

# MONARCH

## THE DUTCH POWERHOUSE



### TECHNICAL DATASHEET

#### Spectral Data

##### HIGH EFFICIENT

Code	Spectra	Optical properties*1				Spectral specifications*1				Imparted heat	
		PhotonFlux (µmol/s)*2	Consumed Power (W)	Efficacy @ 100% (µmol/J)	Efficacy dimmed to 50%*3	blue 400-500	mid 500-600	red 600-700	far-red >700	W	BTU/hr
M.AABW.01	Low Blue	4020	1120	3.59	3.82	5.3	0.1	94.4	0.2	365	1245
M.AACB.01	Low Blue White	3975	1154	3.44	3.67	5.1	5.0	89.6	0.3	401	1368
M.AADH.01	Low Blue White + Far-Red	3790	1174	3.23	3.45	4.8	9.6	75.5	10.1	459	1566
M.AACW.01	Medium Blue	4015	1134	3.54	3.76	7.9	0.1	91.8	0.2	371	1266
M.AADD.01	Medium Blue White	3975	1168	3.4	3.62	7.8	5.0	86.9	0.3	407	1388
M.AACF.01	Broad Spectrum	3800	1240	3.1	3.31	8.6	17.2	73.8	0.5	490	1671

##### ECONOMIC

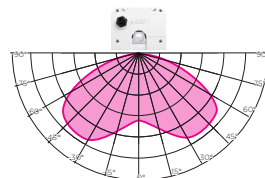
Code	Spectra	Optical properties*1				Spectral specifications*1				Imparted heat	
		PhotonFlux (µmol/s)*2	Consumed Power (W)	Efficacy @ 100% (µmol/J)	Efficacy dimmed to 50%*3	blue 400-500	mid 500-600	red 600-700	far-red >700	W	BTU/hr
M.AABX.01	Low Blue	3810	1137	3.35	3.66	5.1	0.1	94.6	0.2	422	1439
M.AACC.01	Low Blue White	3760	1168	3.22	3.52	5.0	4.8	89.9	0.3	457	1559
M.AADI.01	Low Blue White + Far-Red	3560	1188	3.0	3.30	4.6	9.3	76.1	10.0	515	1757
M.AACX.01	Medium Blue	3800	1150	3.3	3.61	7.7	0.1	92.0	0.2	429	1463
M.AADE.01	Medium Blue White	3750	1182	3.17	3.48	7.6	4.8	87.3	0.3	464	1583
M.AACG.01	Broad Spectrum	3550	1240	2.9	3.16	8.3	16.7	74.5	0.5	535	1825

##### HPS REPLACEMENT

Code	Spectra	Optical properties*1				Spectral specifications*1				Imparted heat	
		PhotonFlux (µmol/s)*2	Consumed Power (W)	Efficacy @ 100% (µmol/J)	Efficacy dimmed to 50%*3	blue 400-500	mid 500-600	red 600-700	far-red >700	W	BTU/hr
M.AABZ.01	Low Blue	3560	1050	3.39	3.69	5.1	0.1	94.6	0.2	381	1300
M.AACD.01	Low Blue White	3435	1050	3.27	3.55	5.0	4.9	89.9	0.2	400	1364
M.AADJ.01	Low Blue White + Far-Red	3220	1050	3.07	3.33	4.7	9.4	75.9	10.0	444	1515
M.AADB.01	Medium Blue	3520	1050	3.35	3.64	7.7	0.1	92.0	0.2	382	1303
M.AADF.01	Medium Blue White	3400	1050	3.24	3.50	7.6	4.9	87.2	0.3	400	1364
M.AACH.01	Broad Spectrum	3100	1050	2.95	3.20	10.5	15.6	73.5	0.4	437	1491

#### Light distribution

##### Wide Beam



Other spectrum variations on request.

\*1 Electrical and optical properties have a tolerance of ± 5%.

\*2 Output is defined as the total photon flux between 400-800nm  
Typical values for stable operation at 77°F | 25°C cooling water temperature

\*3 All values mentioned in the table are based on 100% power, except for this column; 50% power.

## Product features

Housing material and finishing	Aluminium (IK10). Anodized / antifouling powder coating RAL 9010 (dirt repellent)
LED protection cover	High transmission glass (transmission >98%) (IK07)
Beam angle	Wide Beam: 140°
Ingress Protection LED compartment	IP67 (dust- and watertight). Fixtures can be cleaned by using pressurized water, the complete electrical circuit is sealed waterproof.
Lifespan and warranty	L90 B05 - 50,000 hours, 5 year full warranty

## Technical data

Power factor	> 0.96 @ 400 VAC
Total Harmonic Distortion (THD)	< 12%
Voltage range	277 - 480 VAC
Current range	4.6 - 2.3 A
Frequency range	50/60 Hz
Inrush energy	4,2 A²s
Inrush current peak	20A @ 480 VAC
Leakage current	< 0.7 mA @ 480 VAC
Isolation class	Class I
Connector	Integrated: 3 pole connector Male (Wieland RST20i3 black)
Operation conditions	32 to 113°F   0 to 45°C / 95% RH
Storage conditions	32 to 140°F   0 to 60°C / 85% RH

## Cooling liquid and circuit

Cooling liquid	Water (pH 4-8)
Cooling liquid temperature limits	Dew point up to 113°F   45°C. No lower than 39.2°F   4°C.
Self protection cut off temperature	140°F   60°C
Water connection	Pipe thread ISO 228-G 3/4" (2x)
Required flow velocity	Flow velocity must be at least 0.3 m/s and should not exceed 1.5 m/sec. (inner Ø 24.1 mm)
Flow velocity formula	$v = Q \cdot n / 19000$ (velocity in m/s, channel inner diameter 24.1 mm) v: minimally required flow velocity of water in the cooling channel of the lamp. (m/s) Q: heat imparted per fixture (Watt), n: number of fixtures in series on a cooling pipe

## Mounting

Top side has two dedicated T-shaped grooves. Suspension of fixture by 4x M6 bolt & T-nut or custom made bracket.

## Weight and dimensions

Nett weight	20.5 lb   9,3 kg
Product dimensions (L x W x H)	15.35" x 6.3" x 4.8"   390 mm x 160 mm x 122 mm
Carton dimensions (L x W x H)	21.65" x 8.66" x 6.89"   550 mm x 220 mm x 175 mm



## Logistic specifications

Quantity per pallet	49 pcs.
Gross weight per pallet	1148.7 lb   521 kg
Pallet dimensions (EUR)	31.5" x 47.24" x 56.69"

HS-code

## Air freight

Quantity per pallet	49 pcs.
Gross weight per pallet	1148.7 lb   521 kg
Pallet dimensions (EUR)	31.5" x 47.24" x 56.69"
HS-code	800 x 1200 x 1440 mm
HS-code	9405 42 39 90

## Sea/Road freight

Quantity per pallet	63 pcs.
Gross weight per pallet	1461.7 lb   663 kg
Pallet dimensions (EUR)	31.5" x 47.24" x 71.26"
HS-code	800 x 1200 x 1810 mm
HS-code	9405 42 39 90

## Compliance

Conforms to/Certified to ANSI/CAN/UL 8800



V221031M

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