



MSM has a considerable experience in designing major optical and lighting equipment for major lighthouse stations.

Our MFR is a modern Reflector Light for classical lighthouses, which uses LED lamps of the latest technology, able to reach up to 42 nautical miles.

It is made up of optical panels with LED reflector elements arrayed in one or two columns per panel depending on the configuration, with a redundant safety system as emergency light.

The LED Reflector Light is completed with our MRM 160 double electronic, gearless and brushless revolving pedestals.

The MFR light strictly complies with all related IALA Recommendations.

FEATURES

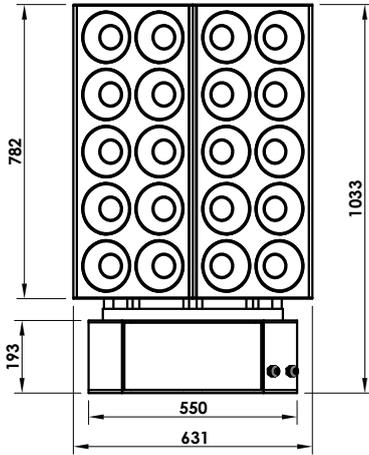
- ✓ LED light source with 100,000 hours average life time.
- ✓ High-efficiency luminous system.
Up to 26 nm (T=0.74), 42 nm (T=0.85).
- ✓ Up to 10 nos. reflectors per panel. Configurations according to customer's requirements.
- ✓ Redundant safety system as emergency lantern, active or passive configuration.
- ✓ Speed setting accuracy: 1.3%.
- ✓ Electronic, gearless and brushless double motor.
- ✓ One only slow-moving assembly.
- ✓ Automatic switch-over to standby motor in case of main drive failure.
- ✓ Operation status and alarm control for both motors.
- ✓ Photocell-control or 24h-rotation selection.
- ✓ Status and alarms ready for remote monitoring and control, by opto-isolated signals and RS-232 serial port.



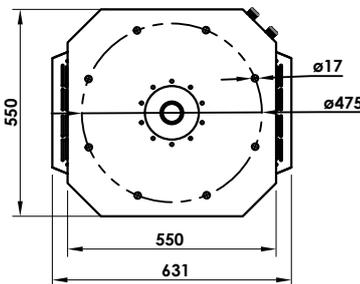
LED REFLECTOR LIGHT MFR



Specifications subject to change without previous notice.



Example of MFR with 10 nos. Reflectors per panel.



Optical system

Light source:	High-intensity LED light source. High-efficiency acrylic reflectors, with dioptric and catadioptric elements.
Luminous range:	Up to 26 nm (T=0.74) 42 nm (T=0.85).
Power:	30W per optical panel.
LED average life:	100,000 hours.
Configuration:	Redundant safety system as emergency lantern, active or passive.

MRM 160 double rotating motor

Type:	Double, electronic, gearless and brushless motor.
Regulation:	Precise balance, minimum friction.
Rotating speed:	Field adjustable, from 1 to 6 rpm.
Speed setting accuracy:	1.3%.
Motor control:	Double electronic circuit.
Accessibility:	4 nos. lateral accesses.

MMC 160 external control unit

Functions:	<ul style="list-style-type: none"> - Rotation control (automatic switch-over to standby motor in case of main drive failure). - Luminous system control. - Photocell control. - Remote monitoring signals.
Operating modes:	Automatic (by photocell), Manual (for maintenance) or Remote (for remote monitoring).
Voltage supply:	12 or 24V d.c.
Remote monitoring:	<ul style="list-style-type: none"> - Status and alarms ready for remote monitoring and control, by opto-coupled signals. - RS-232 or RS-485 serial port.
Watertightness degree:	IP 65.

MFR		EFFECTIVE INTENSITY (Cd)					
No. of Reflectors	STATIONARY INTENSITY (Cd)	0,5	1	2	3	4	5
2	400,000	307,692	250,000	181,818	142,857	117,647	100,000
4	800,000	615,385	500,000	363,636	285,714	235,294	200,000
6	1,200,000	923,077	750,000	545,455	428,571	352,941	300,000
8	1,600,000	1,230,769	1,000,000	727,273	571,429	470,588	400,000
10	2,000,000	1,538,462	1,250,000	909,091	714,286	588,235	500,000

Other configurations available under request.

