipment. It is also a reliable strategic partner for the companies who engaged in product outsourcing and contract manufacturing of high-precision optical components. BOXIN products are sold allover the world and enjoy a good reputation in the field of optical industry at home and abroad.

Boxin has more than 300 employees, covers 11,000 m standard optical production workshop and ultra-clean workshop; owned over 500 sets of advanced processing equipment and inspection instruments. Boxin has formed a complete set of opto-electro-mechanical production chain, in order to provide the full service from design & development, to sample trial production, then to mass production. The annual optical elements output over millions of pieces.

Since 2017, Boxin has been dedicated to the field of machine vision, and has developed researched, designed, and manufactured a variety of industrial lenses, as well as specialized lenses tailored for special industries (including high-temperature, underwater, nuclear radiation, medical, and hyperspectral applications, etc.). We also produce optoelectronic ranging sensors and customized light sources. Additionally, our company provides customized services for various optical modules.

After years of management optimization, Boxin has established a comprehensive team that integrates research and development, production and processing, process and equipment modification, quality control, marketing, and after-sales service, to provide customers with professional and integrated visual solutions.

DIRECTORY

1 Telecentric Lens Series

- 01 Telecentric Lens 1/2.5"
- 02 Telecentric Lens 1/2"
- 02 Telecentric Lens 1/1.8"
- 03 Telecentric Lens 1/1.7"
- 04 Telecentric Lens 2/3"
- 05 Telecentric Lens 1"
- 06 Telecentric Lens 1/1"
- 08 Telecentric Lens 1.75"
- 08 Telecentric Lens 2"
- 09 Telecentric Lens Ø39mm
- 09 Telecentric Lens Ø44mm
- 09 Telecentric Lens Ø59mm

2 FA Lens Serial

- 10 FA 1/1.8"
- 11 FA 2/3"
- 11 FA 1"
- 12 FA 1.1"
- 12 FA 4/3"

3 Liquid Lens

- 13 Telecentric liquid lens
- 13 FA liquid lens

4 360 Lens Series

- 14 360 Inner Wall Lens
- 14 360 Outer Wall Lens

5 Testing Industry

- 14 Parallel Light Sources

6 Customized Lens

- 15 Provide optical design, processing, assembly and testing services, balancing product processing cost, manufacturing and performance indicators find optimized to solutions.

Telecentric Lens Series

- Widely compatible: Target sizes range from 1/2.5" to ϕ59mm
- Features ultra-low distortion, large depth of field, and high telecentricity
- Available in dual telecentric and single telecentric lenses to meet various inspection tasks
- Available in coaxial and non-coaxial telecentric lenses to meet different lighting environments

1/2.5" Telecentric Lens
Customized Lens for Specialized Industries

Bilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
BNL0.030X410-125B	237	0.03	410±5	F4	<0.1°	<0.1	90	72	C	1/2.5"
BNL0.042X318-125B	169	0.042	318±4	F4.2	<0.1°	<0.1	64	54	C	1/2.5"
BNL0.048X301-125B	148	0.048	301±4	F5	<0.1°	<0.1	54	44	C	1/2.5"
BNL0.053X288-125B	134	0.053	288±4	F3.8	<0.1°	<0.1	49	34	C	1/2.5"
BNL0.065X251-125B	109	0.065	251±3	F.4	<0.1°	<0.1	41	22	C	1/2.5"
BNL0.072X238-125B	98	0.072	238±3	F4.2	<0.1°	<0.1	36	20	C	1/2.5"
BNL0.080X208-125B	89	0.080	208±2	F4.2	<0.1°	<0.1	33	18	C	1/2.5"
BNL0.090X230-125B	79	0.090	230±2	F4.2	<0.1°	<0.1	31	10	C	1/2.5"
BNL0.100X178-125B	71	0.100	178±2	F4.2	<0.1°	<0.1	27	16	C	1/2.5"
BNL0.112X159-125B	63	0.112	159±2	F4.2	<0.1°	<0.1	24	12	C	1/2.5"
BNL0.113X187-125B	63	0.113	187±2	F4.2	<0.1°	<0.1	23	12	C	1/2.5"
BNL0.129X138-125B	55	0.129	138±2	F4.5	<0.1°	<0.1	19	8	C	1/2.5"
BNL0.150X128-125B	47	0.150	128±2	F4.5	<0.1°	<0.1	17	6	C	1/2.5"
BNL0.172X118-125B	41	0.172	118±2	F4.2	<0.1°	<0.1	15	5	C	1/2.5"
BNL0.199X111-125B	35	0.199	111±2	F4.5	<0.1°	<0.1	14	4	C	1/2.5"
BNL0.277X72-125B	29	0.277	72±2	F3	<0.1°	<0.1	10	6	C	1/2.5"

1/2." Telecentric Lens
Customized Lens for Specialized Industries

Bilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
BNL0.033X410-12B	242.42	0.033	410±5	4.18	<0.1°	<0.1	63.6	100	C	1/2"
BNL0.047X318-12B	170.21	0.047	318±4	4.18	<0.1°	<0.1	44.8	62	C	1/2"
BNL0.053X301-12B	150.94	0.053	301±4	4.18	<0.1°	<0.1	39.4	52	C	1/2"
BNL0.058X288-12B	137.93	0.058	288±4	4.18	<0.1°	<0.1	36.3	40	C	1/2"
BNL0.072X251-12B	111.11	0.072	251±3	4.18	<0.1°	<0.1	29.3	32	C	1/2"
BNL0.080X238-12B	100.00	0.08	238±3	4.18	<0.1°	<0.1	27.4	22	C	1/2"
BNL0.090X208-12B	88.89	0.09	208±2	4.18	<0.1°	<0.1	22.4	16	C	1/2"
BNL0.100X230-12B	80.00	0.1	230±2	4.18	<0.1°	<0.1	20.4	14	C	1/2"
BNL0.111X178-12B	72.07	0.111	178±2	4.18	<0.1°	<0.1	18.2	12	C	1/2"
BNL0.124X159-12B	64.52	0.124	159±2	4.18	<0.1°	<0.1	17	14	C	1/2"
BNL0.125X187-12B	64.00	0.125	187±2	4.18	<0.1°	<0.1	16.8	10	C	1/2"
BNL0.143X138-12B	55.94	0.143	138±2	4.18	<0.1°	<0.1	13.9	7	C	1/2"
BNL0.166X128-12B	48.19	0.166	128±2	4.18	<0.1°	<0.1	12.9	6	C	1/2"
BNL0.190X118-12B	42.11	0.19	118±2	4.18	<0.1°	<0.1	11.6	5	C	1/2"
BNL0.221X111-12B	36.20	0.221	111±2	4.18	<0.1°	<0.1	9.7	4	C	1/2"
BNL0.308X72-12B	25.97	0.308	72±2	4.7	<0.1°	<0.1	7.1	2	C	1/2"

Unilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
CL0.8X180-12A	10.00	0.8	180	11.5	<0.1°	<0.1	9.5	0.8	C	1/2"
CL6X65-12A	1.33	6	65	35	<0.05°	<0.05	3	0.04	C	1/2"
NL6X65-12A	1.33	6	65	35	<0.05°	<0.05	3	0.04	C	1/2"
NL0.3X110-12A	26.67	0.3	110	13	<0.1°	<0.05	20.8	6.5	C	1/2"

1/8." Telecentric Lens
Customized Lens for Specialized Industries

Bilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
BNL0.5X200-118A	18.00	0.5	1971±3	/	<0.1°	<0.03	8.3	10	C	1/1.8"
BNL0.037X410-118B	243.24	0.037	410±5	4.2	<0.1°	<0.1	72.6	70	C	1/1.8"
BNL0.053X318-118B	169.81	0.053	308±4	4.2	<0.1°	<0.1	50.1	48	C	1/1.8"
BNL0.060X301-118B	150.00	0.06	301±4	4.2	<0.1°	<0.1	44.3	38	C	1/1.8"

▪Bilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
BNL0.066X288-118B	136.36	0.066	288 ± 4	4.2	<0.1°	<0.1	40.7	32	C	1/1.8"
BNL0.081X251-118B	111.11	0.081	251 ± 3	4.2	<0.1°	<0.1	34.1	24	C	1/1.8"
BNL0.091X238-118B	98.90	0.091	238 ± 3	4.7	<0.1°	<0.1	29.8	22	C	1/1.8"
BNL0.100X208-118B	90.00	0.1	208 ± 2	4.7	<0.1°	<0.1	26.3	16	C	1/1.8"
BNL0.113X230-118B	79.65	0.113	230 ± 2	4.7	<0.1°	<0.1	22.9	14	C	1/1.8"
BNL0.125X178-118B	72.00	0.125	178 ± 2	4.7	<0.1°	<0.1	20.9	12	C	1/1.8"
BNL0.140X159-118B	64.29	0.14	159 ± 2	4.2	<0.1°	<0.1	19.5	10	C	1/1.8"
BNL0.141X187-118B	63.83	0.141	187 ± 2	5.3	<0.1°	<0.1	19.3	10	C	1/1.8"
BNL0.161X138-118B	55.90	0.161	138 ± 2	4.7	<0.1°	<0.1	16.1	7	C	1/1.8"
BNL0.187X128-118B	48.13	0.187	128 ± 2	5.3	<0.1°	<0.1	14.8	6	C	1/1.8"
BNL0.215X118-118B	41.86	0.215	118 ± 2	4.7	<0.1°	<0.1	13.2	5	C	1/1.8"
BNL0.250X111-118B	36.00	0.25	111 ± 2	5.3	<0.1°	<0.1	10.6	4	C	1/1.8"
BNL0.347X72-118B	25.94	0.347	72 ± 2	5.3	<0.1°	<0.1	8.6	2.4	C	1/1.8"

▪Unilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
CL0.5X65-118A	18.00	0.5	65	7.5	<0.1°	<0.05	7.5	1.2	C	1/1.8"
CL0.5X200-118A	18.00	0.5	199.4 ± 3	8	<0.1°	<0.03	8.3	1.4	C	1/1.8"
CL1.5X65-118A	6.00	1.5	65	14	<0.1°	<0.05	5	0.23	C	1/1.8"
CL2X110-118A	4.50	2	110	14	<0.08°	<0.05	3.5	0.16	C	1/1.8"
NL0.5X65-118A	18.00	0.5	65	7.5	<0.1°	<0.05	7.5	1.2	C	1/1.8"
NL0.5X200-118A	18.00	0.5	197 ± 3	8	<0.1°	<0.03	8.3	1.4	C	1/1.8"
NL1.5X65-118-FA	6.00	1.5	64.2	14	<0.1°	<0.05	5	0.23	C	1/1.8"
NL1.5X65-118A	6.00	1.5	64.2	14	<0.1°	<0.05	5	0.23	C	1/1.8"

▪Bilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
BNL0.25X110-117A	38.00	0.25	110.7	5.5	<0.1°	<0.05	11.7	9.4	C	1/1.7"

2/3"

Telecentric Lens
Customized Lens for
Specialized Industries

▪Bilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
BCL0.3X110-23A	36.67	0.3	110	5.5	<0.1°	<0.05	9.8	1.74	C	2/3"
BNL0.3X110-23A	36.67	0.3	110	5.5	<0.1°	<0.05	9.8	1.74	C	2/3"
BNL0.048X410-23B	229.17	0.048	410±5	5.4	<0.1°	<0.1	70.8	5.2	C	2/3"
BNL0.067X318-23B	164.18	0.067	318±4	5.4	<0.1°	<0.1	51.4	40	C	2/3"
BNL0.076X301-23B	144.74	0.076	301±4	5.4	<0.1°	<0.1	45.3	34	C	2/3"
BNL0.084X288-23B	130.95	0.084	288±4	5.4	<0.1°	<0.1	41.3	30	C	2/3"
BNL0.103X251-23B	106.80	0.103	251±3	5.4	<0.1°	<0.1	33.4	20	C	2/3"
BNL0.115X238-23B	95.65	0.115	238±3	4.87	<0.1°	<0.1	31.5	16	C	2/3"
BNL0.127X208-23B	86.61	0.127	208±2	4.9	<0.1°	<0.1	26.9	12	C	2/3"
BNL0.143X230-23B	76.92	0.143	230±2	5.4	<0.1°	<0.1	24.7	12	C	2/3"
BNL0.159X178-23B	69.18	0.159	178±2	5.4	<0.1°	<0.1	22.4	10	C	2/3"
BNL0.179X159-23B	61.45	0.179	159±2	5.4	<0.1°	<0.1	19.5	7	C	2/3"
BNL0.179X187-23B	61.45	0.179	187±2	6.5	<0.1°	<0.1	20.6	10	C	2/3"
BNL0.204X138-23B	53.92	0.204	138±2	5	<0.1°	<0.1	16.9	6	C	2/3"
BNL0.238X128-23B	46.22	0.238	128±2	5	<0.1°	<0.1	15	4	C	2/3"
BNL0.273X118-23B	40.29	0.273	118±2	4.87	<0.1°	<0.1	13.6	3	C	2/3"
BNL0.317X111-23B	34.70	0.317	111±2	6	<0.1°	<0.1	11.6	3	C	2/3"
BNL0.439X72-23B	25.06	0.439	72±2	5.3	<0.1°	<0.1	8.1	2	C	2/3"

▪Unilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
CL0.4X110-23	27.50	0.14	110	6.5	<0.1°	<0.1	8.9	1.9	C	2/3"
CL0.5X65-23A	22.00	0.15	65	13	<0.1°	<0.1	17.4	3.4	C	2/3"
CL0.5X110-23A	22.00	0.2	109.6	9.6	<0.1°	<0.1	10	1	C	2/3"
NL0.5X110-23A	22.00	0.4	111.2	9.6	<0.1°	<0.1	10	1	C	2/3"
NL0.8X65-23A	13.75	0.4	65	9	<0.1°	<0.05	7.8	0.63	C	2/3"
CL0.8X110-23A	13.75	0.5	109	8	<0.1°	<0.05	6.2	0.35	C	2/3"
NL0.8X110-23A	13.75	0.5	109	8	<0.1°	<0.05	6.2	0.35	C	2/3"
CL1.2X107-23A	9.17	0.5	107	10	<0.1°	<0.05	4.1	0.3	C	2/3"
NL1.2X107-23A	9.17	0.5	107	10	<0.1°	<0.05	4.1	0.3	C	2/3"
CL1.5X65-23A	7.33	0.8	65	12	<0.1°	<0.2	4.4	0.24	C	2/3"
CL1.5X110-23A	7.33	0.8	107	13	<0.1°	<0.05	5.1	0.3	C	2/3"
NL1.5X110-23A	7.33	0.8	107	13	<0.1°	<0.05	5.1	0.3	C	2/3"
CL1X65-23A	11.00	1	65	11	<0.1°	<0.05	6.6	0.49	C	2/3"

Unilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
CL1X110-23A	11.00	1	110.9	10	<0.15°	<0.05	5	0.27	C	2/3"
NL1X110-23A	11.00	1	110.9	10	<0.15°	<0.05	5	0.27	C	2/3"
CL2X65-23A	5.50	1.2	65	12	<0.03°	<0.1	3.3	0.13	C	2/3"
CL2X110-23A	5.50	1.2	110	12	<0.3°	<0.07	3	0.1	C	2/3"
NL2X110-23A	5.50	1.5	110	12	<0.3°	<0.07	3	0.1	C	2/3"
CL3X65-23A	3.67	1.5	65	17	<0.05°	<0.1	2.7	0.085	C	2/3"
NL0.2X148-23A	55.00	1.5	147.5	6	<0.05°	<0.05	16.6	0.3	C	2/3"
NL0.4X110-23A	27.50	1.75	110	6.5	<0.12°	<0.01	8.9	1.9	C	2/3"
NL0.5x65-23A	22.00	2	65	13	<0.1°	<0.05	17.4	3.4	C	2/3"
NL0.14X235-23A	78.57	2	235	6	<0.1°	<0.05	25	10	C	2/3"
NL0.15X129-23A	73.33	2	129	8	<0.03°	<0.05	25.6	16	C	2/3"
NL1.75X110-23A	6.29	2	110	14	<0.2°	<0.1	4.0	0.2	C	2/3"
NL2X65-23A	5.50	3	65	12	<0.06°	<0.1	3.3	0.13	C	2/3"
NL3X65-23A	3.67	3	65	17	<0.005°	<0.1	2.7	0.085	C	2/3"
NL4X65-23A	2.75	4	65	17	<0.1°	<0.05	2.5	0.05	C	2/3"

1" Telecentric Lens
Customized Lens for Specialized Industries

Bilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
BNL0.069X410-1B	231.88	0.069	410	6	<0.1°	<0.1	42.8	52	C	1"
BNL0.098X318-1B	163.27	0.098	318	6	<0.1°	<0.1	30.3	26	C	1"
BNL0.111X301-1B	144.14	0.111	301	6.5	<0.1°	<0.1	27.1	30	C	1"
BNL0.122X288-1B	131.15	0.122	288	6	<0.1°	<0.1	24.9	18	C	1"
BNL0.149X251-1B	107.38	0.149	251	6	<0.1°	<0.1	20.2	14	C	1"
BNL0.168X238-1B	95.24	0.168	238	6.5	<0.1°	<0.1	18.1	16	C	1"
BNL0.185X208-1B	86.49	0.185	208	6.5	<0.1°	<0.1	16.3	10	C	1"
BNL0.208X230-1B	76.92	0.208	230	6.5	<0.1°	<0.1	14.8	8	C	1"
BNL0.232X178-1B	68.97	0.232	178	6	<0.1°	<0.1	12.6	6	C	1"
BNL0.259X159-1B	61.78	0.259	159	6	<0.1°	<0.1	11.5	5	C	1"
BNL0.26X187-1B	61.54	0.26	187	7.8	<0.1°	<0.1	12.5	8	C	1"
BNL0.298X138-1B	53.69	0.298	138	5.6	<0.1°	<0.1	10.1	3	C	1"
BNL0.347X128-1B	46.11	0.347	128	8	<0.1°	<0.1	9.6	5	C	1"
BNL0.398X118-1B	40.20	0.398	118	6.5	<0.1°	<0.1	8.7	2	C	1"
BNL0.461X111-1B	34.71	0.461	111	7.8	<0.1°	<0.1	7.9	2	C	1"
BNL0.642X72-1B	24.92	0.642	72	9	<0.1°	<0.1	8.5	1.2	C	1"

Unilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
CL0.7X107-1B	22.86	0.7	107.2	7	<0.1°	<0.05	5.3	0.64	C	1"
NL0.7X107-1B	22.86	0.7	107.2	7	<0.1°	<0.05	5.3	0.64	C	1"
CL5X65-1B	3.20	5	62.5	> 13.8	<0.15°	<0.05	1.5	/	C	1"

1.1" Telecentric Lens
Customized Lens for Specialized Industries

Bilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
BNL0.49X1851.1A	37.55	0.49	185	12	<0.1°	<0.03	7	2	C	1.1"
BNL0.076X410-1.1B	242.11	0.076	410	6.18	<0.1°	<0.1	46.9	40	C	1.1"
BNL0.077X408-1.1A	238.96	0.077	408	5	<0.035°	<0.035	46.3	26	C	1.1"
BNL0.108X318-1.1B	170.37	0.108	318	6.18	<0.1°	<0.1	33.7	26	C	1.1"
BNL0.123X301-1.1B	149.59	0.123	301	6.18	<0.1°	<0.1	29	20	C	1.1"
BNL0.134X288-1.1B	137.31	0.134	288	6.18	<0.1°	<0.1	26.2	16	C	1.1"
BNL0.165X251-1.1B	111.52	0.165	251	6.18	<0.1°	<0.1	22.8	12	C	1.1"
BNL0.185X238-1.1B	99.46	0.185	238	7.2	<0.1°	<0.1	20.4	13	C	1.1"
BNL0.204X208-1.1B	90.20	0.204	208	6.2	<0.1°	<0.1	18.5	8	C	1.1"
BNL0.229X230-1.1B	80.35	0.229	230	6.6	<0.1°	<0.1	16.4	10	C	1.1"
BNL0.255X178-1.1B	80.35	0.255	178	6.6	<0.1°	<0.1	14.1	6	C	1.1"
BNL0.286X159-1.1B	64.34	0.286	159	6.18	<0.1°	<0.1	13	4	C	1.1"
BNL0.287X187-1.1B	64.11	0.287	187	9.6	<0.1°	<0.1	14.2	8	C	1.1"
BNL0.328X138-1.1B	56.10	0.328	138	6.7	<0.1°	<0.1	11	4	C	1.1"
BNL0.382X128-1.1B	48.17	0.382	128	7.9	<0.1°	<0.1	10.3	4	C	1.1"
BNL0.437X118-1.1B	42.11	0.437	118	7.2	<0.1°	<0.1	9.3	2	C	1.1"
BNL0.509X111-1.1B	36.15	0.509	111	9.6	<0.1°	<0.1	8.3	3	C	1.1"
BNL0.707X72-1.1B	26.03	0.707	72	10.8	<0.1°	<0.1	6.3	2	C	1.1"

Unilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
CL0.6X110-1.1A	30.67	0.6	110	6.5	<0.09°	<0.02	5.9	0.8	C	1.1"
NL0.6X110-1.1A	30.67	0.6	110	6.5	<0.09°	<0.02	5.9	0.8	C	1.1"
CL0.8X110-1.1A	23.00	0.8	110	7.5	<0.1°	<0.05	5.2	0.5	C	1.1"
CL1.5X110-1.1A	12.27	1.5	110	11.5	<0.1°	<0.05	3.9	0.25	C	1.1"
NL1.5X110-1.1A	12.27	1.5	110	11.5	<0.1°	<0.05	3.9	0.25	C	1.1"

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
CL1X110-1.1A	18.40	1	110	10	<0.1°	<0.05	5	0.45	C	1.1"
NL1X110-1.1A	18.40	1	110	10	<0.1°	<0.05	5	0.45	C	1.1"
CL2X68-1.1A	9.20	2	68	7.1-16	<0.2°	<0.05	1.8	0.08	C	1.1"
CL3X65-1.1-GLA	6.13	3	65	9.5-16	<0.2°	<0.05	1.6	0.04	C	1.1"
NL3X65-1.1-GLA	6.13	3	65	9.5-16	<0.2°	<0.05	1.6	0.04	C	1.1"
CL4X65-1.1-GLA	4.60	4	65	12-36	<0.15°	<0.05	1.4	0.04	C	1.1"
NL4X65-1.1-GLA	4.60	4	65	12-36	<0.15°	<0.05	1.4	0.04	C	1.1"
CL5X65-1.1F	3.68	5	65	13	<0.05°	<0.03	1.5	0.08	C	1.1"
NL5X65-1.1F	3.68	5	65	13	<0.05°	<0.03	1.5	0.08	C	1.1"
NL0.2X125-1.1A	92.00	0.2	125	6	<0.1°	<0.1	16.6	6.73	C	1.1"
NL0.3X138-1.1A	61.33	0.3	138	8	/0.05、	<0.05	13.8	3.9	C	1.1"
NL0.6X110-1.1A	30.67	0.6	110	6.5	/0.03、	<0.02	5.9	0.8	C	1.1"
NL0.22X180-1.1A	83.64	0.22	180	8	<0.1°	<0.05	17.4	7.4	C	1.1"
NL0.22X200-1.1A	83.64	0.22	200	8	<0.1°	<0.05	17.4	7.4	C	1.1"
NL0.23X200-1.1A	80.00	0.23	200	8	<0.1°	<0.05	16.7	7.4	C	1.1"
NL0.25X120-1.1	75.41	0.244	122.5	6	<0.1°	<0.1	13.6	4.52	C	1.1"
NL0.36X150-1.1	51.11	0.36	150.4	9	<0.1°	<0.07	11	1.2	C	1.1"
NL0.345X220-1.1	53.33	0.345	220	8	<0.1°	<0.05	11.5	3	C	1.1"
NL0.367X220-1.1	50.14	0.367	221.7	8	<0.1°	<0.05	10.8	2.6	C	1.1"
NL0.455X110-1.1	40.44	0.455	110	9	<0.1°	<0.05	8.7	1.2	C	1.1"
NL2X68-1.1	9.20	2	68	7.1-16	<0.2°	<0.05	1.8	0.08	C	1.1"



1.75" Telecentric Lens
Customized Lens for Specialized Industries

Bilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
BNL0.603X128-175B	45.77	0.603	128±2	11.4	<0.1°	<0.1	10.6	3	M58	1.75"
BNL0.120X410-175B	230.00	0.12	410±5	8	<0.1°	<0.1	49.1	48	M58	1.75"
BNL0.171X318-175B	161.40	0.171	318±4	8	<0.1°	<0.1	34.3	24	M58	1.75"
BNL0.193X301-175B	143.01	0.193	301±4	6.8	<0.1°	<0.1	32.3	16	M58	1.75"
BNL0.214X288-175B	128.97	0.214	288±4	8	<0.1°	<0.1	27.4	14	M58	1.75"
BNL0.261X251-175B	105.75	0.261	251±3	8	<0.1°	<0.1	22.5	12	M58	1.75"
BNL0.291X238-175B	94.85	0.291	238±3	8.5	<0.1°	<0.1	20.2	8	M58	1.75"
BNL0.322X208-175B	85.71	0.322	208±2	8.5	<0.1°	<0.1	18.2	6	M58	1.75"
BNL0.362X230-175B	76.24	0.362	230±2	8.5	<0.1°	<0.1	16.2	6	M58	1.75"
BNL0.402X178-175B	68.66	0.402	178±2	8.5	<0.1°	<0.1	14.4	5	M58	1.75"
BNL0.452X159-175B	61.06	0.452	159±2	6	<0.1°	<0.1	13.8	4	M58	1.75"
BNL0.452X187-175B	61.06	0.452	187±2	13.6	<0.1°	<0.1	15.1	7	M58	1.75"
BNL0.517X138-175B	53.38	0.517	138±2	8.5	<0.1°	<0.1	11.1	3	M58	1.75"
BNL0.690X118-175B	40.00	0.69	118±2	11.3	<0.1°	<0.1	9.5	2	M58	1.75"
BNL0.801X111-175B	34.46	0.801	111±2	13.6	<0.1°	<0.1	7.6	2	M58	1.75"
BNL1.117X72-175B	24.71	1.117	72±2	15	<0.1°	<0.1	6.5	1.4	M58	1.75"

2" Telecentric Lens
Customized Lens for Specialized Industries

Bilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
BNL0.137X410-2B	240.88	0.137	410±5	6.5	<0.1°	<0.1	46.1	20	M58	2"
BNL0.194X318-2B	170.10	0.194	318±4	7.8	<0.1°	<0.1	31.8	14	M58	2"
BNL0.220X301-2B	150.00	0.22	301±4	7.8	<0.1°	<0.1	29.5	12	M58	2"
BNL0.242X288-2B	136.36	0.242	288±4	7.8	<0.1°	<0.1	25.8	9	M58	2"
BNL0.296X251-2B	111.49	0.296	251±3	7.8	<0.1°	<0.1	22.2	8	M58	2"
BNL0.332X238-2B	99.40	0.332	238±3	7.7	<0.1°	<0.1	19.5	5	M58	2"
BNL0.367X208-2B	89.92	0.367	230±2	8.6	<0.1°	<0.1	18.1	5	M58	2"
BNL0.412X230-2B	80.10	0.412	230±2	9.7	<0.1°	<0.1	16.1	4	M58	2"
BNL0.458X178-2B	72.05	0.458	178±2	7.8	<0.1°	<0.1	14.1	3	M58	2"
BNL0.514X159-2B	64.20	0.514	159±2	9.7	<0.1°	<0.1	12.7	3	M58	2"
BNL0.515X187-2B	64.08	0.515	187±2	12.9	<0.1°	<0.1	14.4	5	M58	2"
BNL0.589X138-2B	56.03	0.589	138±2	9.7	<0.1°	<0.1	11.1	3	M58	2"
BNL0.685X128-2B	48.18	0.685	128±2	12.9	<0.1°	<0.1	10.2	3	M58	2"
BNL0.786X118-2B	41.98	0.786	118±2	12.9	<0.1°	<0.1	9.3	2	M58	2"
BNL0.914X111-2B	36.11	0.914	111±2	17.2	<0.1°	<0.1	8.6	2	M58	2"
BNL1.272X72-2B	25.94	1.272	72±2	17.2	<0.1°	<0.1	6.3	1.6	M58	2"

Ø39mm

Telecentric Lens
Customized Lens for
Specialized Industries

▪Bilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
BNL0.163X410-39B	231.90	0.163	410	6.5	<0.1°	<0.1	38.3	20	M58	39
BNL0.230X318-39B	164.35	0.23	318	6.5	<0.1°	<0.1	25.5	11	M58	39
BNL0.261X301-39B	144.83	0.261	301	10	<0.1°	<0.1	22.5	10	M58	39
BNL0.287X288-39B	131.71	0.287	288	7	<0.1°	<0.1	21.7	9	M58	39
BNL0.351X251-39B	107.69	0.351	251	8.5	<0.1°	<0.1	17.8	6	M58	39
BNL0.393X238-39B	96.18	0.393	238	9.1	<0.1°	<0.1	16.3	5	M58	39
BNL0.434X208-39B	87.10	0.434	208	10.2	<0.1°	<0.1	13.8	4	M58	39
BNL0.488X230-39B	77.46	0.488	230	11.5	<0.1°	<0.1	14.2	5	M58	39
BNL0.543X178-39B	69.61	0.543	178	10.5	<0.1°	<0.1	13.1	4	M58	39
BNL0.610X159-39B	61.97	0.61	159	10	<0.1°	<0.1	11.7	3	M58	39
BNL0.613X187-39B	61.66	0.613	187±2	18	<0.1°	<0.1	4.3	7	M58	39
BNL0.698X138-39B	54.15	0.698	138	10	<0.1°	<0.1	8.9	2	M58	39
BNL0.814X128-39B	46.44	0.814	128	15	<0.1°	<0.1	8.7	2	M58	39
BNL0.931X118-39B	40.60	0.931	118	15.3	<0.1°	<0.1	8.2	2	M58	39
BNL1.080X111-39B	35.00	1.08	111	18	<0.1°	<0.1	7.1	2	M58	39
BNL1.503X72-39B	25.20	1.5	72	20.4	<0.1°	<0.1	6	2	M58	39

Ø44mm

Telecentric Lens
Customized Lens for
Specialized Industries

▪Bilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
BNL0.182X410-44B	241.76	0.182	410±5	6	<0.1°	<0.1	34.3	14	M58	44
BNL0.257X318-44B	171.21	0.257	318±4	6	<0.1°	<0.1	24.3	6	M58	44
BNL0.292X301-44B	150.68	0.292	301±4	10	<0.1°	<0.1	21.4	12	M58	44
BNL0.321X288-44B	137.07	0.321	288±4	6.2	<0.1°	<0.1	18.3	4	M58	44
BNL0.392X251-44B	112.24	0.392	251±3	8	<0.1°	<0.1	19.6	6	M58	44
BNL0.439X238-44B	100.23	0.439	238±3	10.2	<0.1°	<0.1	16.9	5	M58	44
BNL0.486X208-44B	90.53	0.486	208±2	11.4	<0.1°	<0.1	12.8	4	M58	44
BNL0.547X230-44B	76.66	0.574	230±2	12.8	<0.1°	<0.1	11.7	5	M58	44
BNL0.608X178-44B	72.37	0.608	178±2	10.3	<0.1°	<0.1	10.1	2.4	M58	44
BNL0.680X187-44B	64.71	0.68	187±2	20.5	<0.1°	<0.1	11.4	7	M58	44
BNL0.682X159-44B	64.52	0.682	159±2	10	<0.1°	<0.1	9.7	3	M58	44
BNL0.782X138-44B	56.27	0.782	138±2	12	<0.1°	<0.1	7.9	2	M58	44
BNL0.911X128-44B	44.40	0.911	128±2	17.1	<0.1°	<0.1	7.2	2	M58	44
BNL1.048X118-44A	41.98	1.048	118	17.2	<0.1°	<0.1	9.5	1.4	M58	44
BNL1.212X111-44B	36.30	1.212	111±2	18.7	<0.1°	<0.1	6.2	1.2	M58	44
BNL1.685X72-44B	26.11	1.685	72±2	22.8	<0.1°	<0.1	5.8	1.2	M58	44

Ø59mm

Telecentric Lens
Customized Lens for
Specialized Industries

▪Bilateral Telecentric Lens

Model	Object FOV (mm)	Mag β(x)	WD(mm)	F.NO	Telecentricity	Distortion (%)	Resolution (um)	Depth of Field (mm)	Mount	Microchip
BNL0.245X410-59B	232.65	0.245	410±5	8.7	<0.1°	<0.1	17.7	16	M72*P0.75	59
BNL0.346X318-59B	164.74	0.346	318±4	8.5	<0.1°	<0.1	13.7	8	M72*P0.75	59
BNL0.392X301-59B	145.41	0.392	301±4	15	<0.1°	<0.1	18.2	12	M72*P0.75	59
BNL0.432X288-59B	131.94	0.432	288±4	10	<0.1°	<0.1	11.5	7	M72*P0.75	59
BNL0.528X251-59B	107.95	0.528	251±3	10	<0.1°	<0.1	11.1	5.2	M72*P0.75	59
BNL0.916X159-59B	62.23	0.916	159±2	12	<0.1°	<0.1	7.2	2.6	M72*P0.75	59

FA 1/1.8"

▪Parameters

Model	Focal Length (mm)	F.NO	Distortion(%)	Mini WD (mm)	Microchip	Mount
FA0420-118A02	4	F2.0-CLOSE	<0.5	100	1/1.8"	C
FA0620-118A02	6	F2.0-CLOSE	<0.1	100	1/1.8"	C
FA0820-118A02	8	F2.0-CLOSE	<0.1	100	1/1.8"	C
FA0824-118A02	8	F2.4-F16	<1.43	120	1/1.8"	C
FA1220-118A02	12	F2.0-CLOSE	<0.3	100	1/1.8"	C
FA1224-118A02	12	F2.4-F16	<1.1	120	1/1.8"	C
FA1228-118A02	12	F2.8-F16	<-0.91	400	1/1.8"	C
FA1620-118A02	16	F2.0-CLOSE	<0.1	100	1/1.8"	C
FA1624-118A02	16	F2.4-F16	<0.1	100	1/1.8"	C
FA1628-118A02	16	F2.8-F16	<-1.33	400	1/1.8"	C
FA2520-118A02	25	F2.0-CLOSE	<0.1	100	1/1.8"	C
FA2524-118A02	25	F2.4-F16	<0.1	100	1/1.8"	C
FA2528-118A02	28	F2.8-F16	<-0.19	400	1/1.8"	C
FA3520-118A02	35	F2.0-CLOSE	<0.1	200	1/1.8"	C
FA3524-118A02	35	F2.4-F16	<0.1	150	1/1.8"	C
FA3528-118A02	35	F2.8-F16	<-0.16	400	1/1.8"	C
FA5024-118A02	50	F2.4-F16	<0.1	150	1/1.8"	C
FA5028-118A02	50	F2.8-F16	<-0.16	400	1/1.8"	C
FA5028-118A03	50	F2.8-F22	<0.05	300	1/1.8"	C
FA7528-118A02	75	F2.8-F22	<0.05	500	1/1.8"	C

FA 2/3"

Parameters

Model	Focal Length (mm)	F.NO	Distortion(%)	Mini WD (mm)	Microchip	Mount
FA0619-23A02	6	F1.9-F16	<-1.77	100	2/3"	C
FA0814-23A02	8	F1.4-F16	<1	110	2/3"	C
FA0818-23A02	8	F1.8-F16	<-0.322	100	2/3"	C
FA0828-23A02	8	F2.8-F16	-0.87	150	2/3"	C
FA0828-23A03	8	F2.8-F16	<1	100	2/3"	C
FA1214-23A02	12	F1.4-F16	<-0.8	150	2/3"	C
FA1218-23A02	12	F1.8-F16	<-0.33	100	2/3"	C
FA1228-23A02	12	F2.8-F16	-0.24	150	2/3"	C
FA1228-23A03	12	F2.8-F16	<-0.2	100	2/3"	C
FA1614-23A02	16	F1.4-F16	<-3.1	300	2/3"	C
FA1614-23A03	16	F1.4-F16	<-0.1	100	2/3"	C
FA1616-23A02	16	F1.6-F16	<-0.1	100	2/3"	C
FA1628-23A02	16	F2.8-F16	<-0.2	150	2/3"	C
FA1628-23A03	16	F2.8-F16	<0.1	100	2/3"	C
FA2514-23A02	25	F1.4-F16	<0.2	100	2/3"	C
FA2516-23A02	25	F1.6-F16	<-0.13	100	2/3"	C
FA2528-23A02		F2.8-F16	-0.091	150	2/3"	C
FA2528-23A03	25	F2.8-F16	<0.1	100	2/3"	C
FA3514-23A02	35	F1.4-F16	<-0.8	150	2/3"	C
FA3516-23A02	35	F1.6-F16	<-0.1	400	2/3"	C
FA3516-23A03	35	F1.6-F16	<-0.105	250	2/3"	C
FA3528-23A02	35	F2.8-F16	-0.15	200	2/3"	C
FA3528-23A03	35	F2.8-F16	<0.1	100	2/3"	C
FA5014-23A02	50	F1.4-F16	<-0.8	300	2/3"	C
FA5025-23A02	50	F2.5-F16	<-0.16	450	2/3"	C
FA5028-23A02	50	F2.8-F16	-0.003	150	2/3"	C
FA5028-23A03	50	F2.8-F16	<-0.1	300	2/3"	C
FA7520-23A02	75	F2.8-F16	<0.25	600	2/3"	C
FA7528-23A02	75	F2.8-F16	<0.2	400	2/3"	C

FA 1"

Parameters

Model	Focal Length (mm)	F.NO	Distortion(%)	Mini WD (mm)	Microchip	Mount
FA1216-1A02	12	F1.6-F22	<-2.8	300	1"	C
FA1220-1A02	12	F2.0-F22	<-0.8	100	1"	C
FA1620-1A02	16	F2.0-F22	<-0.7	100	1"	C
FA2518-1A02	25	F1.8-CLOSE	<-0.49	150	1"	C
FA3520-1A02	35	F2-CLOSE	<-0.28	200	1"	C
FA5020-1A02	50	F2.0-F22	<-0.013	250	1"	C

FA 1.1"

Parameters

Model	Focal Length (mm)	F.NO	Distortion(%)	Mini WD (mm)	Microchip	Mount
FA1228-11A02	12	F2.8-F22	<-0.85	100	1.1"	C
FA1628-11A02	16	F2.8-F22	<-0.73	100	1.1"	C
FA2528-11A02	25	F2.8-F22	<-0.59	150	1.1"	C
FA3528-11A02	35	F2.8-F22	<0.37	200	1.1"	C
FA5028-11A02	50	F2.8-F22	<-0.06	250	1.1"	C
FA1840-12A02	18	F4.0-F16	<2.17	100	1.2"	C
FA2540-12A02	25	F4.0-F16	<-0.41	150	1.2"	C
FA3540-12A02	35	F4.0-F16	<-0.1	200	1.2"	C
FA5040-12A02	50	F4.0-F16	<-0.11	500	1.2"	C
FA7540-12A02	75	F4.0-F16	<0.17	300	1.2"	C
FA7550-12A02	75	F5.0-F16	<0.17	300	1.2"	C

FA 4/3"

Parameters

Model	Focal Length (mm)	F.NO	Distortion(%)	Mini WD (mm)	Microchip	Mount
FA0828-43A02	8	F2.8-F16	<-2.2	200	4/3"	C
FA1220-43A02	12	F2.0-F22	<-2.05	150	4/3"	C
FA1220-43A03	12	F2.0-F22	<-2.4	150	4/3"	C
FA1620-43A02	16	F2.0-F22	<-1.93	100	4/3"	C
FA1620-43A03	16	F2.0-F22	<-1.93	100	4/3"	C
FA2520-43A02	25	F2.0-F22	<-0.64	150	4/3"	C
FA2520-43A03	25	F2.0-F22	<-0.64	150	4/3"	C
FA3520-43A02	35	F2.0-F22	<-0.52	200	4/3"	C
FA3520-43A03	35	F2.0-F22	<-0.52	200	4/3"	C
FA5020-43A03	50	F2.0-F22	<-0.13	300	4/3"	C
FA8520-43A02	85	F2.0-F22	<0.04	120	4/3"	C



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BOXIN

Liquid Lens Series

- ◎ Features fast response, small size, and high integrability
- ◎ Enables continuous zoom, thus providing more flexible optical performance
- ◎ Own broad application prospects in optical imaging, biomedicine, industrial inspection, and other fields

Telecentric liquid lens

Model	Magnification	Microchip	Lens Type	Best WD (mm)	Aperture	Liquid Lens Mount
BX0.23X165-11A06	0.23	1.1"	Telecentric	120-200	5.2	Aviation Connector
BX0.4X110-23A04	0.4	2/3"	Telecentric	104-116	6.5	Aviation Connector
BX0.5X110-23AE1	0.5	2/3"	Telecentric	105-115	10	Aviation Connector
BX0.5X110-23A04	0.5	2/3"	Telecentric	105-115	10	Aviation Connector
BX1X110-11A06	1	1.1"	Telecentric	110-117	10	Aviation Connector
BX1.75X110-23A06	1.75	2/3"	Telecentric	107-113	14	Aviation Connector
BXC3X65-11AE1	3	1.1"	Telecentric	63-67	11	Aviation Connector
BX4X65-23AE1	4	2/3"	Telecentric	64.5-65.5	17	Aviation Connector
BXC4X65-23AE1	4	2/3"	Telecentric	64.5-65.5	17	Aviation Connector

FA liquid lens

Model	Focal Length (mm)	Microchip	Lens Type	Best WD (mm)	Aperture	Liquid Lens Mount
BX0718-12A02	7	1/2"	FA	5.6-7.2	11.9	//
BX1640-11F06	16	1.1"	FA	200-2000	4	Aviation Connector
BX1665-11F04	16	1.1"	FA	200-2000	6.5	Aviation Connector
BX1750-11F06-A	17	1.1"	FA	80-200	5	FPC
BX1750-11F06-B	17	1.1"	FA	80-200	5	Aviation Connector
BX1860-11F04	18	1.1"	FA	200-500	6	Aviation Connector
BX2560-23D04	25	2/3"	FA	100-5000	7	Aviation Connector
BX3570-11F04	35	1.1"	FA	300-500	7	Aviation Connector
BX4070-12G06-290	40	1.2"	FA	270-310	7	Aviation Connector
BX4070-12G06-200	40	1.2"	FA	185-215	6.6	Aviation Connector
BX5050-11F06	50	1.1"	FA	450-590	5	Aviation Connector

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BOXIN

360 Lens Series

360 Inner Wall Lens

Model	Microchip	FOV (Diameter*Height)			Mount	Working Wavelength
		Minimum	Normal	Maximum		
IL0215-118FC	1/1.8"	0.2*10	8*12	15*12	C	450-650
ILO312-118FI	1/1.8"	3*2.8	8*8.2	12*12.3	C	450-650
IL0730-118AC	1/1.8"	7*5	20*16.5	30*25	C	450-650
IL0730-118AD	2/3"	7*5	20*16.5	30*25	C	450-650
IL3080-118FD	2/3"	30*27	60*40	80*26.5	C	450-650

360 Outer Wall Lens

Model	Microchip	FOV (Diameter*Height)			Mount	Working Wavelength
		Minimum	Normal	Maximum		
OL-13FI	1/3"	45*27.9	60*38.4	100*66	C	450-650
OL-23AD	2/3"	5*5	20*20	120*120	C	450-650

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BOXIN

Testing Industry-Parallel Light

Model	DC Voltage	Power	WD (mm)	Effective Beam Size	Emitting Color	Uniformity
PL40-24V-G	24V	5W	20-200	60	Green Light	> 95%
PL40-5V-B	5V	5W	20-300	40	Blue Light	> 95%
PL40-5V-G	5V	5W	20-300	40	Green Light	> 95%
PL40-5V-W	5V	5W	20-300	40	White Light	> 95%
PL60-24V-G	24V	5W	20-200	60	Green Light	> 95%
PL60-24V-G-L90	24V	5W	20-500	80	Green Light	> 95%
PL60-24V-G	24V	5W	20-500	80	Green Light	> 95%
PL100-(3.2)5V-G	3.2-5V	3W	20-300	100	Green Color	> 95%
PL100-24V-RGW	24V	5W	20-300	100	Green Color	> 95%

Boxin has a research and development team for optoelectronic products, whose members have over 15 years of experience in optoelectronic product development and optical lens design. We can develop excellent optoelectronic product solutions for you. We can provide complete services such as lens customization, system integration, and mass production, providing customers with comprehensive and professional technical services and support. Adhering to the concept of solving problems for customers and creating value for them to the best of our ability, we assist customers in reducing development risks, shortening product development cycles, and improving product competitiveness.



BOXIN

Customized Lens

Corporate Qualifications And Honors

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CORPORATE HONORS

