# Datasheet - MCS

# Modular Cooling System

## Ambient Cooling System with Cooling Capacities up to 3.5 kW


A Modular Cooling System (MCS) is a cost-effective and reliable alternative to refrigerated chillers for applications where precise temperature control and cooling below ambient temperature are not required. It consists of a high performance Boyd heat exchanger integrated with a fan, pump, and tank in a durable metal chassis.

• **Extremely efficient:** All components are performance-matched for maximum cooling capacity. Boyd has more than 50 years of experience in thermal design, so you can be sure that the most critical component of the MCS, the heat exchanger, is designed for optimum performance.

• **Easy-to-operate:** This easy-to-use, turnkey cooling package takes the guesswork and effort out of building a cooling loop. All you need to do is fill the tank and flip the switch.

• **Extremely reliable:** All components in the MCS have been designed for long life and high reliability-a Boyd MCS will provide years of trouble-free operation.

• ITSNA tested to UL 61010A-1 and CE certified

## Performance Specifications

| Category | Value | MCS20 | MCS30 | MCS40 | MCS50 |
|---|---|---|---|---|---|
| Cooling capacity using water, 25°C initial temperature difference | W<br>BTU/Hr | 1300<br>4,450 | 2100<br>7,150 | 2400<br>8,200 | 3500<br>12,000 |
| Fluid inlet connections | - | 1/2" FNPT | 1/2" Barb | 1/2" FNPT | 1/2" FNPT |
| Fluid outlet connections | - | 1/2" FNPT | 1/2" Barb | 1/2" FNPT | 1/2" FNPT |
| Reservoir capacity | - | 0.75 gal / 2.8 liters | | | |
| Maximum liquid temperature | - | 131°F / 55°C | | | |
| Dimensions (W x D x H) | inches<br>mm | 17.3 x 15.1 x 13.3<br>439 x 384 x 338 | | 15 x 15 x 24<br>381 x 381 x 610 | |
| Rack Mount Dimensions (W x D x H) | inches<br>mm | 19 x 15.1 x 12.3<br>482 x 384 x 312 | | NA | |
| Weight - stand alone | lbs (kg) | 35 (16) | 37 (17) | 60 (27) | 65 (29) |
| Weight - rack mount | lbs (kg) | 23 (10) | 25 (11) | NA | NA |
| Recommended coolant | | Water | Oil, EGW | Water | Water |
| **Available electrical configurations and full load amerage[3]** | | | | | |
| G01: 115V, 60Hz, 1ph | Amps | 5.3 | 5.3 | NA | NA |
| G02: 115V, 60Hz, 1 ph | Amps | NA | NA | 5.6 | 5.8 |
| H01: 230V, 50/60 Hz, 1 ph | Amps | 2.5 | 2.5 | NA | NA |
| J02: 230V, 50/60 Hz, 1 ph | Amps | NA | NA | 2.7 | 2.8 |
| **Pump options** | | | | | |
| BB: PDP[4], Brass, 1.3 gpm/4.9 lpm | | • | • | | |
| BC: PDP[4], Brass, 1.8 gpm/6.8 lpm | | o | o | • | • |
| BE: PDP[4], Brass, 2.3 gpm/8.7 lpm | | o | o | o | o |
| CB: PDP[4,5], Stainless steel, 1.3 gpm/4.9 lpm | | o | | | |
| CC: PDP[4,5], Stainless steel, 1.8 gpm/6.8 lpm | | o | | | |
| CE: PDP[4,5], Stainless Steel, 2.3 gpm / 8.7 lpm | | o | | | |
| AB: Centrifugal, 1/16 HP[6] | | o | o | | |
| DA: Centrifugal, 1/4 HP[6] | | o | o | o | o |
| **Package Options** | | | | | |
| Package 1: Ambient package | | • | • | • | • |
| **Additional options** | | | | | |
| M002: Heavy duty casters | | o | o | o | o |
| M062: Rack mount configuration | | o | o | | |
| M004: High purity plumbing stainless steel heat exchanger, nickel plates bulkhead fittings | | o | | | |
| M063: Rack mount configuration and high purity plumbing | | o | | | |

• = standard

o = available option

[1] Oil @ 70°F, 50/50 EGW

[2] Includes pressure drop through system

[3] With standard pump

[4] PDP = Positive Displacement Pump

[5] Only available with high purity plumbing

[6] Actual flow rate depends on system pressure drop

**MCS20 G01 BB 1** MCS20, 115V,60 Hz operation,with BB pump and no additional options

or

**MCS40 G02 BC 1 M002** MC540, 11511, 60 Hz operation, with BC (brass) pump, and heavy duty casters