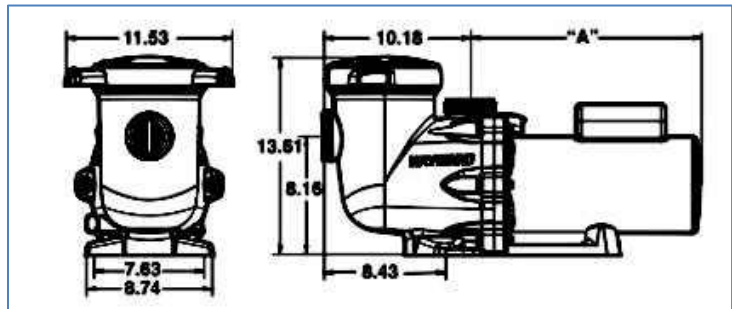


Pool Circulating Pump

General:

1. It is the intent of these specifications to describe a high performance circulating pump designed specifically for swimming pool, spa and other aquatic applications. The specification is based on the Tristar Pump manufactured by Hayward Industries.
2. This specification includes criteria for the following CSI Master Format components:
 - 2.1. Division 13 – Special Construction
 - 131000 Special Facility Components
 - 131100 Swimming Pools
 - 131700 Tubs and Pools
 - 2.2. Division 22 - Plumbing
 - 220150 Operation & Maintenance of Pool Systems
 - 220513 Common Motor requirements.
 - 220650 Schedules for pool and fountain plumbing systems
 - 225000 Pool and Fountain plumbing.
 - 225116 Pool Pumps
 3. The pump shall meet the criteria of the following standards:
 - UL – Underwriters’ Laboratory
 - NSF – National Sanitation Foundation
 - NEMA – National Electrical Manufacturers’ Association
 - NEC – National Electrical Code
 - ASTM – American Society for Testing and Materials
 4. The pump shall be supplied to its site of installation in its original manufacturer’s packaging. The package shall clearly state the model name, model number and country of manufacture and include the relevant operating and installation instructions. The pump and motor shall be appropriately labelled clearly indicating the manufacturer’s name. The manufacturer’s name/registered logo shall be molded into the body of the pump.
 5. The pump shall be a manufactured by a company with at least 10 years of proven product experience. The manufacturing facility shall be a permanent, established facility that meets the relevant codes.
 6. The pump shall be factory tested and shall be certified by NSF.
 7. There shall be a provision to pressure test the pump up to 40 psi.
 8. The circulating pump shall be guaranteed by the manufacturer for workmanship, materials and performance for a period of 1 year. The warranty will not include abusive or improper treatment of the filter during construction or under operation.



Product:

1. The pump shall produce the desired flow rate based on a TDH of 50ft water unless head loss calculations are provided.
2. The pump should operate at the design flow rate and head at a minimum 75% efficiency.
3. The circulating pump shall be self-priming type with suction lift of minimum 10' above water level.

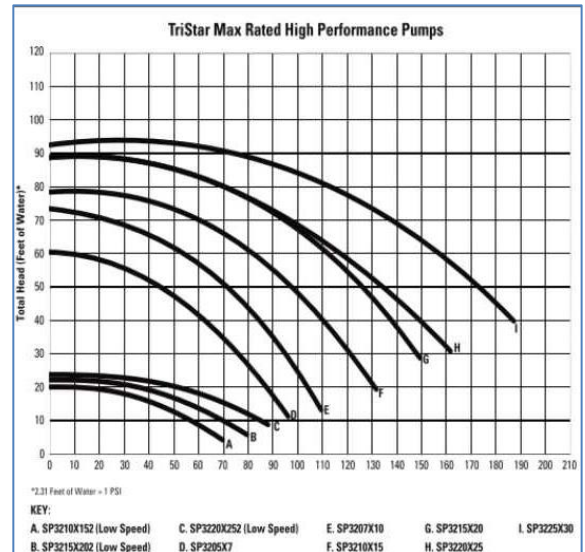
4. Pump Construction:

- | | |
|---------------------------|----------------------------|
| 4.1. Pump body: | Glass filled thermoplastic |
| 4.2. Impeller, diffuser : | Xyron or Noryl |
| 4.3. Shaft: | 303 Stainless Steel |
| 4.4. O-rings: | EPDM |
| 4.5. Cover: | See through Lexan |

5. Shaft Seal shall be industrial type elastomer bellows seal

- | | |
|---------------------|------------------|
| 5.1. Primary ring | Carbon |
| 5.2. Mating ring | Polished ceramic |
| 5.3. Hardware | Stainless steel |
| 5.4. Secondary Seal | Viton |
| 5.5. Spring | Stainless steel |

6. The pump seal shall be lubricated by the water flowing through the pump
7. The pump impeller shall be secured to the pump shaft by means of threads and threaded brass insert sonic welded with the impeller.
8. It should be possible for the impeller and seal to be replaced by just removing six bolts and without disturbing pipe or mounting connections
9. The pump shall be equipped with a load extender design basket strainer of minimum 155 cu.inch capacity. The strainer basket housing shall be integral with the pump volute and the whole unit shall be a one piece molding with 2" x 2 1/2" union connections for suction and discharge ports.
10. The strainer shall have a see through cover fastened to the body by Tri-Lock cam and ramp strainer cover seals with less than a 1/4 turn without tools .
11. . A strainer gasket shall be fixed along with the cover. The gasket will be a captured gasket.



MOTOR :

12. The pump motor shall form part of the pump package and shall have the following features:
 - 12.1. Motor shall be Open Drip Proof (ODP) type with minimum Class F insulation and rated for minimum 60 deg C ambient temperature.
 - 12.2. The motor shall be capacitor start-capacitor run.
 - 12.3. The motor label shall have the minimum necessary information as described in the relevant NEMA standard and the label shall also carry the name of the pump and motor manufacturer.
 - 12.4. The motor bearing shall be sealed type that does not require any additional lubrication.
 - 12.5. The ventilation openings of the motor must comply with the provisions of UL 1081 Section 6.
 - 12.6. The motor shall be equipped with a bonding lug to facilitate bonding of the motor to the other metal parts of the system in accordance with the relevant NEC codes.