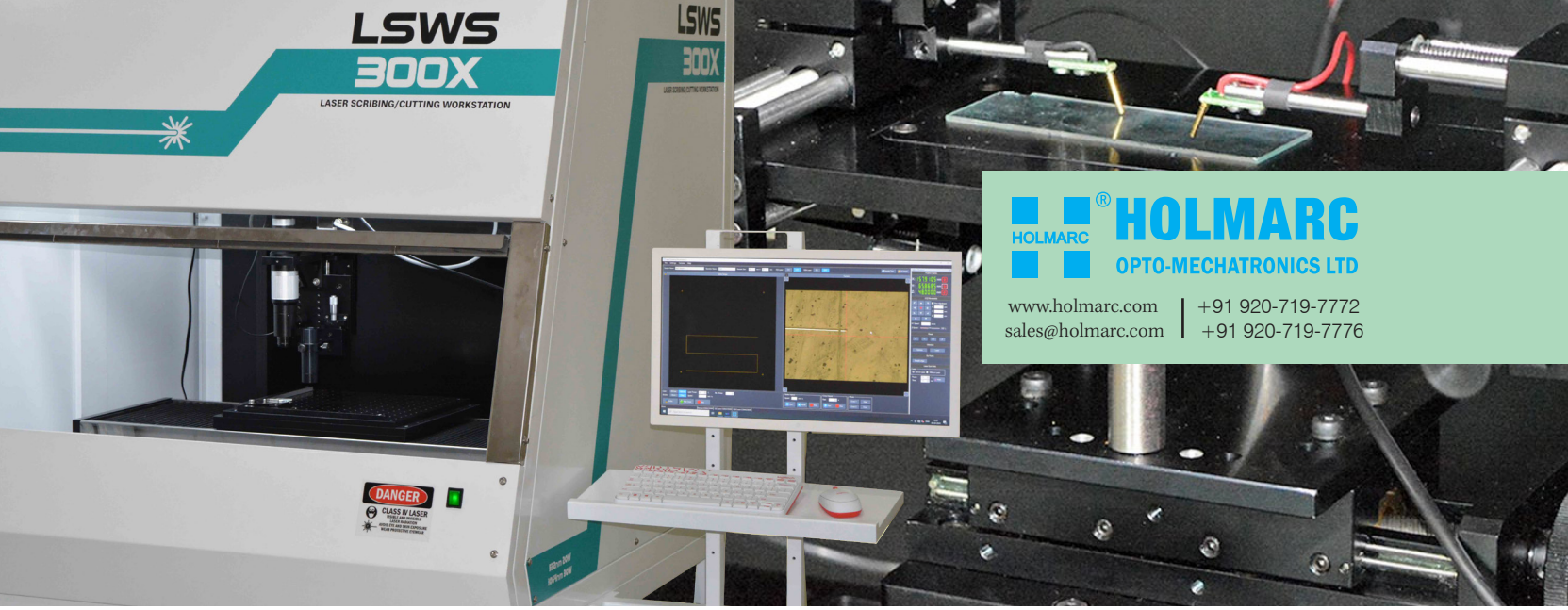
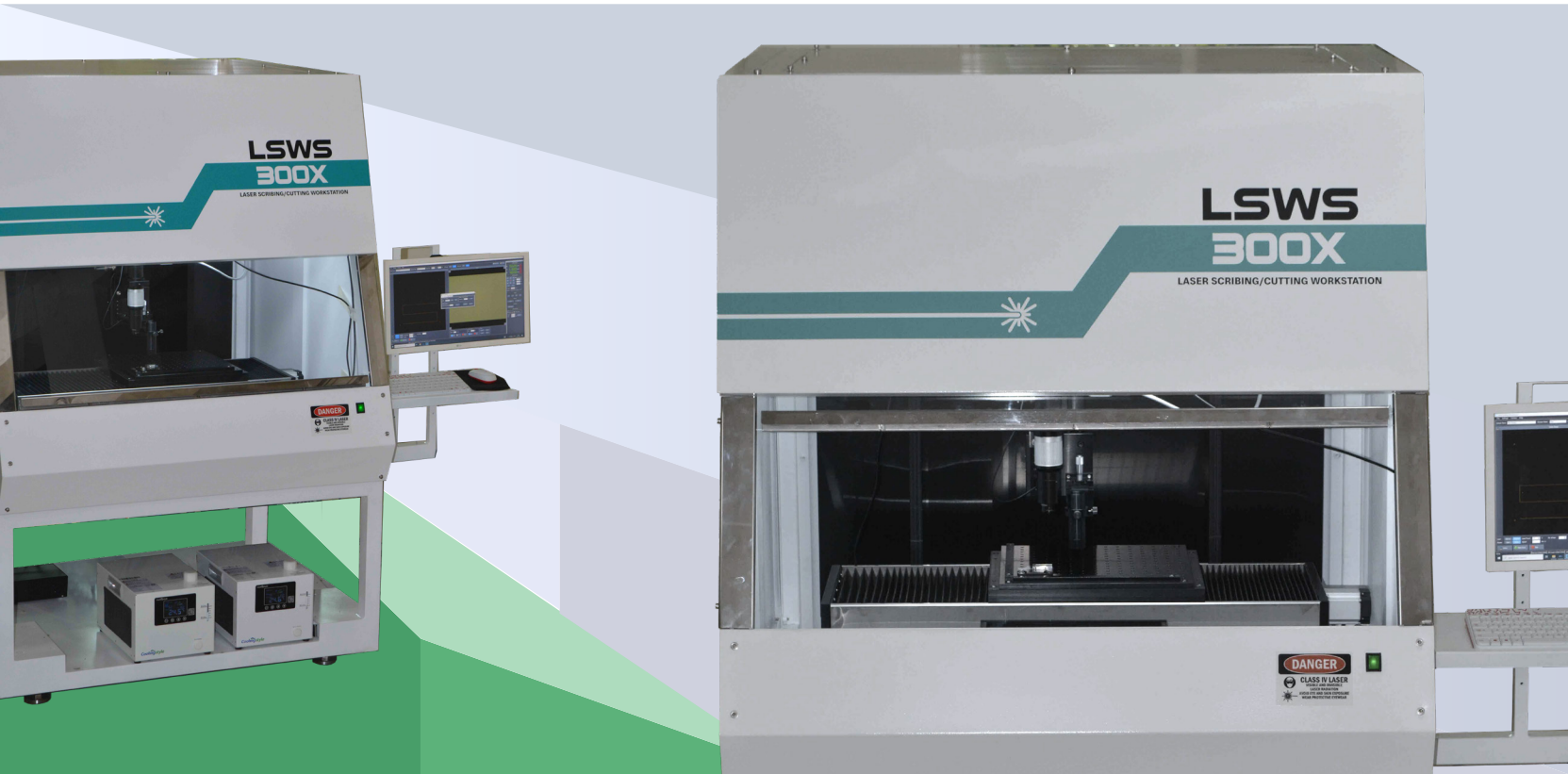


HOLMARC®
HOLMARC
OPTO-MECHATRONICS LTD
www.holmarc.com
sales@holmarc.com
+91 920-719-7772
+91 920-719-7776

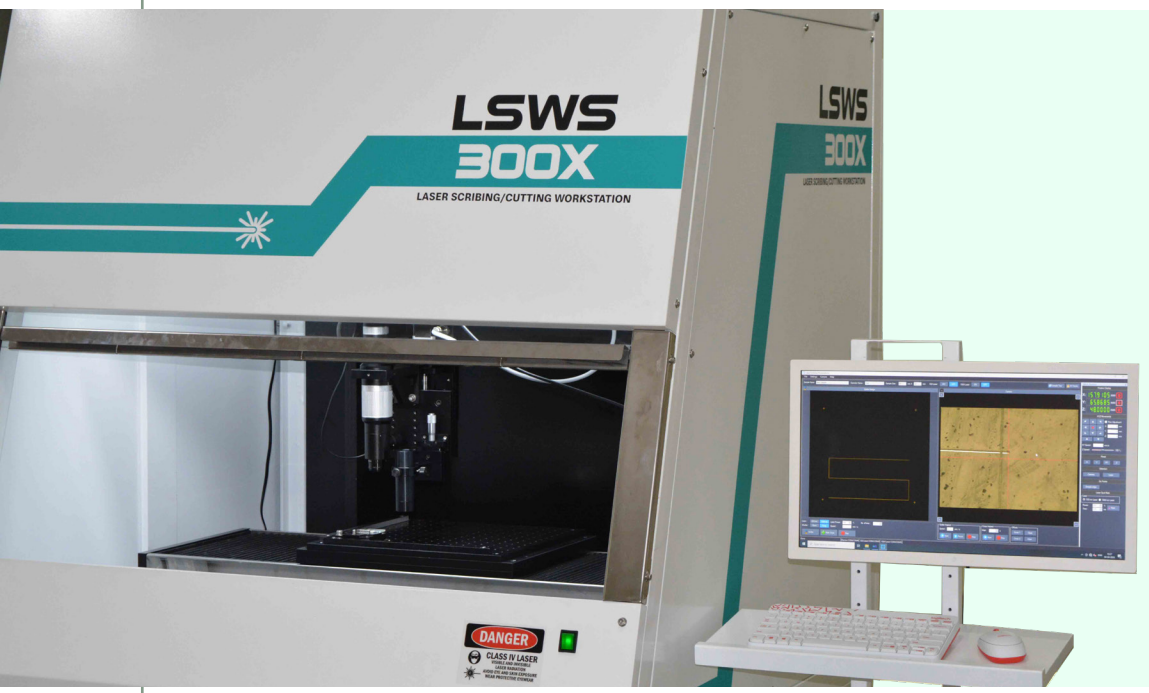
HOLMARC OPTO MECHATRONICS LIMITED

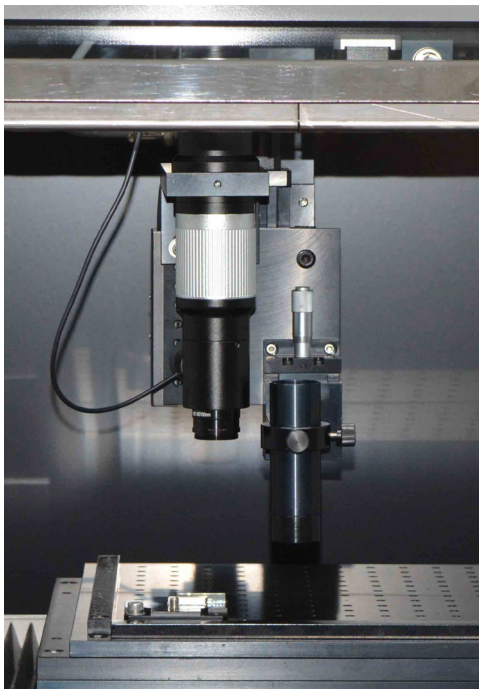
AUTOMATED MULTI-WAVELENGTH LASER SCRIBING/ABLATION/ CUTTING WITH MICRO INSPECTION CAMERA



Model HO-LSWS300X i

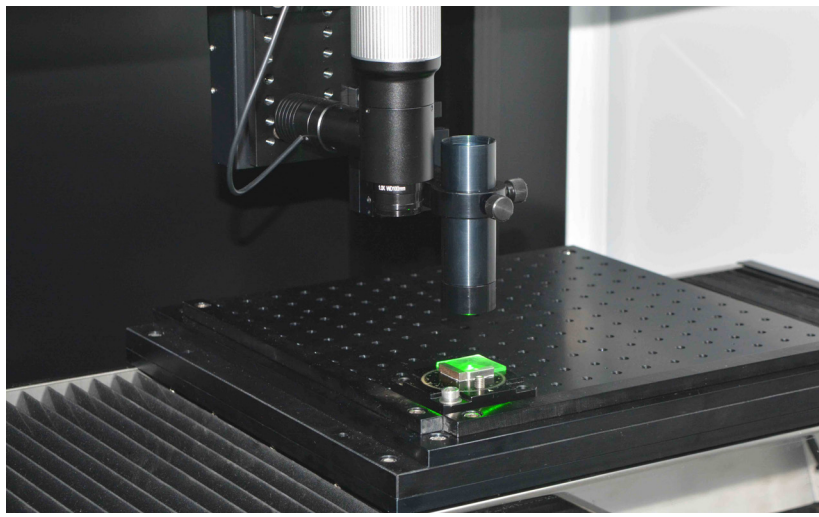
Automated Multi-wavelength Laser Scribing/ablation/Cutting station with Micro Inspection Camera

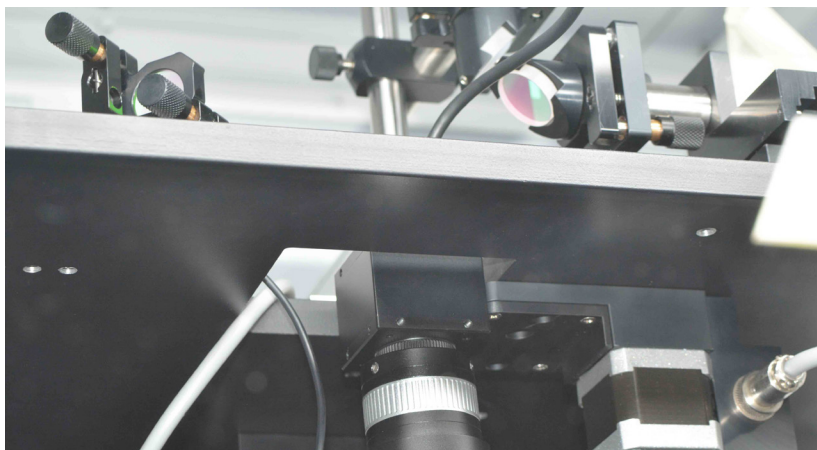


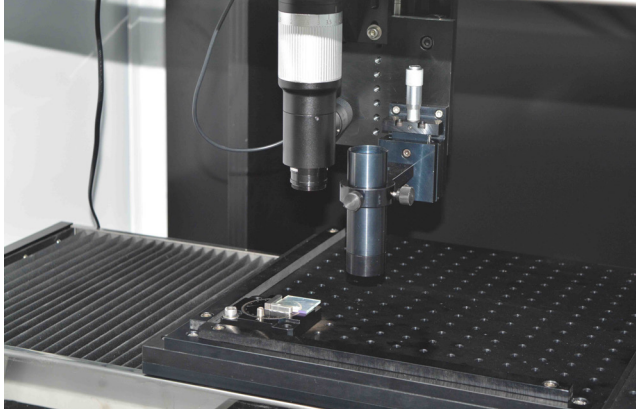


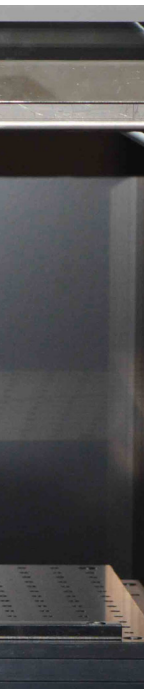
The Holmarc Automated Multi-wavelength Laser Scribing/ablation/Cutting Station with Micro Inspection Camera Model HO-LSWS300X is a versatile laser system designed for precision scribing, ablation, and cutting. It is a useful tool for creating narrower scribe lines compared to traditional mechanical methods. It is a non-contact process that minimizes micro-cracking and substrate damage. With high peak power and excellent beam quality lasers are used for scribing, resulting in cleaner lines and higher throughput. Laser scribing offers benefits such as clean scribing of hard or brittle materials, lower cost, less chipping and micro-cracking, narrower cut widths for more parts per wafer, and greater process tolerances for reliable manufacturing at low cost.

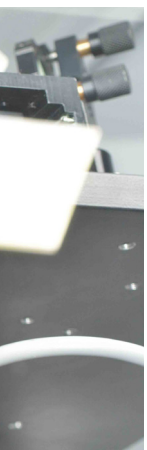
It features Precision optical assembly creating a minimum line width of 0.002mm (Line width can be varied up to 0.5mm using optics), precise repeatability (±0.002mm), a red guidance laser, motorized focusing, and an integrated microscope. The closed-chamber design ensures safety, and it finds applications in microelectronics, photovoltaics, and MEMS fabrication.












LSWS
300X
LASER SCRIBING/CUTTING WORKSTATION
DANGER
CLASS IV LASER
Coolingstyle
Coolingstyle

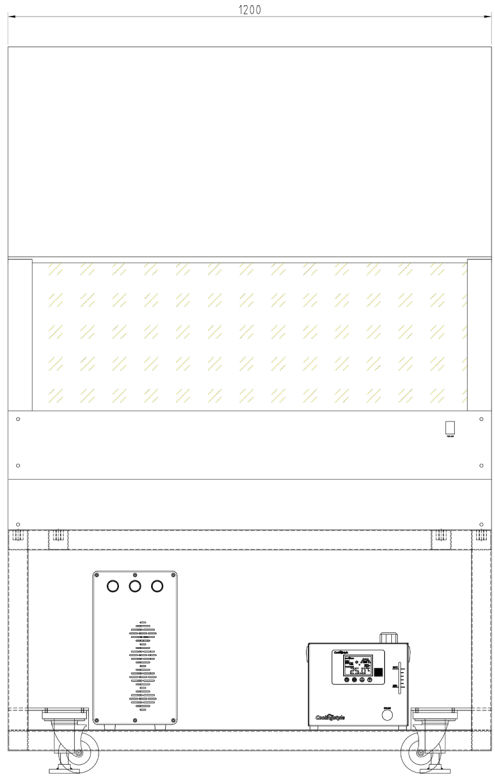
SPECIFICATIONS

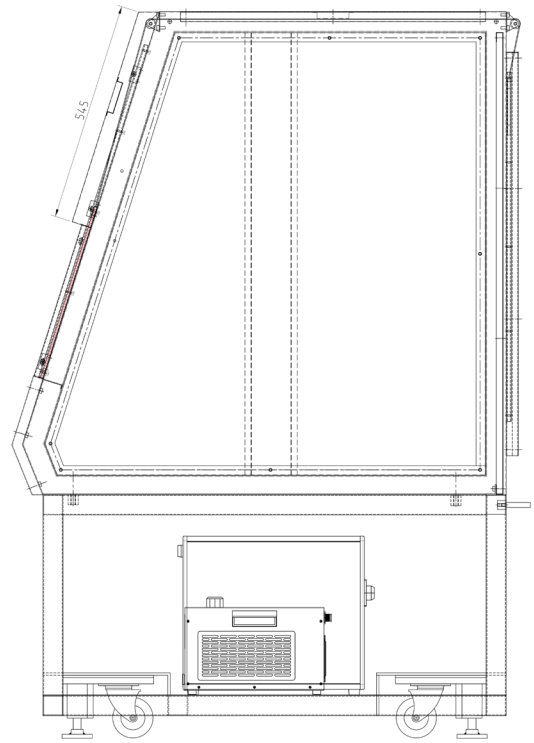
Scribing/Ablation/ Cutting Area	200x200mm,150x150mm & 100x100mm (selectable)
Scribing/Cutting Method	Motorized
The minimum line width	0.001mm (Can be varied up to 0.5 mm using additional Optics)
Repeatability	±0.002mm.
Guidance Laser	Red / Green
Focusing	Motorized stepper motor controlled Focusing
Travel Range	300mm
Memory Focus button	
Design	Closed Chamber
Gas inlet	Active assist gas purging option
Imaging/Inspection/ Alignment Microscope	Yes
Door Mechanism	Pull-up sliding door
Working Height	1060mm
Instrument Size (LxWxH)	1200x1200x2000mm
Computer	Integrated computer and display unit

Mapping Stage	
Stage	Precision Automatic XYZ stage with Z-axis Automated
Focus Function	
FOCUS and XY	Motorized servo motor controlled
Resolution	1 Micron
Positioning Accuracy	10 Micron with encoder
XY Stage Footage	450x450mm
Scanning Speed	40mm/sec
Controller	HOLMARC XYZ Stepper controller Unit

CAMERA SPECIFICATIONS

Sensor Type	CMOS
Array Diagonal	15.86mm
Resolution	0MP, 5472(H) x 3648(V)
Pixel Size	2.4µm x 2.4µm
Effective Area	13.1mm x 8.8mm
Frame Rate	15fps@5472x3648
Exposure Time	18µs-15s
Bit Depth	16/8bit
Camera Size	68mmx68mmx46mm
Data Interface	USB3.0





Digital inspection/measuring positioning microscope						
Equipment Type	Upright					
Effective Magnification	0.5-5X					
Magnification	0.5X	1.0X	2.0X	3.0X	4.0X	5.0X
Working distance(mm)	100	100	100	100	100	100
Depth of field (mm)	3.48	0.93	0.29	0.16	0.10	0.07
N.A(mm)	0.023	0.043	0.043	0.085	0.0970	0.107
Resolution (mm)	0.015	0.008	0.005	0.004	0.003	0.003
Distortion	2.97%	1.10%	0.20%	-0.03%	0.13%	0.20%
Supporting sensor size	1" Max.					
Vision	Digital PC Based software for measurements					
Working Distance	100mm					
Mount	C-Mount					
Working Distance Tolerance	±1mm					
Illumination for imaging	Bottom, and Co-Axial HB-LED Based					
Illumination Control	Continuously Variable PC-controlled					

1064/532nm Scribing/ablation/Cutting Laser Specifications	
532nm and 1064nm solid-state AOM Q-switched lasers have the features of high peak power, high repetition rate, and short pulse duration.	
Laser 1	532nm LD PUMPED ALL-SOLID-STATE AOM Q
SWITCHED LASER	
Wavelength (nm)	532±1
Operating mode	Acousto-Optic Q-switched
Average power (W)	20W@ 50kHz
Average power (W)	Single pulse energy (mJ) * Rep. rate (kHz)
Single pulse energy (μJ)	>400uJ @50kHz
Rep. rate (kHz)	50~100
Pulse width (ns	~11@50kHz
Transverse mode	TEM00
Beam Circularity (%)	>85
M2 factor	<1.3
Warm-up time (minutes)	<10
Beam divergence, full angle (mrad)	<2
Beam diameter at the aperture	(1/e2, mm) ~3
Beam height from base plate (mm)	91
Cooled method Water Cooled	
Operating temperature	10~35 (°C)
Supply Voltage	100-240VAC or 24VDC
Dimension	640*260*124mm
Laser 2	1064nm LD PUMPED ALL-SOLID-STATE AOM Q-SWITCHED LASER
Wavelength (nm)	1064±1
Operating mode	Acousto-Optic Q-switched
Average power (W)	35W@ 50kHz
Average power (W)	Single pulse energy (mJ) * Rep. rate (kHz)
Single pulse energy (μJ)	700uJ @50kHz
Rep. rate (kHz)	50~100 Pulse width (ns) ~11@ 50kHz
Transverse mode TEM00	
Beam Circularity (%)	85
M2 factor	1.3
Warm-up time (minutes)	<10
Beam divergence, full angle (mrad)	<2
Beam diameter at the aperture (1/e2, mm)	~3
Beam height from base plate (mm) 91	
Cooled method Water Cooled	
Operating temperature :10~35 (°C)	
Supply Voltage	100-240VAC or 24VDC

HOLMARC®
OPTO-MECHATRONICS LTD

Holmarc Opto-Mechatronics Ltd has been organized as a provider of engineering tools for scientific research. Our company is equipped to meet most challenging and demanding requirements of scientific community with our manufacturing and development capabilities in optics, mechanics, electronics and software. At Holmarc, experienced engineers, designers and technicians work hand in hand to deliver state of the art engineering solutions to our clients.

All of us at Holmarc stay tuned to absorb the changes in technology as fast as possible. We deliberately keep our technical skills as well as manufacturing infrastructure flexible and maintain a dynamic work culture throughout our operations.

We have distributors and collaborators in all parts of the world and are well equipped to serve world scientific community. We welcome queries irrespective of geographical and political boundaries.

Office & Factory Address

Mailing Address
B.7., HMT Industrial Estate,
H.M.T.P.O,
Kalamassery 683503, Kerala, India

Phone Contacts

+91 920-719-7771
+91 920-719-7772
+91 920-719-7776

CIN : U33125KL1993PLC006984
GST No: 32AAACH9492C1ZQ
MSME : UDYAM-KL-02-0043524
ISO 9001:2015 Certified

Visit Us @
Email : sales@holmarc.com
Website : www.homarc.com

Get in touch with our technical experts and discuss your application needs and unique requirements. You can be sure that you will receive rapid response and service.

HMV-12JUL24-08