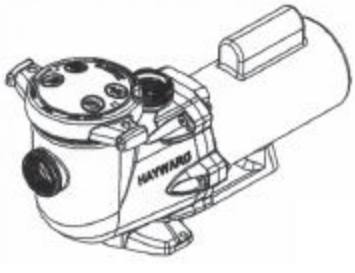
IS3200E - Rev D - 09

HAYWARD®

CENTRIFUGAL PUMPS



USER'S GUIDE

GB

GENERAL

All pool electric pump installations need to be carried out according to professional practice rules and in compliance with the current standards (p 24).

Install the pump at the right distance from the base in to minimize the link at length between the suction point and the pump so as to do away with pointless and excessive load losses in the hydraulic circuit.

However, it is mandatory to allow a safety distance as required by the current installation standard (p 24).

Install the pump in a ventilated and dry place. The motor requires air to flow freely around it to provide for natural ventilation.

The pumps must be installed in a fixed station.

The acoustic level of the Hayward pumps is lower than 70 dB (A).

Warning:

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Necessary arrangements :

- Connect the pump to ground
- Connect the pump with a H07RN-F cable.
- Fit a 30 mA differential protection device to protect people from electric shock caused by a possible break in the electrical insulation.
- Provide protection against short-circuiting (the definition of the rating will depend on the value indicated on the motor name plate).
- Provide a circuit separation device with a 3 mm opening on all the poles.

Single phase electric motor: The single phase motors fitted to our pumps are provided with thermal protection. This protection operates on an overload or in the event of abnormal heating of the motor coil and is reset automatically when the winding temperature drops.

Three phase electric motor:

Check the running direction of the pump motor (a label is provided on the motor housing to indicate the motor running direction).

If so required by regulations and whatever the motor type, in addition to the devices mentioned above, it is also necessary to install a thereto-magnetic protective device calibrated in accordance with the indications on the motor name-plate.

The table on page 23 indicates the various characteristics of the motors fitted to our pumps.

Electrical connection:

Make sure that the power supply voltage required by the motor corresponds to that of the distribution network and that the power supply cables matches the power and current of the pump.

All the electric connections of the pump and the possible change of power supply cable must be hand-led by a qualified professional so as to avoid all possible danger.

When making these electrical connections, refer to the diagram given under the lid of the motor terminal box.

Be sure to check the electric connections are tight and sealed before powering up.

The pre-wiring that might be included on some of the pumps must be removed for final connection of the pump to the electric power supply. This pre-equipment is only used for works testing during the manufacturing phases.

STARTING AND PRIMING INSTRUCTIONS

Fill strainer housing with water to suction pipe level. Never operate the pump without water. Water acts as a coolant and lubricant for the mechanical shaft seal.

Open all suction and discharge valves, as well as air bleed (if available) on filter. (The air that is to be displaced from the suction line must have someplace to go).

Turn on power and allow a reasonable time for priming. Five minutes is not unreasonable. (Priming time depends on suction lift and horizontal length of suction piping). If pump will not start, or will not prime, see TROUBLE SHOOTING GUIDE.

MAINTENANCE

1. Clean strainer basket regularly. Do not strike basket to clean. Inspect strainer cover gasket regularly and replace as necessary.
2. Hayward pumps have self-lubricating motor bearings and shaft seals. No lubrication is necessary
3. Keep motor clean. Insure air vents are free from obstruction.
4. Occasionally, shaft seals become damaged or worn and must be replaced. See instructions.

WINTERIZING / STORAGE

1. Drain pump by removing drain plug(s) and store in strainer basket.
2. Disconnect electrical wires and pipe connections, and store pump in a dry, well-ventilated room. Or, as a minimum precaution: Disconnect electrical wires. Remove four bolts holding bracket and motor assembly to Strainer/Housing and store assembly in a dry, well-ventilated room. Protect remaining Strainer/Housing assembly from the elements by covering.

NOTE: Before Re-Activating pump, thoroughly clean and remove scale, dirt, etc.

TROUBLE SHOOTING GUIDE

A) Motor won't start

1. Check for improper or loose connections, open switches or relays, blown circuit breakers or fuses.
2. Manually check rotation of motor shaft for free movement and lack of obstruction.

B) Motor cuts out - Check for :

1. Wiring, loose connections, etc.
2. Low voltage at motor (frequently caused by undersized wiring).
3 Binding and overload. (Amperage reading.).

NOTE Your Hayward pump motor is equipped with Automatic Thermal Overload Protection. The motor will automatically shut-off, under conditions before heat damage build-up, due to an improper operating condition, can occur. The motor will auto-restart when safe heat level is reached.*

* This is only valid for 1 phase motors. 3 phase motors require the use of fuses which have to be reset.

C) Motor pumps, but does not start - Check for :

1. Governor stuck in open position.
2. Open capacitor.

D) Pump won't prime :

1. Make sure pump strainer/housing is filled with water, and that cover gasket is clean and properly sea-ted. Tighten hand nuts.
2. Make sure all suction and discharge valves are open and unobstructed, and that pool water level is above all suction openings.
3. Block off suction as close to pump as possible and determine if pump will develop a vacuum.
   a) If pump does not develop vacuum, and pump has sufficient «priming water»:
      1. Tighten all bolts and fittings on suction side.
      2. Check voltage to make sure pump is up to speed.
      3. Open pump and check for clogging or obstruction.
      4. Remove and replace shaft seal.
   b) If pump develops a vacuum, check for blocked suction line or strainer, or air leak in suction piping.

E) Low flow - Generally, Check for :

1. Clogged or restricted strainer or suction line; undersized pool piping.
2. Plugged or restricted discharge line of filter (high discharge gauge reading).
3. Air leak in suction (bubbles issuing from return fittings).
4. Pump operating under speed (low voltage).
5. Plugged or restricted impeller.

F) Noisy pump - Check for

1. Air leak in suction causing rumbling in pump.
2. Cavitation due to restricted or undersized suction line and unrestricted discharge lines. Correct suction condition or throttle discharge lines, if practical.
3. Vibration due to improper mounting, etc.
4. Foreign matter in pump housing.
5. Motor bearings made unserviceable by wear, rust, or continual overheating.

SEAL CHANGE INSTRUCTIONS

GENERAL : Exercise extreme care handling and installing the new seal and seat assembly. The lapped and polished surfaces may easily be damaged by dirt or scratching. For safety, all service must be performed with power shut off.

REMOVING THE MOTOR ASSEMBLY :

1. Remove the (4) 3/8» x 2» hex head bolts, which hold the motor assembly to the pump/strainer housing. Side the motor assembly out of the pump/strainer housing, exposing the diffuser. Pull the dif-fuser off the seal plate, exposing the impeller. (The diffuser may remain in the pump/strainer housing. To remove, pull it straight out of the strainer housing).

REMOVING THE IMPELLER :

2. To hold motor shaft from turning (for American made motors), carefully slide a 7/16 wrench between the capacitor and the protector switch, and rotate the impeller so the wrench fits over the (2) flats on motor shaft. Or use a screwdriver in the motor shaft (for European made motors). Rotate the impeller counter-clockwise and remove. The spring portion of the seal assembly is now exposed. Note carefully the position of the spring seal, and remove it.

REMOVING THE CERAMIC SEAT :

3. Remove the (4) bolts holding the seal plate to the motor and remove the seal plate. Note the notch on the top of the plate and the mating lug on the motor mounting bracket.
4. Press the ceramic seat with O-ring out of the seal plate. If tight, use a small screwdriver to tap seat out.
5. Clean all recesses and parts to be reassembled. Inspect gaskets and replace if necessary.

SEAL INSTALLATION :

6. Clean & slightly lubricate the impeller hub and seal recess in the seal plate with silicone or Vaseline. Gently wipe the black, polished surface of the spring seal assembly with a clean, soft cotton cloth. Press the spring seal assembly into the impeller hub - black polished surface facing away from the impeller Gently wipe the face polished of the ceramic seat with a soft, cotton cloth. Lubricate the O-ring on the ceramic seat and press if firmly and evenly into the recess in the seal plate - polished side facing out.
7. Place the seal plate onto the motor mounting bracket aligning the positioning lug and guide.

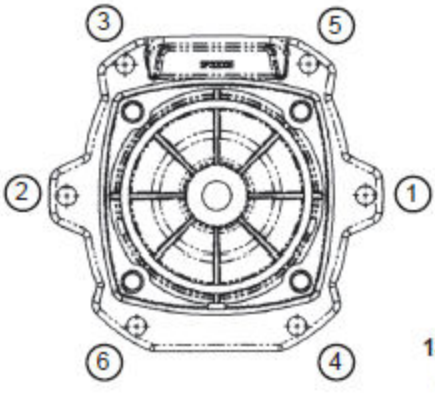
REPLACING THE IMPELLER :

8. Screw the impeller onto the motor shaft in a clockwise direction. Tighten snugly by holding motor shaft with wrench or screwdriver.
9. For 3 HP motor 1 drop of glue will avoid unscrewing of the impeller if rotating counter clockwise (glue must be compatible S Steel + Brass).

REPLACING THE MOTOR ASSEMBLY :

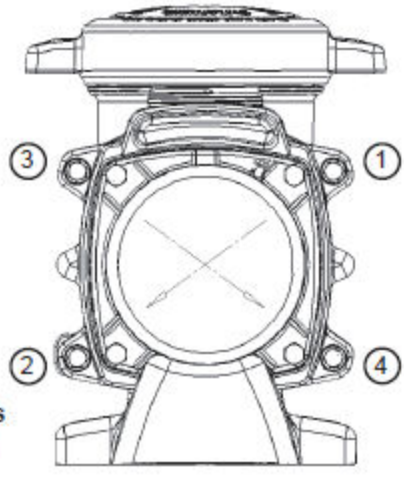
10. Side the motor assembly, in place, into pump/strainer housing, being careful not to dislodge the diffuser fastens assembly to housing using the bolts. (Be sure housing gasket is in place). Tighten alternately and evenly (See page 24).

Housing bolt torque pattern



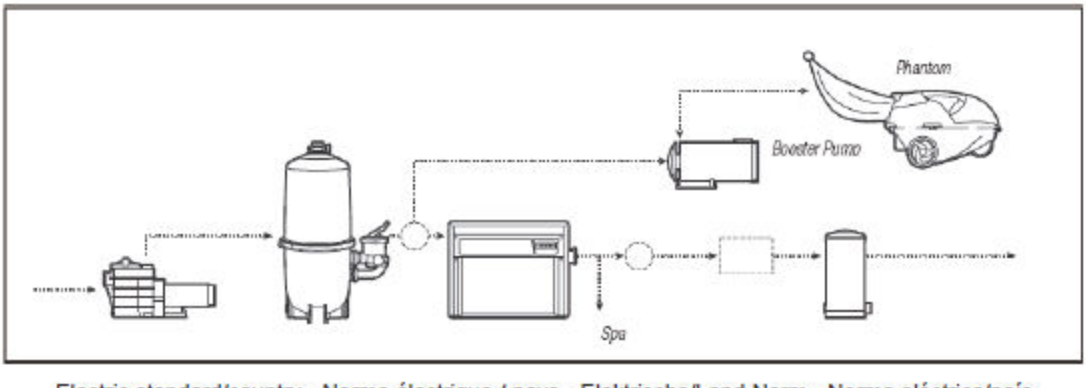
TriStar

185 inch lbs
20.9 N.m



MaxFlo II

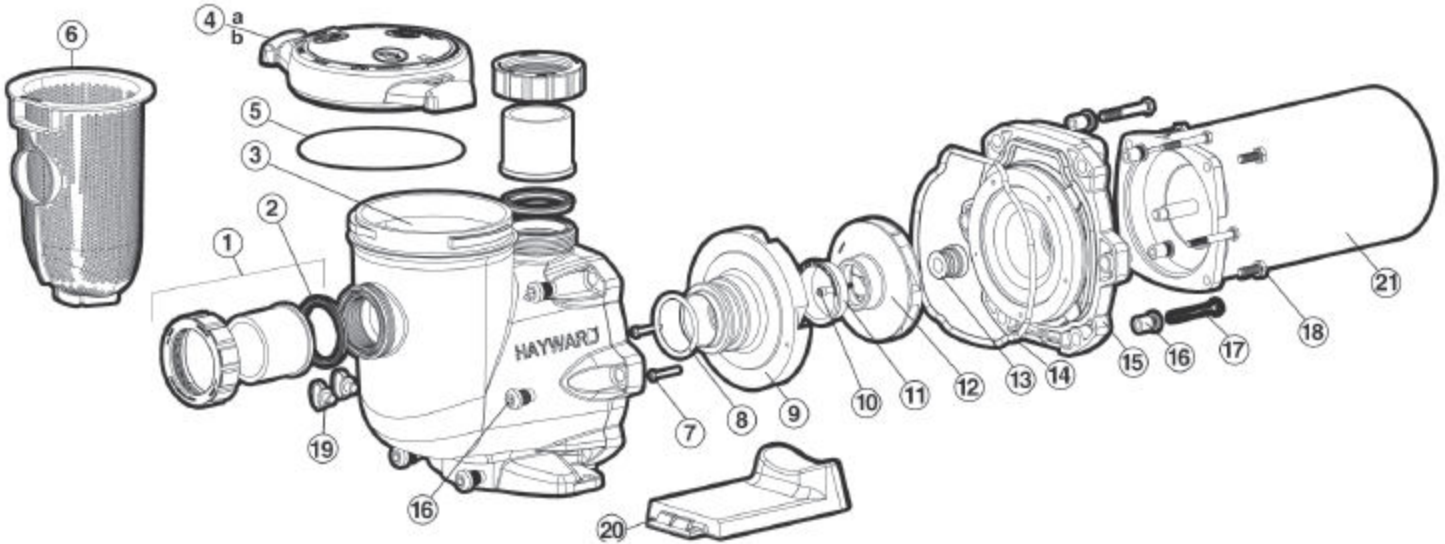
Booster Pump



Electric standard/country - Norme électrique / pays - Elektrische/Land Norm - Norma eléctrica/país
Norma elettrica/paese - Norm elektrisch/landen - Norma eléctrica/países

F	NF C15-100	GB	BS7671:1992
D	DIN VDE 0100-702	EW	EVHS-HD 384-7-702
A	ÖVE 8001-4-702	H	MSZ 2364-702:1994 / MSZ 10-533 1/1990
E	UNE 20460-7-702 1993, REBT ITC-BT-31 2002	M	MSA HD 384-7-702.S2
IRL	Wiring Rules + IS HD 384-7-702	PL	PN-IEC 60364-7-702:1999
I	CEI 64-8/7	CZ	CSN 33 2000 7-702
LUX	384-7.702 S2	SK	STN 33 2000-7-702
NL	NEN 1010-7-702	SLO	SIST HD 384-7-702.S2
P	RSIUEE	TR	TS IEC 60364-7-702

SP3200 SERIE



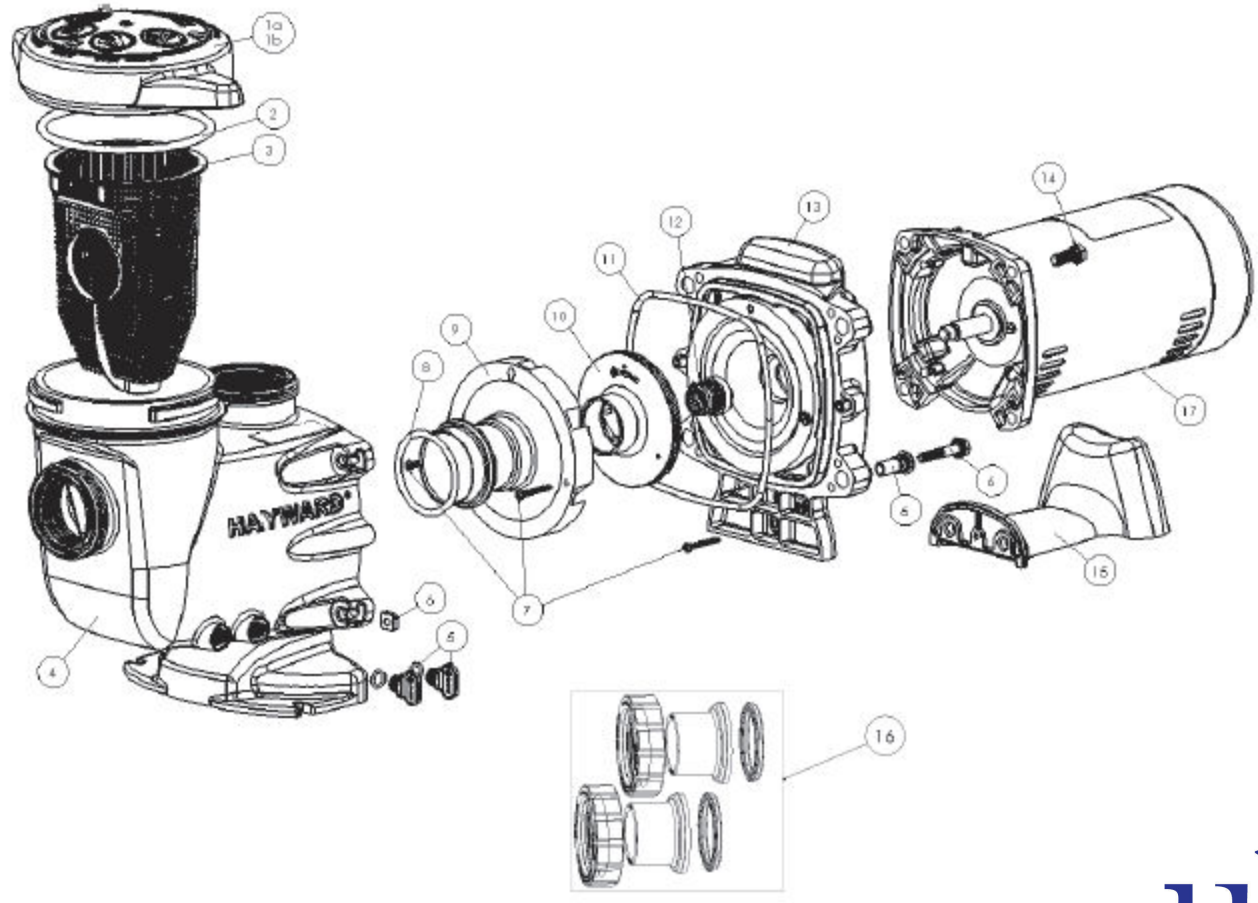
N°	Mod. SP32081	Mod. SP32111	Mod. SP32161	Mod. SP3220X	Mod. SP3230X
1	SP3200UNKIT63	SP3200UNKIT63	SP3200UNKIT63	SP3200UNKIT63	SP3200UNKIT63
2	SPX3200UG	SPX3200UG	SPX3200UG	SPX3200UG	SPX3200UG
3	SPX3200A	SPX3200A	SPX3200A	SPX3200A	SPX3200A
4a	SPX3200DLS	SPX3200DLS	SPX3200DLS	SPX3200DLS	SPX3200DLS
4b***	SPX3200DLSB	SPX3200DLSB	SPX3200DLSB	SPX3200DLSB	SPX3200DLSB
5	SPX3200S	SPX3200S	SPX3200S	SPX3200S	SPX3200S
6	SPX3200M	SPX3200M	SPX3200M	SPX3200M	SPX3200M
7	SPX3200Z8	SPX3200Z8	SPX3200Z8	SPX3200Z8	SPX3200Z8
8	SPX4000Z1	SPX4000Z1	SPX4000Z1	SPX4000Z1	SPX4000Z1
9	SPX3200B3	SPX3200B3	SPX3200B3	SPX3200B3	SPX3200B3
10	SPX3200Z1	SPX3200Z1	SPX3200Z1	SPX3200Z1	SPX3200Z1
11	SPX3021R	SPX3021R	SPX3021R	SPX3021R	SPX3021R
12	SPX3207C	SPX3210C	SPX3215C	SPX3220C	SPX3230C
13	SPX3200SA	SPX3200SA	SPX3200SA	SPX3200SA	SPX3200SA
14	SPX3200T	SPX3200T	SPX3200T	SPX3200T	SPX3200T
15	SPX3200E	SPX3200E	SPX3200E	SPX3200E	SPX3200E
16	SPX3200Z211	SPX3200Z211	SPX3200Z211	SPX3200Z211	SPX3200Z211
17	SPX3200Z3	SPX3200Z3	SPX3200Z3	SPX3200Z3	SPX3200Z3
18	SPX3200Z5	SPX3200Z5	SPX3200Z5	SPX3200Z5	SPX3200Z5
19	SPX4000FG	SPX4000FG	SPX4000FG	SPX4000FG	SPX4000FG
20	SPX3200GA	SPX3200GA	SPX3200GA	SPX3200GA	SPX3200GA
21*	SPX0550MSF	SPX0750MSF	SPX1100MSF	SPX1500MSF	SPX2200MSF
21**	-	-	-	SPX1500TSF	SPX2200TSF

* Single phase

** Three phase

*** PHMB

SP2700 SERIE



N°	Mod. SP2705XE81	Mod. SP2707XE11X	Mod. SP2710XE16X	Mod. SP2715XE22X	Mod. SP2720XE25X
1a	SPX2700DLS	SPX2700DLS	SPX2700DLS	SPX2700DLS	SPX2700DLS
1b***	SPX2700DLSB	SPX2700DLSB	SPX2700DLSB	SPX2700DLSB	SPX2700DLSB
2	SPX2700Z4	SPX2700Z4	SPX2700Z4	SPX2700Z4	SPX2700Z4
3	SPX2700M	SPX2700M	SPX2700M	SPX2700M	SPX2700M
4	SPX2700A	SPX2700A	SPX2700A	SPX2700A	SPX2700A
5	SPX4000FG	SPX4000FG	SPX4000FG	SPX4000FG	SPX4000FG
6	SPX2700ZPAK	SPX2700ZPAK	SPX2700ZPAK	SPX2700ZPAK	SPX2700ZPAK
7	SPX2700Z3	SPX2700Z3	SPX2700Z3	SPX2700Z3	SPX2700Z3
8	SX0220Z2	SX0220Z2	SX0220Z2	SX0220Z2	SX0220Z2
9	SPX2700B	SPX2700B	SPX2700B	SPX2700B	SPX2700B
10	SPX2707CM	SPX2707C	SPX2710C	SPX2715C	SPX2720C
11	GMX0600F	GMX0600F	GMX0600F	GMX0600F	GMX0600F
12	SPX2700SA	SPX2700SA	SPX2700SA	SPX2700SA	SPX2700SA
13	SPX2700E	SPX2700E	SPX2700E	SPX2700E	SPX2700E
14	SPX3200Z5	SPX3200Z5	SPX3200Z5	SPX3200Z5	SPX3200Z5
15	SPX2700G	SPX2700G	SPX2700G	SPX2700G	SPX2700G
16	SP2700UNKIT50	SP2700UNKIT50	SP2700UNKIT50	SP2700UNKIT50	SP2700UNKIT50
17*	SPX0550MSF	SPX0550MSF	SPX0750MSF	SPX1100MSF	SPX1500MSF
23**	-	SPX0550TSF	SPX0750TSF	SPX1100TSF	SPX1500TSF

* Single phase

** Three phase

*** PHMB

UK POOL STORE

ukps