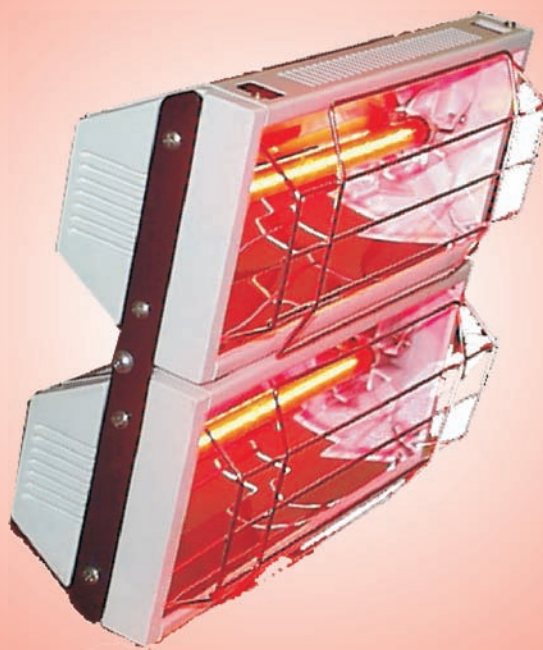


HELIOS™

HALOGEN MODULAR PROGRAM NO. HMI 2005

INFRARED HEATERS
APPLICATION CHART

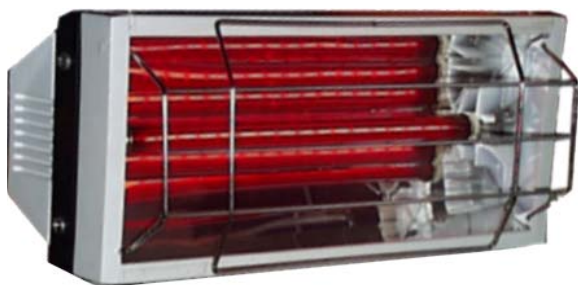


SERVING AUSTRALIAN INDUSTRY SINCE 1946

INFRARED HEATERS

HMI 1

HALOGEN MODULAR HEATERS



- ✓ NO WARM-UP TIME
- ✓ NO HEAT WASTAGE
- ✓ INSTANT CONTROLLABILITY
- ✓ CLEAN & ENERGY EFFICIENT
- ✓ LOW COST INSTALLATION

NO WARM-UP TIME - HALOGEN MODULAR HEATERS TAKE LESS THAN 1 SECOND TO PEAK RADIATION.

NO HEAT WASTAGE - ORDINARY HEATING METHODS WORK MAINLY BY CONVECTION OR CONDUCTION IN TURN THEY HEAT THE AIR WHICH THEN HEATS THE PERSONNEL. IN AREAS WHICH ARE LARGE, OPEN OR DRAFTY, THESE METHODS ARE SLOW, INEFFICIENT AND EXPENSIVE TO RUN.

HALOGEN MODULAR HEATERS DIRECT THE HEAT AT PEOPLE AND OBJECTS , NOT THE AIR AROUND THEM.

INSTANT CONTROLLABILITY - EITHER BY MOTION DETECTORS OR DIGITAL POWER CONTROLLERS

CLEAN & ENERGY EFFICIENT - ELECTRIC HEATING IS THE CLEANEST NON POLLUTING FORM OF HEAT AVAILABLE TODAY. ENERGY EFFICIENT DUE TO THE FACT HALOGEN MODULAR HEATERS CAN DIRECT THE HEAT INSTANTLY WHERE AND WHEN REQUIRED.

LOW COST INSTALLATION - FROM A SIMPLE 240 VOLT POWER OUTLET THESE HEATERS CAN BE INSTALLED.

APPLICATION - GENERAL COMMERCIAL, INDUSTRIAL INDOOR USE.

FACTORIES, LOADING BAYS, CANTEENS, WAREHOUSES, AIRCRAFT HANGERS, CHURCHES, COMMUNITY HALLS AND SCHOOLS.

CONSTRUCTION - TUNGSTEN HALOGEN LAMPS, 240 VOLTS 1500 WATT. REFLECTOR BRIGHT ROLLED ALUMINIUM. CASE WHITE POWDER COATED STEEL. END COVERS ALUMINIUM CASTING FOR HEATSINK EFFECT. BRACKETS GREY POWDER COATED STEEL. ELECTRICAL CONNECTION REAR TERMINAL BLOCK VIA CABLE CLAMP.

TEMPERATURE RANGE - 0 TO 40 °C

| CATALOGUE # | DIMENSIONS MM | VOLTAGE | WATTAGE |
|-------------|-----------------|---------|---------|
| HMI 1.5 | 370 X 170 X 120 | 240 | 1500 |
| HMI 3.0 | 370 X 340 X 120 | 240 | 3000 |



HELIOS™

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INFRARED HEATERS

HALOGEN MODULAR HEATERS

SELECTION AND MOUNTING GUIDE PARAMETERS

CALCULATE NUMBER OF UNITS REQUIRED.

SELECT SINGLE OR TWIN UNITS IN CONJUNCTION WITH APPROPRIATE MOUNTING HEIGHT FROM THE HEATED COVERAGE AREA TABLE. IDEAL 4.0M THIS IS RELEVANT TO SIZE AND SHAPE OF AREA TO BE HEATED

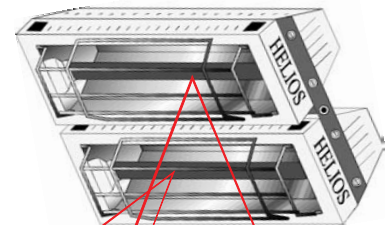
I.E.: FACTORY RECTANGULAR AREA 10M WIDE X 20M LONG MOUNT TWIN UNITS ON OPPOSITE 20M LENGTH WALLS HEIGHT 3.5M. CANTEEN WITH ONLY A 3.0M CEILING HEIGHT SINGLE UNITS ONLY.

MOUNT MINIMUM DISTANCE FROM CEILING AND SIDE WALLS.
SINGLE UNITS = 300MM TWIN UNITS = 500MM

MAJOR AFFECTING FACTOR - AIR MOVEMENT GREATER THAN 0.25M/S COMPENSATE BY INCREASING POWER LOADING BY 50%



| POWER LOADING REQUIRED TABLE | | | |
|------------------------------|------------------|------------------|------------------|
| APPLICATION | W/M ² | APPLICATION | W/M ² |
| FACTORIES | 175 | AIRCRAFT HANGERS | 150 |
| LOADING BAYS | 150 | CHURCHES | 110 |
| CANTEENS | 200 | COMMUNITY HALLS | 200 |
| WAREHOUSES | 100 | SCHOOLS | 200 |



SAMPLE CALCULATION

APPLICATION - FACTORY

AREA TO BE HEATED
20M X 10M = 200M²

POWER LOADING
FROM TABLE = 175W/M²

WATTAGE REQUIRED
200 X 175 = 35,000 WATT

TWIN UNIT = 3,000 WATT

35,000 / 3000 = 11.66

SAY 12 UNITS REQUIRED

| HEATER AREA COVERAGE @ 1M ABOVE FLOOR LEVEL | | | | | |
|---|-------------------------|-----------------------|--------|-------|---------------------|
| MOUNTING HEIGHT | W/M ² SINGLE | W/M ² TWIN | LENGTH | WIDTH | AREA M ² |
| 2.5M | 60.6 | - | 3.3M | 7.5M | 24.75 |
| 3.0M | 39.3 | 78.6 | 4.1M | 9.5M | 38.13 |
| 3.5M | 26.7 | 53.5 | 5.0M | 11.2M | 56.00 |
| 4.0M | 19.7 | 39.4 | 5.8M | 13.1M | 75.98 |
| 4.5M | 14.8 | 29.6 | 6.7M | 15.1M | 101.17 |
| 5.0M | 11.6 | 23.2 | 7.6M | 17.0M | 129.20 |
| 5.5M | - | 18.8 | 8.4M | 18.9M | 158.76 |

WIDTH

ELECTRIC ELEMENT ENGINEERS

WEB: www.helios.com.au

SERVICE TO INDUSTRY SINCE 1946

FOR OVER 50 YEARS HELIOS HAS BEEN INVOLVED IN DESIGN, DEVELOPMENT AND MANUFACTURE OF ELECTRIC HEATING ELEMENTS AND ASSOCIATED EQUIPMENT. FROM THESE MANY YEARS OF PRACTICAL EXPERIENCE WE HAVE COMPILED AND RECORDED DATA AND TECHNICAL INFORMATION WHICH IS READILY AVAILABLE AS A SERVICE TO ALL OUR VALUED CLIENTS. OUR ELEMENT ENGINEERS ARE AVAILABLE TO ADVISE AND ASSIST WITH THE SELECTION AND DESIGN OF THE APPROPRIATE HEATER OR EQUIPMENT TO SOLVE YOUR PARTICULAR PROBLEM. DESIGNING AND MANUFACTURING PLANTS AUSTRALIA WIDE ENABLES HELIOS TO OFFER QUALITY AND SERVICE ON WHICH THE COMPANY WAS FOUNDED.

HELIOS MANUFACTURES AND SERVICES ARE THE LARGEST RANGE OF ELECTRIC INDUSTRIAL HEATING ELEMENTS AVAILABLE IN AUSTRALIA TODAY THIS IN TURN ALLOWS US TO PROVIDE YOU WITH A SINGLE SOURCE OF SUPPLY SAVING ORDERING TIME AND MONEY.

MANUFACTURING PLANTS

VICTORIA

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WESTERN AUSTRALIA

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FAX: (08) 6278 4009
EMAIL: perth@helios.com.au

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EMAIL: sydney@helios.com.au

QUEENSLAND

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EMAIL: brisbane@helios.com.au



AUSTRALIAN MADE
AUSTRALIAN OWNED
AUSTRALIAN PREFERRED

SALES OFFICES - AUSTRALASIA

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38C HILLVIEW TERRACE, SINGAPORE 2366
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FAX: (65) 6760 3643
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QUALITY ASSURANCE ACCREDITATION

AS / NZS ISO 9001 : 2000
ANZSIC REFERENCE CODE: 2851

APPLIES TO THE FOLLOWING PRODUCTS AND SERVICES:-

PRODUCTS: ELECTRIC HEATING ELEMENTS AND ASSOCIATED EQUIPMENT.

SERVICES: SALES, DESIGN AND MANUFACTURE OF ELECTRIC HEATING ELEMENTS.

ACN. 004 283 005 ABN. 98 004 283 005

HELIOS IS NOT JUST ANOTHER HEATING ELEMENT COMPANY, IT IS THE MARKET LEADER IN PRODUCTS RANGE, QUALITY AND SERVICE TO AUSTRALIAN INDUSTRY. ITS STRENGTH WITHIN THE MARKET PLACE IS ITS DEDICATED TEAM FROM ELECTRICAL ENGINEERS / TRADE PERSONNEL TO CERTIFICATE III IN ENGINEERING ACCREDITED PRODUCTION STAFF.



WARNING SYMBOLS

TAKE NOTE OF THESE HAZARD WARNING SYMBOLS THROUGHOUT OUR BROCHURES
REFER TO OUR SAFETY & SYMBOLS PROCEDURE IN BROCHURE PR 2005 OR OUR WEB: www.helios.com.au

HAZARD:-



FIRE



EARTH
REQUIRED



ELECTRIC
SHOCK

HELIOSTM
ELECTROHEAT PTY LTD