

LineX Series CIS

고속
작은공간
왜곡없는이미징

High Speed / Compact Space / No-Distortion Imaging

7um



MAX PRO
Series { 3600DPI@40KHz



COLOR
Series { 600DPI@66KHz
1800DPI@27KHz



MAX
Series { 900DPI@160KHz
1800DPI@80KHz



PLUS
Series { 300DPI@150KHz
600DPI@95KHz

카메라 와이드 고객제화 지지

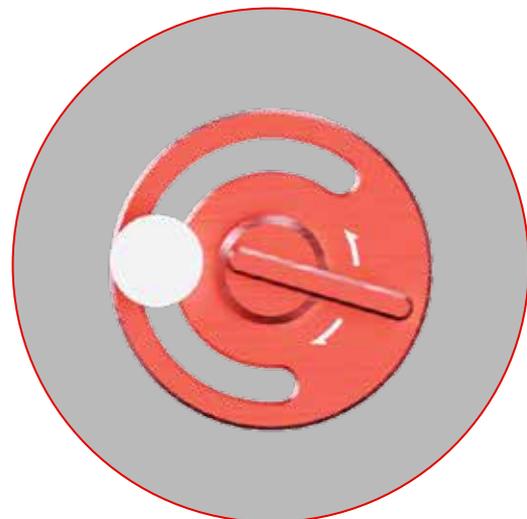
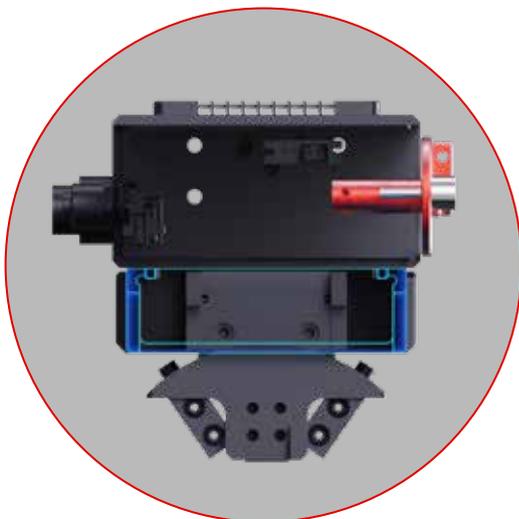
LineX series CIS

① 해상도: 300 DPI ~ 3600 DPI

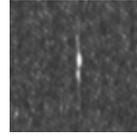
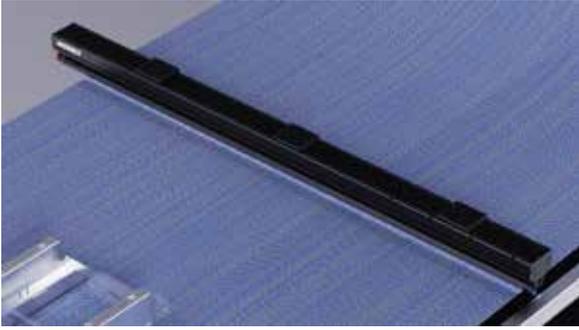
② 포커싱메커니즘을 사용하여 3초내네조정

③ 스캔폭: 35mm~2310mm
주문제작가능

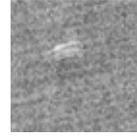
④ 작업거리=7/15/30/50mm선택가능



포지표면검사



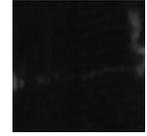
편직매듭



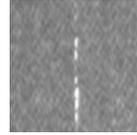
괴상결함



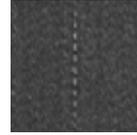
기름얼룩



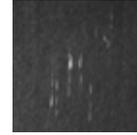
위사수축률



외래섬유



거친경사

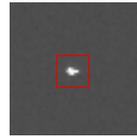
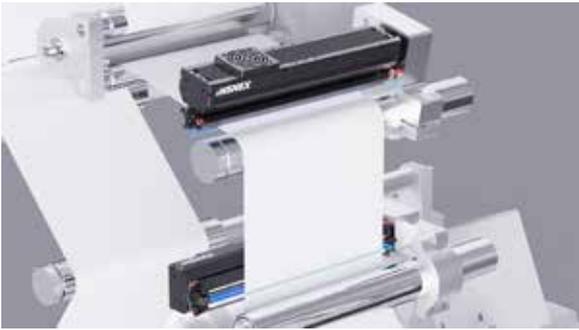


경사매듭

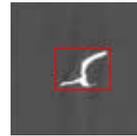


광택폴

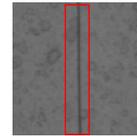
배터리분리막표면검사



백점



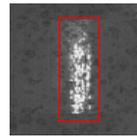
파열



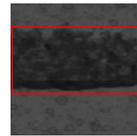
접힘



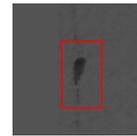
접착제 방울



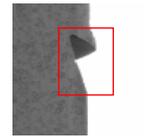
코팅 부족



잉크 인쇄



흑점



테두리 파열

전극시트표면검사



주름



버



테두리코팅탈락



함몰부



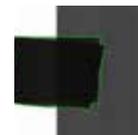
접착제탈락



배출구



파손

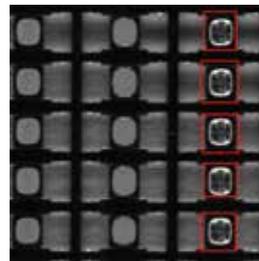
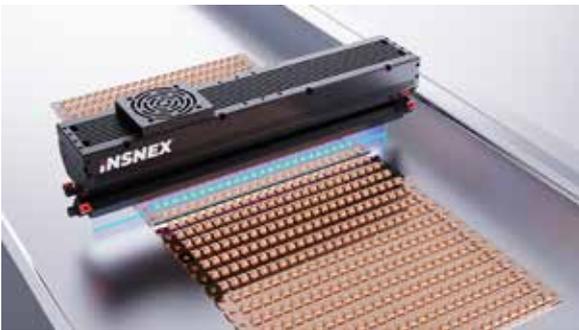


이물질

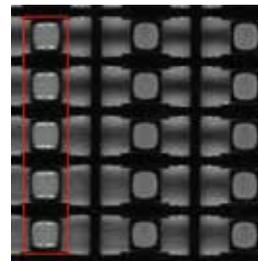


테두리파

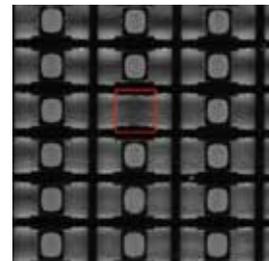
전자부품검사



접착제부족



접착제과다



파손

패널표면검사



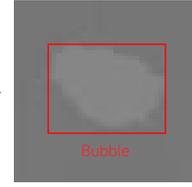
모바일디스플레이생산과장에서기포,스크래치등과같은화면표면의결함을검사해야합니다.낮은명암비의기포는일반이미징으로는감지하기어렵지만,LineX를사용하면선명하게표시됩니다.



검출물



기존카메라

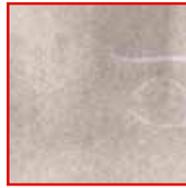


LineX

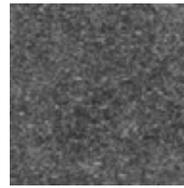
목재표면검사



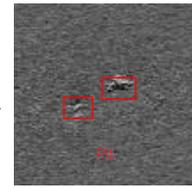
목재의원래색상은결함특징을숨겨놓으로는구분할수없습니다.LineX는불필요한패턴을필터링하고결함을명확하게나타낼수있습니다.



검출물



기존카메라



LineX

키보드프레임검사



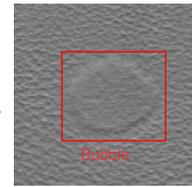
키보드테두리의주름에는얇은흔적만있으며,기존의 2D 이미징기술로는결함을판별하기어렵습니다.LineX는검사를위해결함특징을명확하게표시합니다.



검출물



기존카메라



LineX

키보드프레임검사



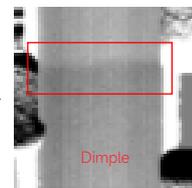
키보드테두리의주름에는얇은흔적만있으며,기존의 2D 이미징기술로는결함을판별하기어렵습니다.LineX는검사를위해결함특징을명확하게표시합니다.



검출물



기존카메라



LineX

인쇄 산업 | 오프셋 인쇄와 색상 관리



LineX 시리즈 COLOR CIS는 고정밀색상인식및선명한이미징측면에서뛰어난성능을보이며, 지폐의미세한색상차이와복잡한문양구조를정확히재현할수있습니다. 첨단이미징기술과정밀한색상보정을통해각지폐의질감, 문양및위조방지표시가모두선명하게포착되도록보장합니다.

인쇄산업 | 포장재료외관검사



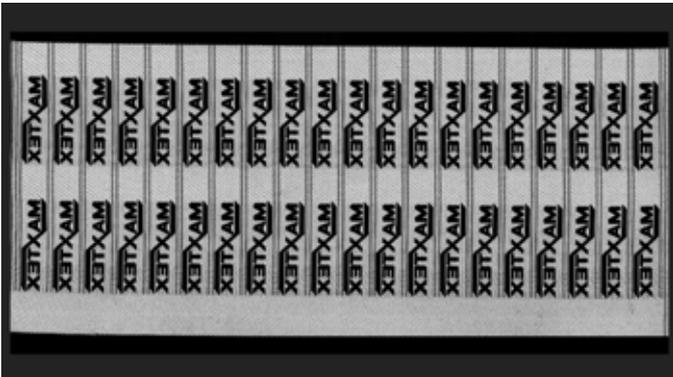
600dpi/900dpi 3라인트루컬러고속매크로카메라를기반으로하여, 다중광원 2.5D 융합이미징기술과첨단 AI 알고리즘을결합하여포장재료표면의오염, 스크래치, 인쇄결함, 이물질및밀봉영역미세결함등10가지결함을정확히인식합니다. 시스템은강력한방방지능력을보유하여재료의델름과주름으로인한틀린판정을효과적으로극복하며, 고속생산라인에서의전쪽면품질관리와고객브랜드이미지의현저한향상을보장합니다.

디지털인쇄산업 | UV 프린터 CIS 가이드



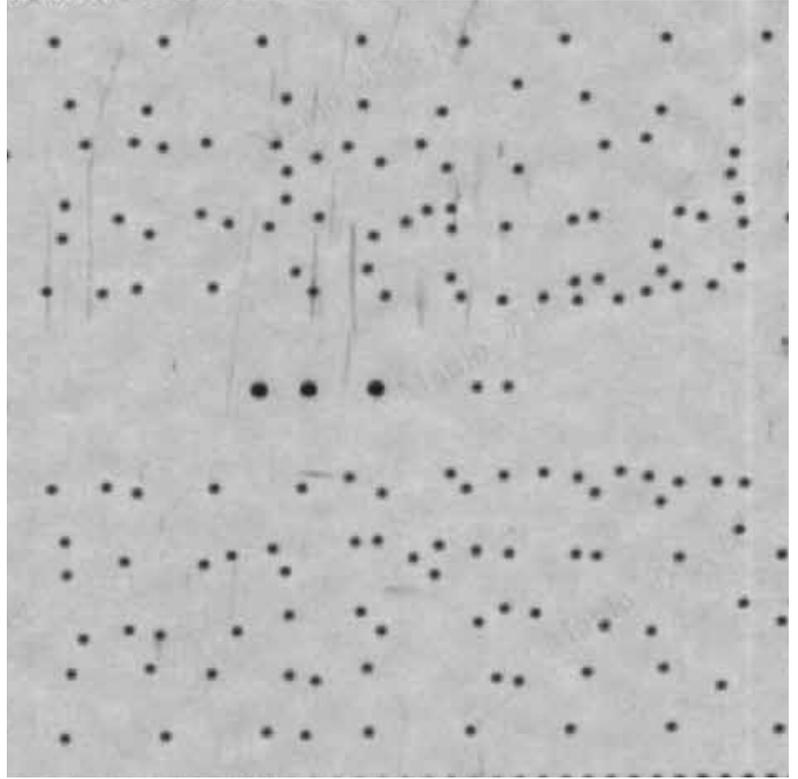
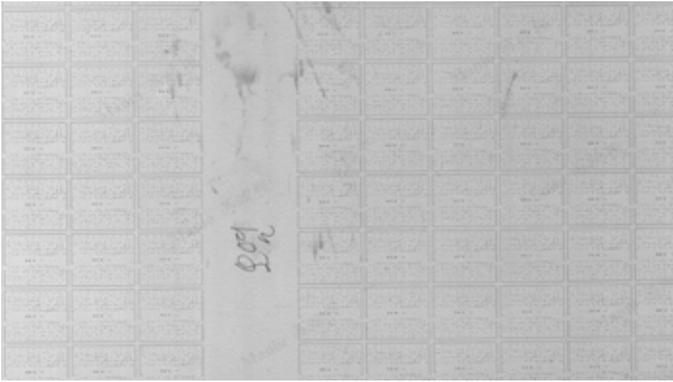
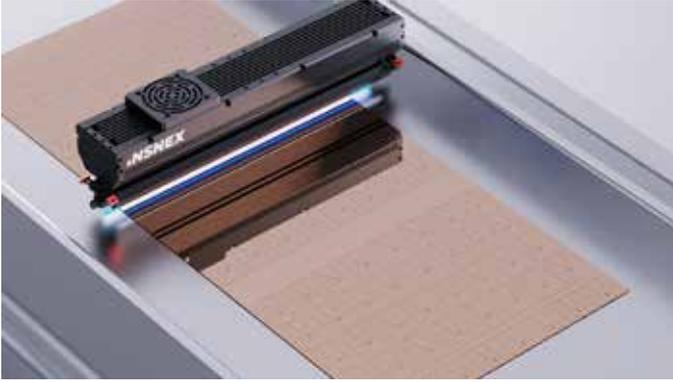
고정밀 600dpi 매크로카메라를 탑재하여 기존 라인스캔 카메라와 텔레센트릭 렌즈 조합 방안을 대체함으로써, 1kg 이내의 경량화와 1:1 왜곡 없는 이미징을 구현했습니다. 고객은 첨단 AI 비전 알고리즘을 통해 실시간으로 이미지를 포착, 분석 및 보정하여 ±5사이의 정렬 가이드를 실현할 수 있습니다. 이를 통해 소재 변형, 플랫폼 오차로 인한 인쇄 어긋남, 색상 정렬 불량 등 산업계의 난제를 해결했으며, 인쇄 정밀도와 생산 효율을 새로운 수준으로 향상시켰습니다.

기계 산업 | 원단 절단 CIS 가이드



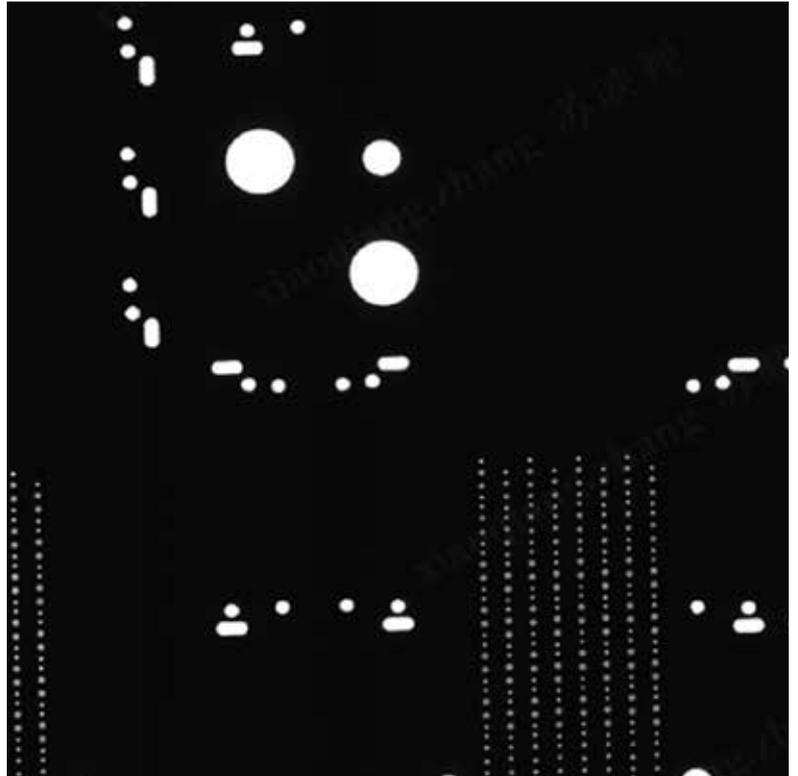
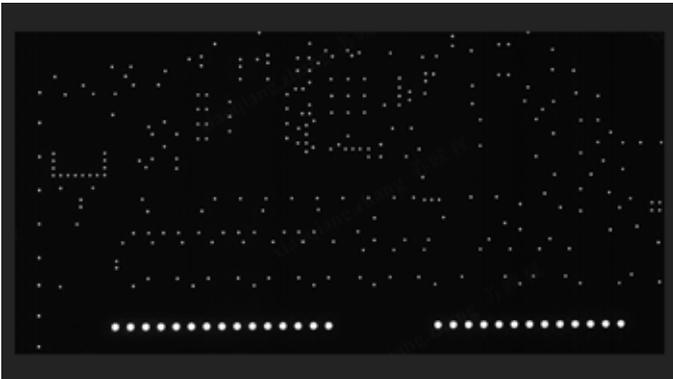
고해상도 600dpi 매크로카메라를 채용하여 기존 라인스캔 카메라와 텔레센트릭 렌즈를 대체함으로써 1:1 왜곡 없는 이미징을 구현합니다. 고객은 직물의 가장자리 특징을 실시간으로 수집하고, 디지털 신호 처리 기술과 결합하여 이미지 데이터를 처리하며, 자동으로 절단 선을 식별하거나 특징 점을 위치시킵니다. 해당 시스템은 직물의 늘어남 변형을 자동으로 추적하고, 컴퓨터 소프트웨어를 통해 경로를 보정하여 절단 정밀도를 보장합니다.

반도체산업 | Lead Frame외관검사



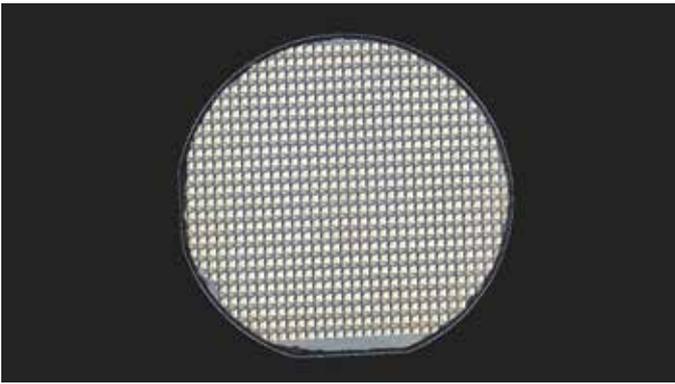
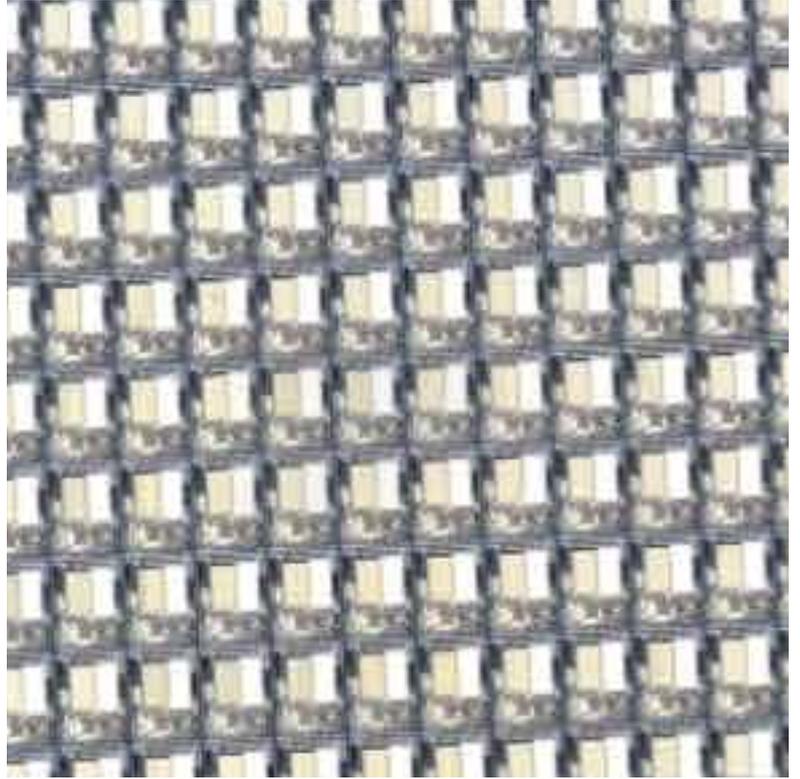
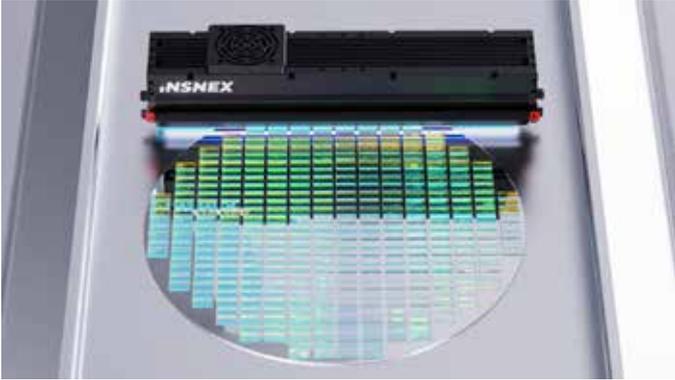
반도체리드프레임제조업체는마크로카메라의소형공간활용장점을활용하여기존생산라인에 1800dpi/14um 컬러마크로카메라검사시스템을추가설치합니다. 동시에강력한왜곡없는광학이미징과 AI 알고리즘에의존하여, 언코일링후기재의오염, 스크래치, 이물질등결함에대한실시간검사를구현합니다. 최종사용자는결함추적시스템을통해다수의공정개선을수행함으로써제품양품률을 1% 이상효과적으로향상시켰으며, 생산효율도현저히높였습니다.

PCB 산업 | PCB 홀검사기적용



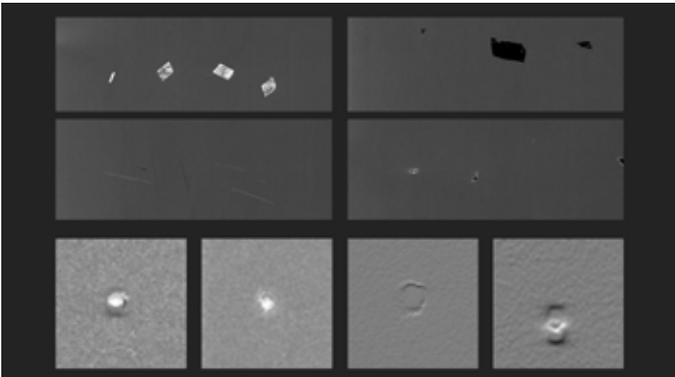
PCB 구멍검사기비전시스템은 1800dpi/14um 매크로카메라에다각도, 다중광원의협동이미징기술을결합하여스루홀, 블라인드홀의내벽세부사항을선명하게포착합니다. 시스템은검출데이터를드릴링머신에실시간으로피드백하며, PCB 기판공장이드릴링공정최적화와전면적인품질추적을실현하는데견고한데이터기반을제공합니다.

반도체산업 | wafer 거시결함검출



최신출시된 3600dpi/7um 해상도매크로카메라는 시간분할플래시와 높은 균일성의 조명기술을 통해 Wafer 표면에 대한 거시적 결함 검출을 신속하고 무손상으로 완료할 수 있습니다. 70%의 미시적 결함이 거시적 결함으로 나타나기 때문에, 베어 Wafer부터 다이싱 및 패키징까지의 500여 단계 공정에 CIS를 추가하여 거시적 결함을 모니터링함으로써, 공정 전체 흐름에 대한 100% 조기경보 적용을 실현하고 실시간으로 공정 엔지니어에게 피드백하여 수율을 최적화합니다.

리튬 배터리 산업 | 그라비아 코팅기 전극 결함 검사



인스넥스 CIS 솔루션은 전 세계 주요 배터리 제조사의 오프판 코팅 검사업 그레이드를 지원합니다. 단일 카메라 1550mm 광폭 "제로 스플라이싱(zero splicing)" 커버리지와 600dpi 고정밀 이미징을 통해 스플라이싱 오차를 효과적으로 제거하고, μm (마이크로미터)급 결함을 안정적으로 검출합니다. 고객 핵심 공정 수율을 99.8%로 향상시키고 종합 운영 관리 비용을 크게 낮추는 데 기여합니다.

SPECIFICATIONS

LineX CIS PLUS (V26-0221)

NO.	Mono or Color	Interface	FOV (mm)	Resolution (dpi)	Accuracy (um)	DOF (mm)	WD (mm)	Line Rate (kHz)	WS (m/s)	Ethernet Pts	Pixel (K)	CIS Module	Size
1	Mono	10GigE	242	300	84	±1.3	15	110	9.3	1	2.87	INS-CHVS-242-10GM-AA	330mm*70mm*108mm
2	Mono	10GigE	242	600	42	±1.3	15	66	2.8	1	5.72	INS-CHVS-242-10GM-BB	330mm*70mm*108mm
3	Mono	10GigE	363	600	42	±1.3	15	66	2.8	1	8.59	INS-CHVS-363-10GM-BB	450mm*90mm*106mm
4	Mono	10GigE	363	300	84	±1.3	15	110	9.3	1	4.3	INS-CHVS-363-10GM-AA	450mm*90mm*106mm
5	Mono	10GigE	550	300	84	±1.3	15	110	9.3	1	6.56	INS-CHVS-550-10GM-AA	630mm*90mm*108mm
6	Mono	10GigE	550	600	42	±1.3	15	66	2.8	1	13.09	INS-CHVS-550-10GM-BB	630mm*90mm*108mm
7	Mono	10GigE	813	300	84	±1.3	15	110	9.3	2	9.63	INS-CHVS-813-10GM-AA	896mm*90mm*108mm
8	Mono	10GigE	813	600	42	±1.3	15	66	2.8	2	19.22	INS-CHVS-813-10GM-BB	896mm*90mm*108mm
9	Mono	10GigE	934	300	84	±1.3	15	110	9.3	2	11.07	INS-CHVS-934-10GM-AA	1041mm*90mm*108mm
10	Mono	10GigE	934	600	42	±1.3	15	66	2.8	2	22.09	INS-CHVS-934-10GM-BB	1041mm*90mm*108mm
11	Mono	10GigE	1539	300	84	±1.3	15	110	9.3	3	18.24	INS-CHVS-1550-10GM-AA	1628mm*90mm*117mm
12	Mono	10GigE	1539	600	42	±1.3	15	66	2.8	3	36.4	INS-CHVS-1550-10GM-BB	1628mm*90mm*117mm

LineX CIS MAX (V26-0221)

NO.	Mono or Color	Interface	FOV (mm)	Resolution (dpi)	Accuracy (um)	DOF (mm)	WD (mm)	Line Rate (kHz)	WS (m/s)	Ethernet Pts	Pixel (K)	CIS Module	Size
1	Mono	10GigE	165	900	28	±1.3	15	160	4.48	1	5.89	INS-LXM-165-10GM-9F	310mm*90mm*115mm
2	Mono	10GigE	165	900	28	±1.3	15	80	2.24	1	5.89	INS-LXM-165-10GM-9M	310mm*90mm*115mm
3	Mono	10GigE	165	1800	14	±1.3	15	40	0.56	1	11.79	INS-LXM-165-10GM-18L	310mm*90mm*115mm
4	Mono	10GigE	165	1800	14	±1.3	15	80	1.12	1	11.79	INS-LXM-165-10GM-18M	310mm*90mm*115mm
5	Mono	10GigE	328	900	28	±1.3	15	80	2.24	1	11.71	INS-LXM-328-10GM-9M	404mm*90mm*106mm
6	Mono	10GigE	328	1800	14	±1.3	15	40	0.56	1	23.43	INS-LXM-328-10GM-18L	404mm*90mm*106mm
7	Mono	10GigE	490	900	28	±1.3	15	80	2.24	2	17.5	INS-LXM-490-10GM-9M	610mm*90mm*109mm
8	Mono	10GigE	490	1800	14	±1.3	15	40	0.56	2	35	INS-LXM-490-10GM-18L	610mm*90mm*109mm
9	Mono	10GigE	656	900	28	±1.3	15	80	2.24	2	23.43	INS-LXM-656-10GM-9M	730mm*90mm*106mm
10	Mono	10GigE	656	1800	14	±1.3	15	40	0.56	2	46.86	INS-LXM-656-10GM-18L	730mm*90mm*106mm
11	Mono	10GigE	820	900	28	±1.3	15	80	2.24	3	29.29	INS-LXM-820-10GM-9M	895mm*90mm*109mm
12	Mono	10GigE	820	1800	14	±1.3	15	40	0.56	3	58.57	INS-LXM-820-10GM-18L	895mm*90mm*109mm
13	Mono	10GigE	950	900	28	±1.3	15	80	2.24	3	33.93	INS-LXM-950-10GM-9M	1043mm*90mm*118mm
14	Mono	10GigE	950	1800	14	±1.3	15	40	0.56	3	67.86	INS-LXM-950-10GM-18L	1043mm*90mm*118mm

SPECIFICATIONS

LineX CIS MAX PRO (V26-0221)

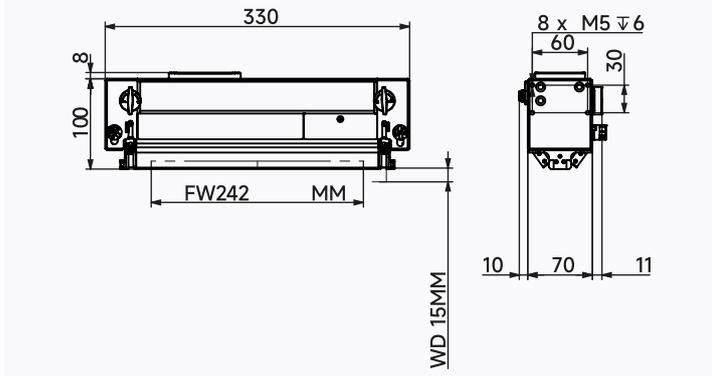
NO.	Mono or Color	Interface	FOV (mm)	Resolution (dpi)	Accuracy (um)	DOF (mm)	WD (mm)	Line Rate (kHz)	WS (m/s)	Ethernet Pots	Pixel (K)	CIS Module	Size
1	Mono	10GigE	165	3600	7	±0.7	7	40	0.28	1	23.57	INS-LXM-165-10GM-36L-WD7	310mm*90mm*115mm
2	Mono	10GigE	328	3600	7	±0.7	7	40	0.28	2	46.86	INS-LXM-328-10GM-36L-WD7	577mm*108mm*168mm
3	Mono	10GigE	490	3600	7	±0.7	7	40	0.28	3	70.29	INS-LXM-490-10GM-36L-WD7	577mm*108mm*168mm
4	Mono	10GigE	656	3600	7	±0.7	7	40	0.28	4	93.71	INS-LXM-656-10GM-36L-WD7	730mm*180mm*105mm

LineX CIS COLOR (V26-0221)

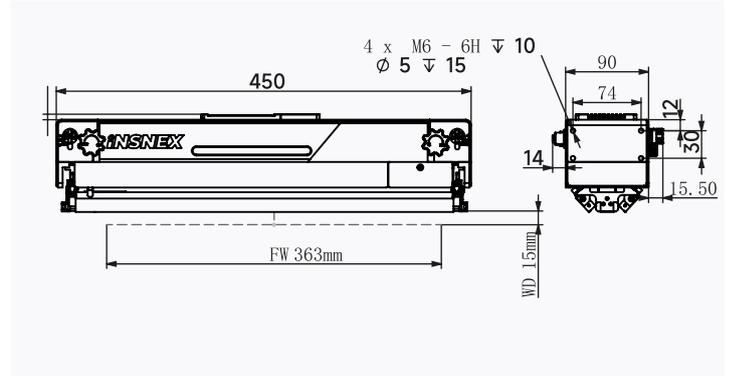
NO.	Mono or Color	Interface	FOV (mm)	Resolution (dpi)	Accuracy (um)	DOF (mm)	WD (mm)	Line Rate (kHz)	WS (m/s)	Ethernet Pots	Pixel (K)	CIS Module	Size
1	Color	10GigE	165	1800	14	±1.3	15	27	0.37	1	11.79	INS-LXM-165-10GC-18L	310mm*90mm*115mm
2	Color	10GigE	165	900	28	±1.3	15	27	0.75	1	5.89	INS-LXM-165-10GC-9L	310mm*90mm*115mm
3	Color	10GigE	270	1800	14	±1.3	15	19	0.26	1	19.29	INS-LXM-270-10GC-18L	404mm*90mm*109mm
4	Color	10GigE	270	900	28	±1.3	15	27	0.75	1	9.64	INS-LXM-270-10GC-9L	404mm*90mm*109mm
5	Color	10GigE	363	600	42	±1.3	15	33	1.3	1	8.59	INS-CHVS-363-10GC-BB	450mm*90mm*108mm
6	Color	10GigE	363	300	84	±1.3	15	66	5.5	1	4.3	INS-CHVS-363-10GC-AA	450mm*90mm*108mm
7	Color	10GigE	550	600	42	±1.3	15	33	1.3	2	13.09	INS-CHVS-550-10GC-BB	630mm*90mm*108mm
8	Color	10GigE	550	300	84	±1.3	15	66	5.5	2	6.54	INS-CHVS-550-10GC-AA	630mm*90mm*108mm
9	Color	10GigE	934	600	42	±1.3	15	33	1.3	3	22.09	INS-CHVS-934-10GC-BB	1041mm*90mm*108mm
10	Color	10GigE	934	300	84	±1.3	15	66	5.5	3	11.04	INS-CHVS-934-10GC-AA	1041mm*90mm*108mm
11	Color	10GigE	490	1800	14	±1.3	15	19	0.26	2	35	INS-LXM-490-10GC-18L	621mm*114mm*118mm
12	Color	10GigE	656	1800	14	±1.3	15	19	0.26	3	46.86	INS-LXM-656-10GC-18L	TBD
13	Color	10GigE	820	1800	14	±1.3	15	19	0.26	4	58.57	INS-LXM-820-10GC-18L	TBD
14	Color	10GigE	820	900	28	±1.3	15	27	0.75	4	29.29	INS-LXM-820-10GC-9L	TBD

DIMENSION DRAWING (PLUS)

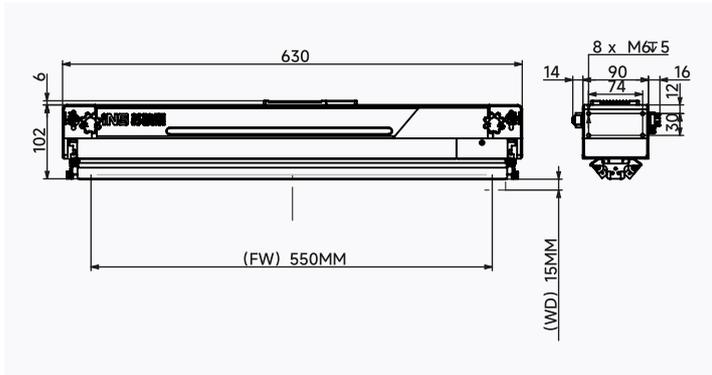
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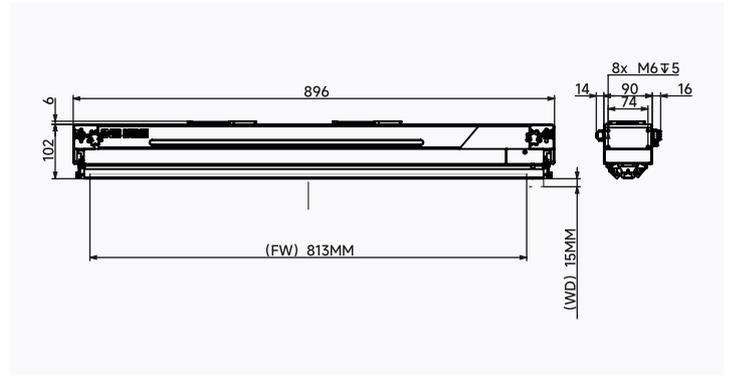
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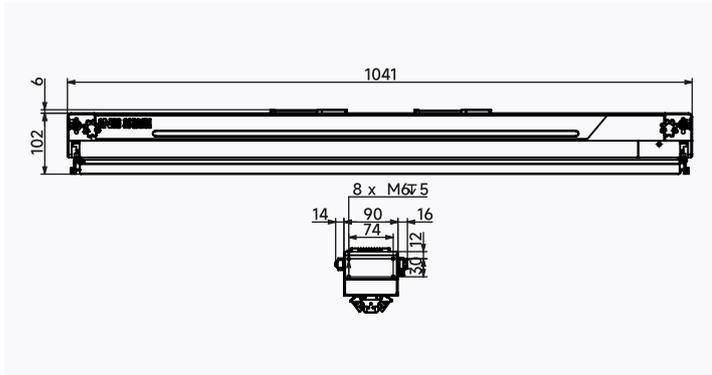
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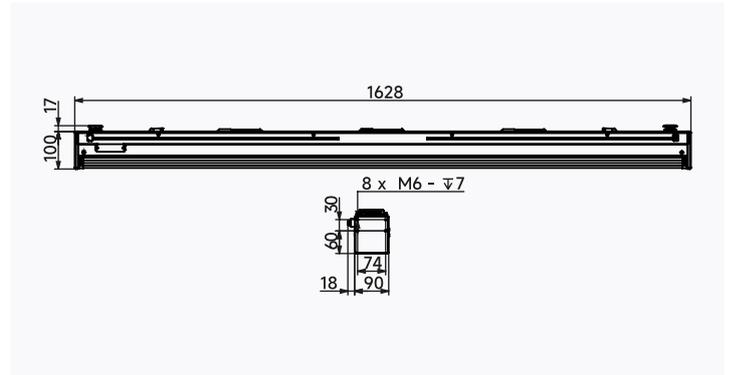
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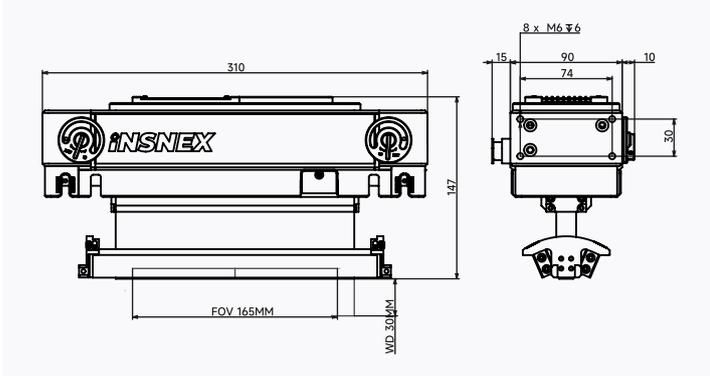


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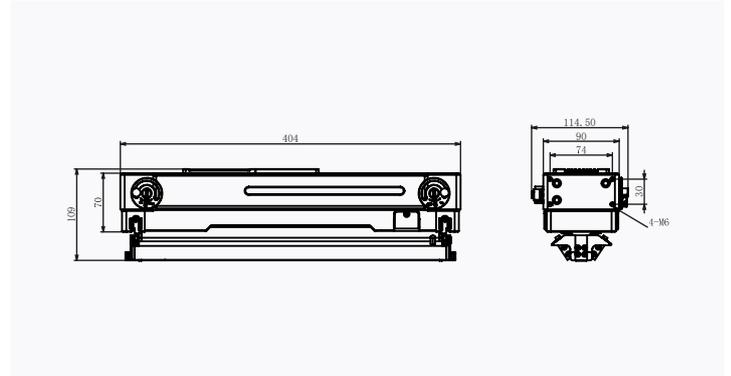


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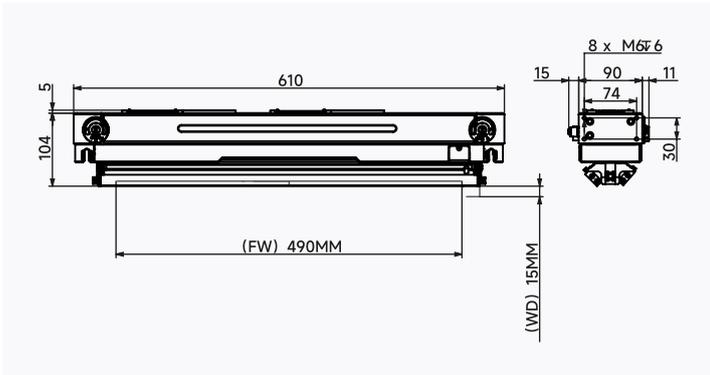
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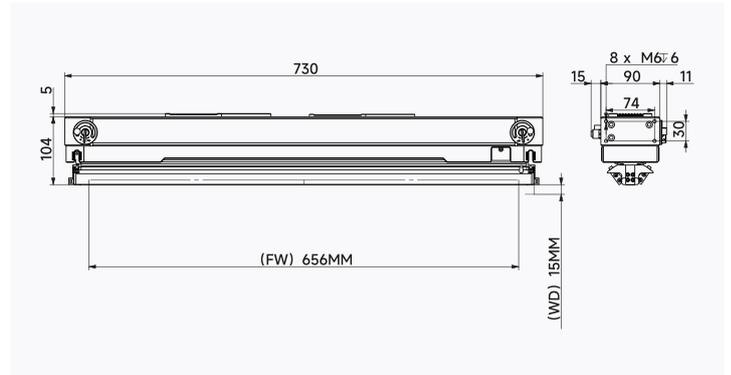
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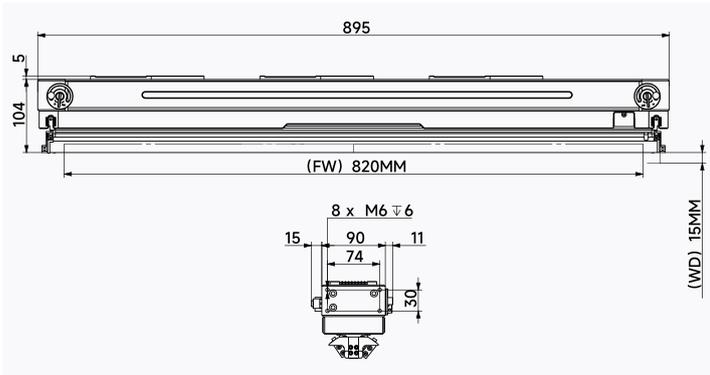
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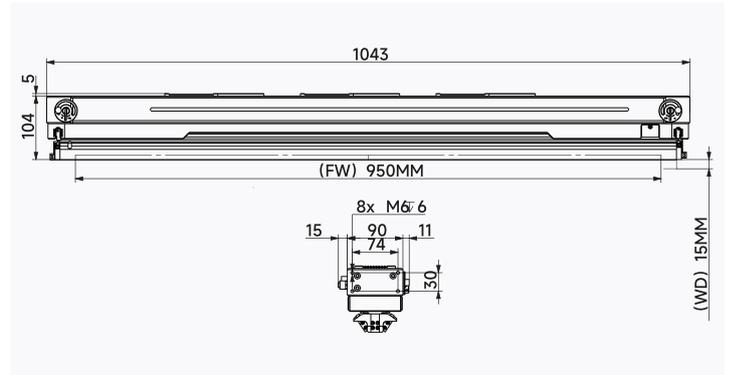
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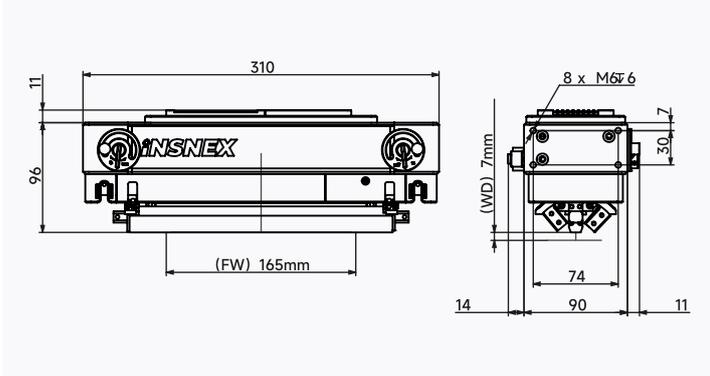


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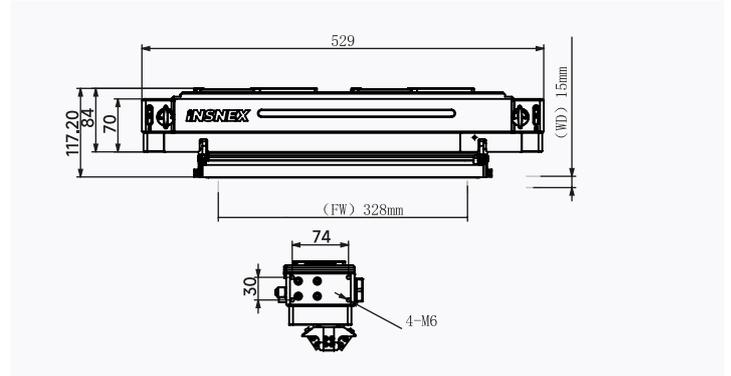


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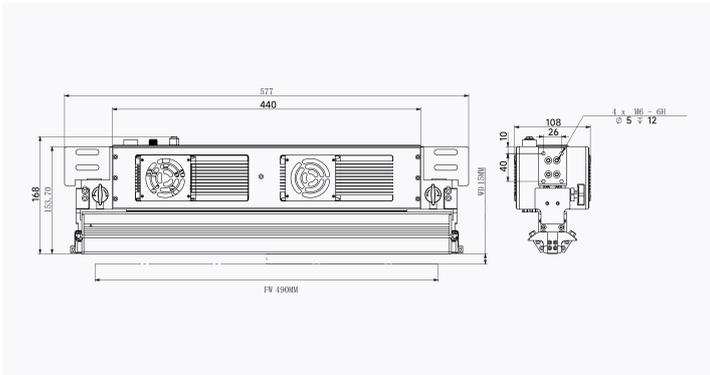
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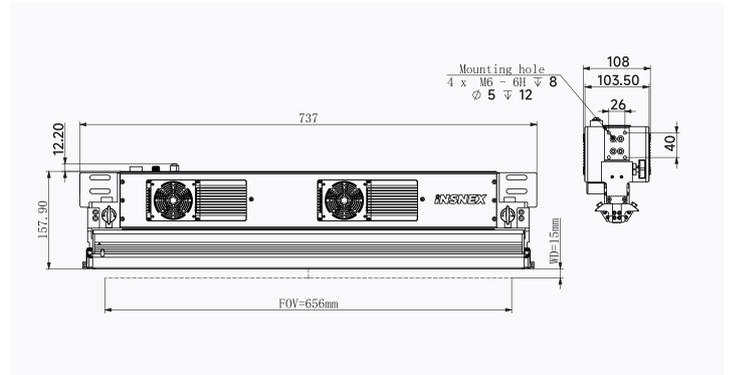
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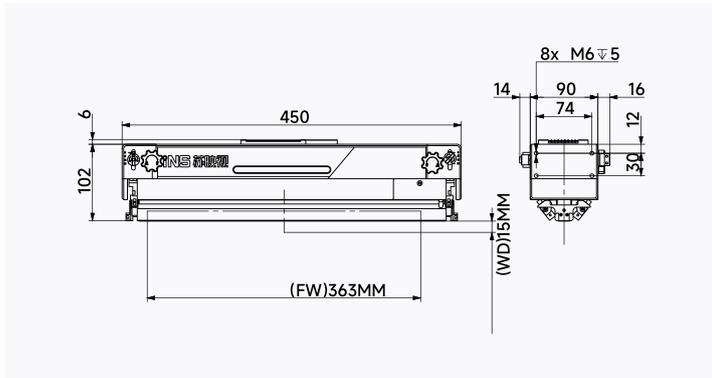
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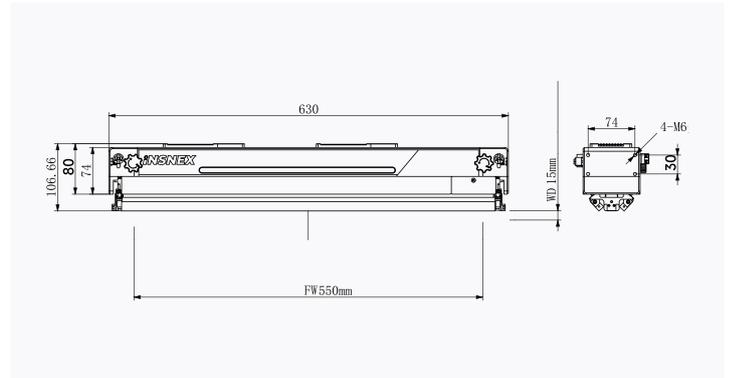
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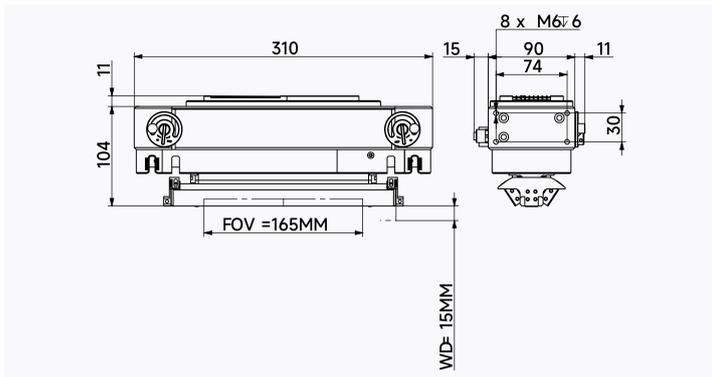
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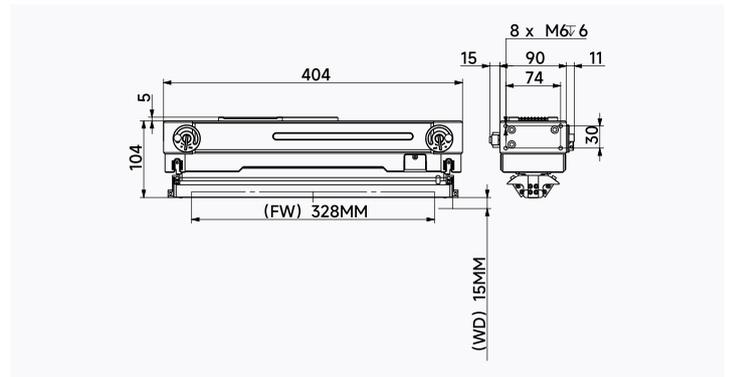
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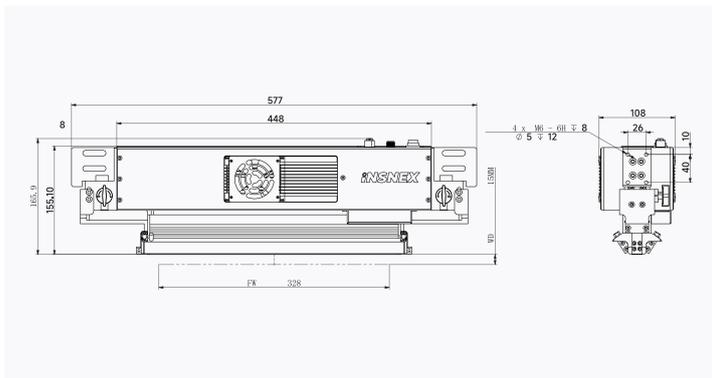
INS-LXM-165-10GC-(18L,9L)



INS-LXM-270-10GC-(18L,9L)



INS-LXM-328-10GC-36L





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