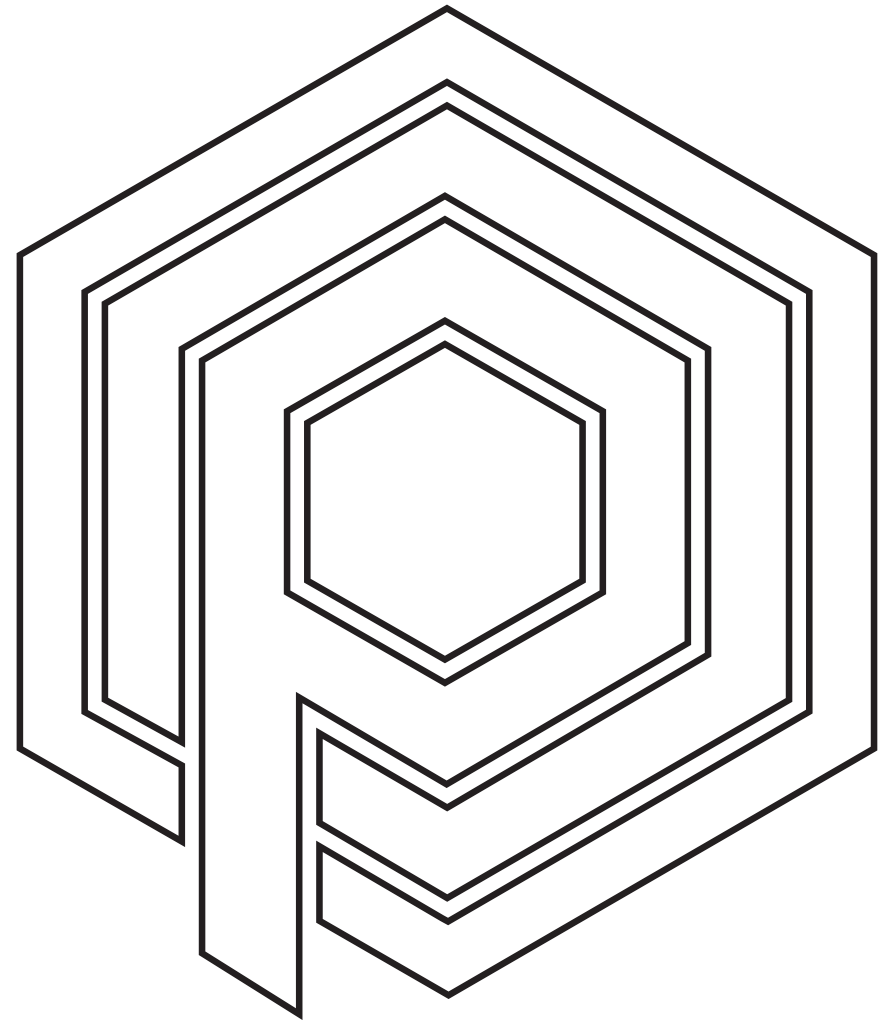
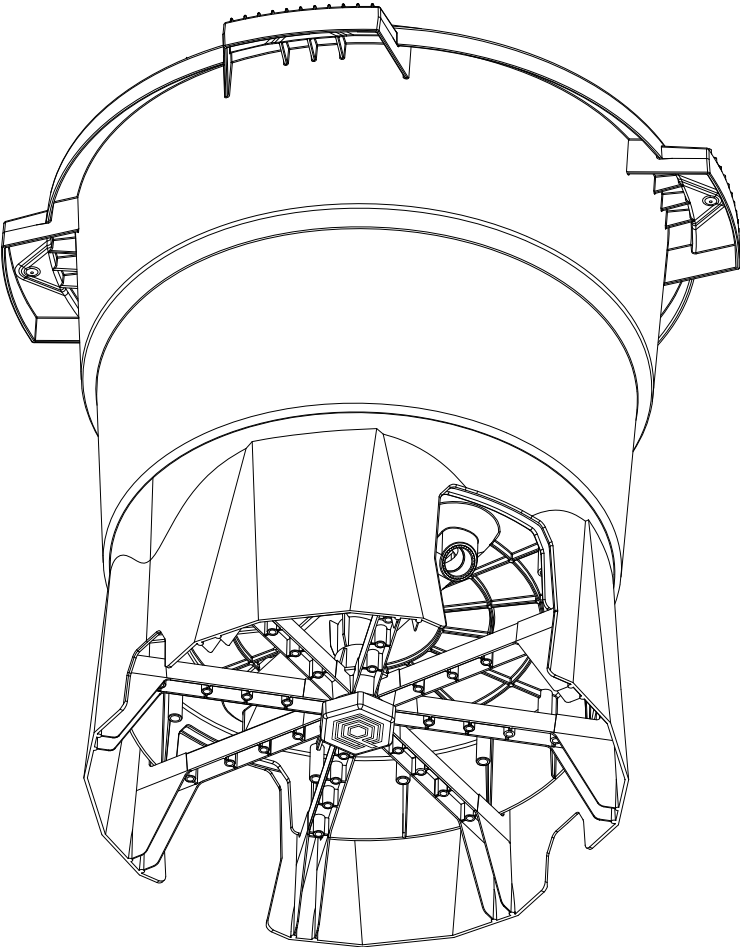
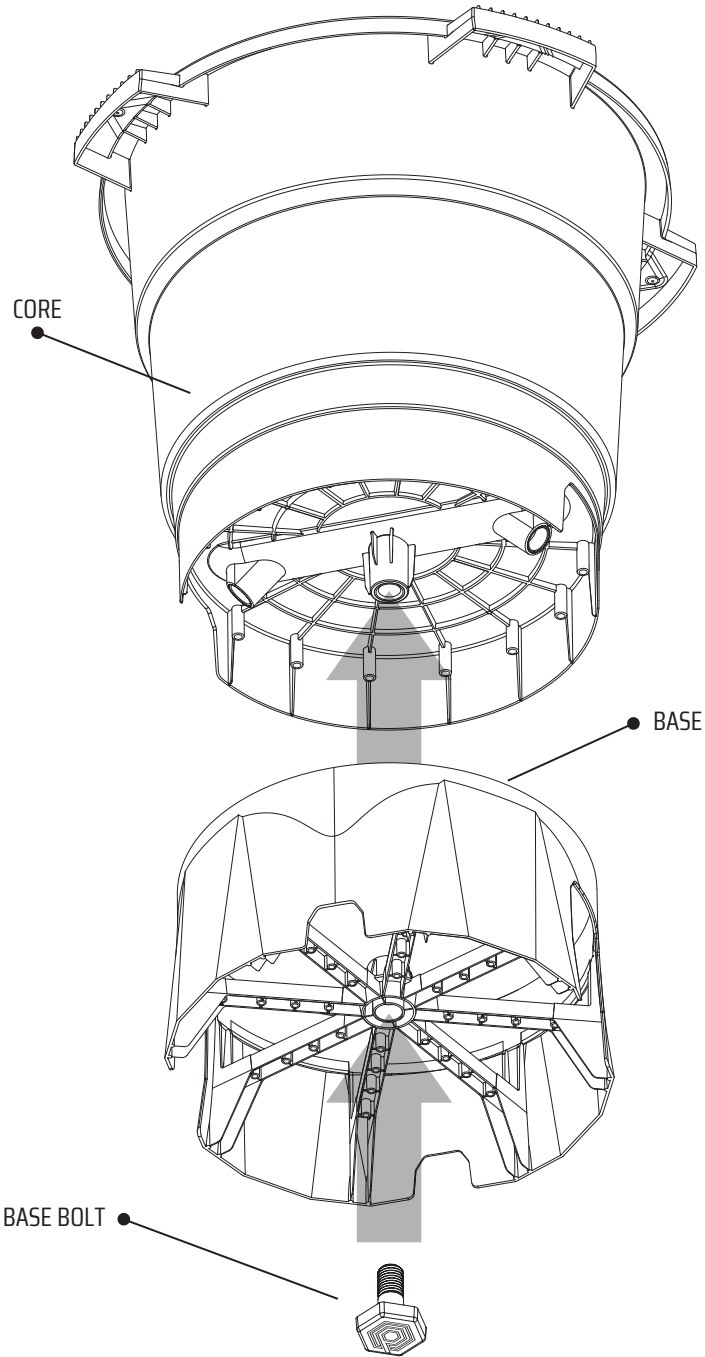




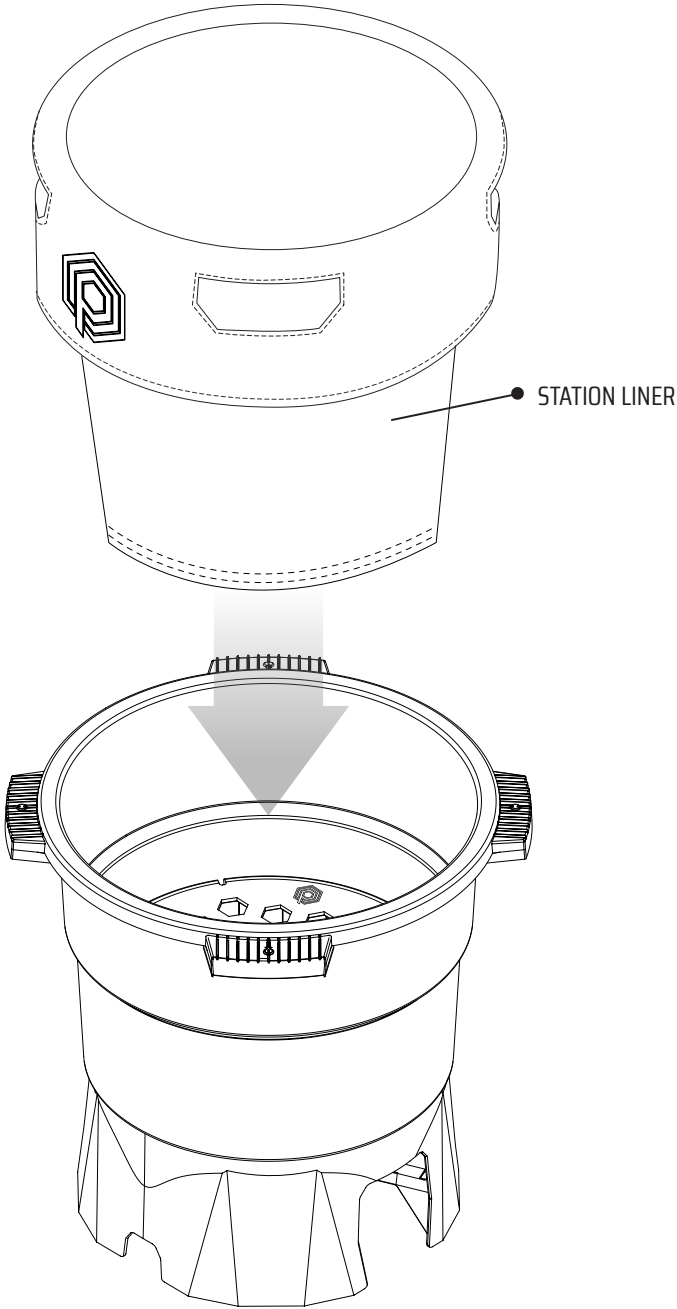
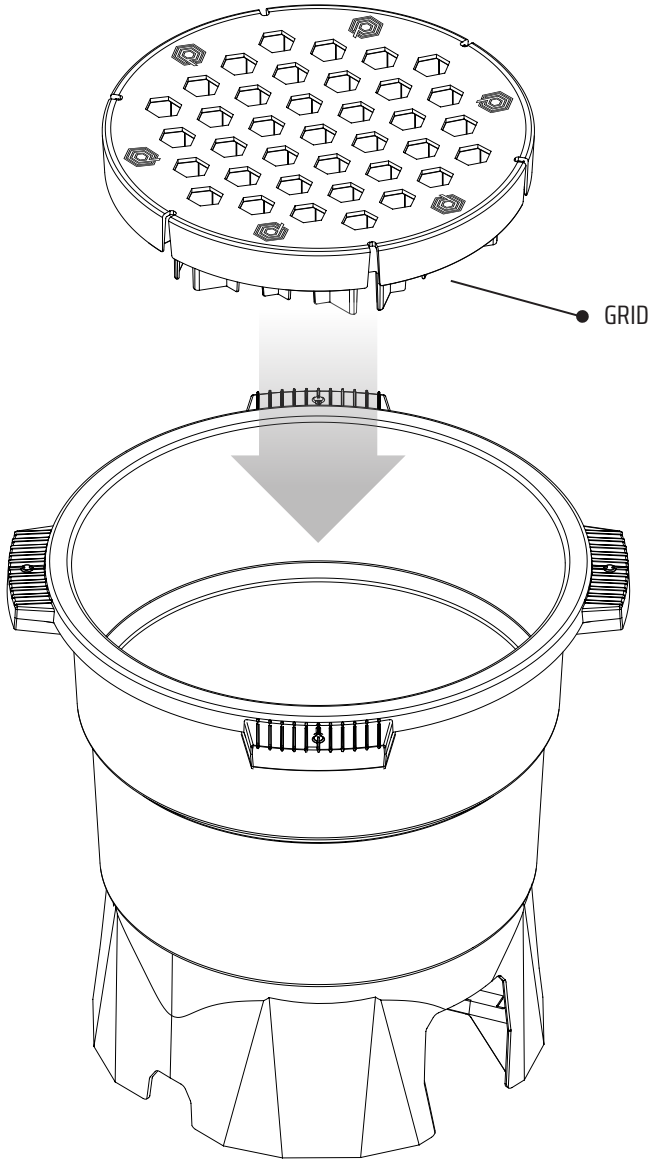
P - SERIES INSTRUCTION GUIDE

STATION ASSEMBLY

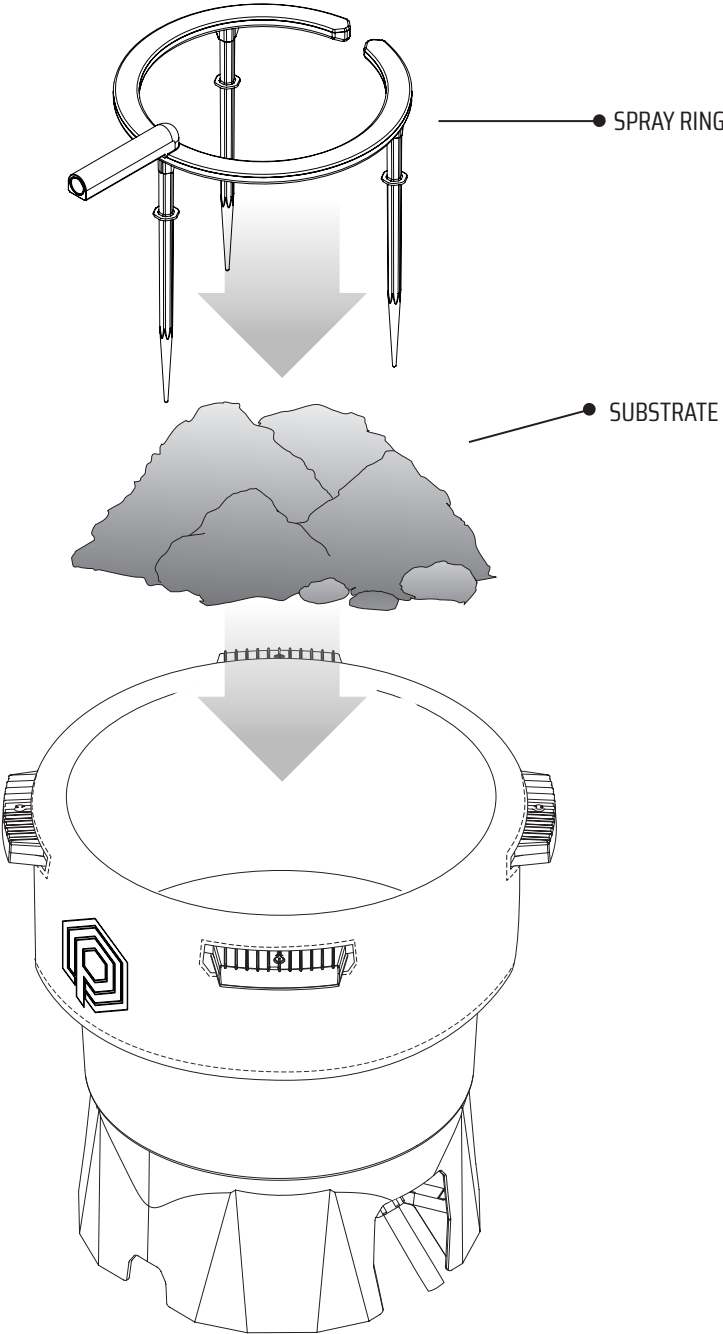


BOTTOM VIEW

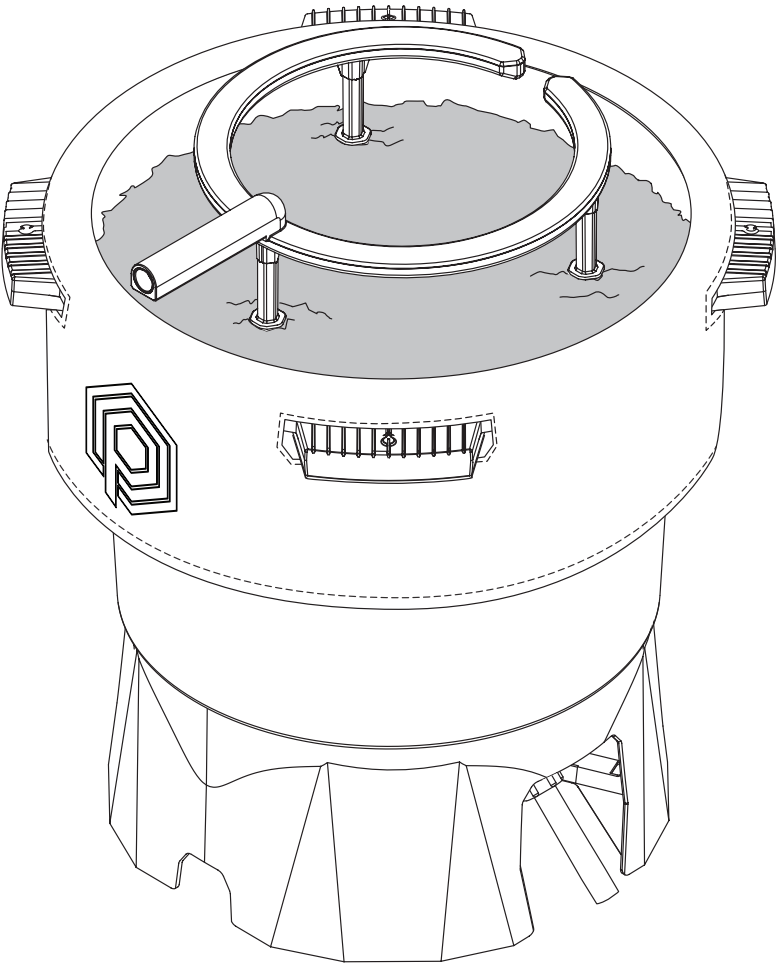
STATION ASSEMBLY



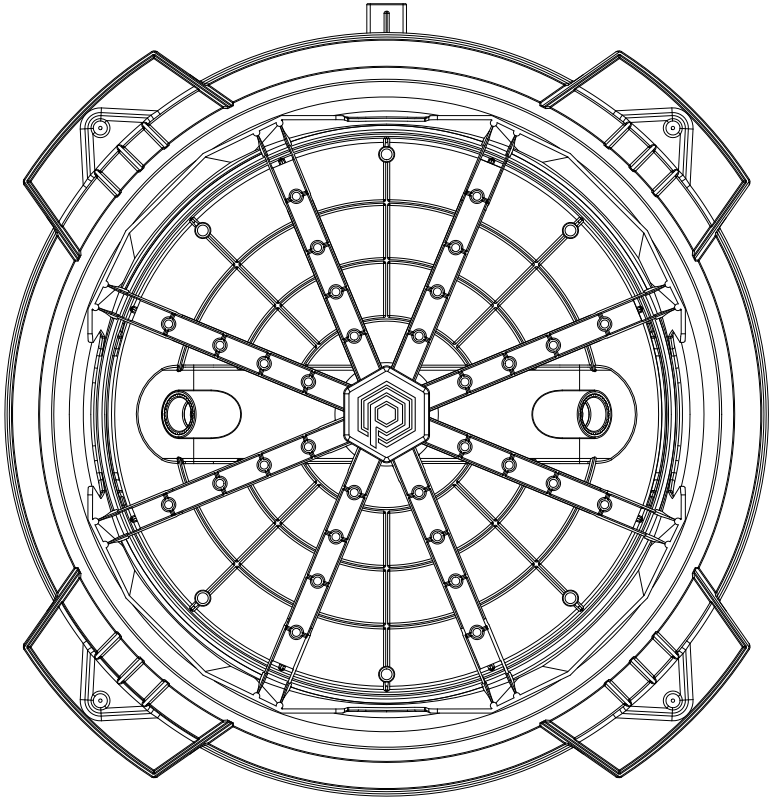
STATION ASSEMBLY



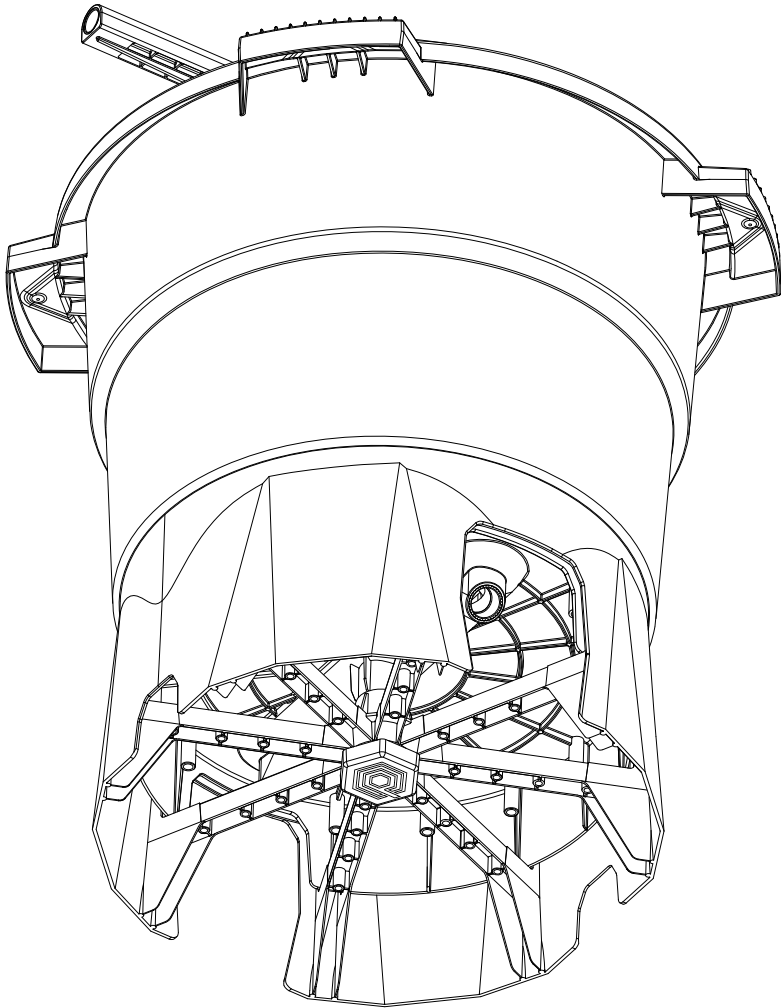
ASSEMBLED STATION VIEWS



ASSEMBLED STATION VIEWS

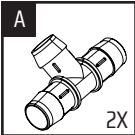
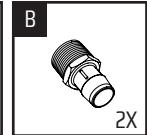
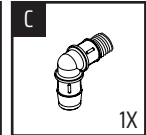
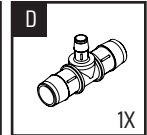
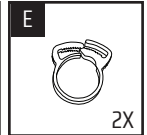
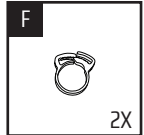


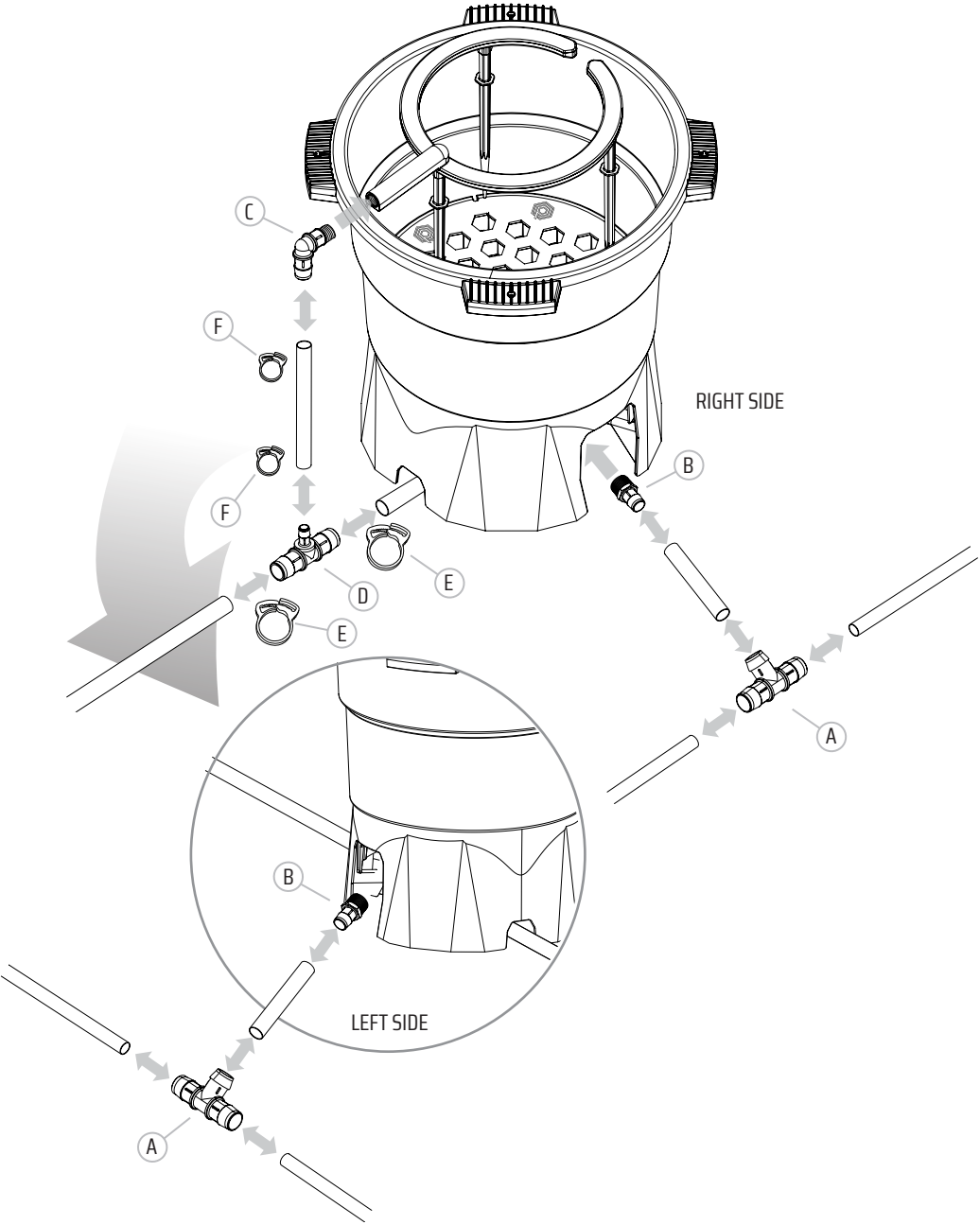
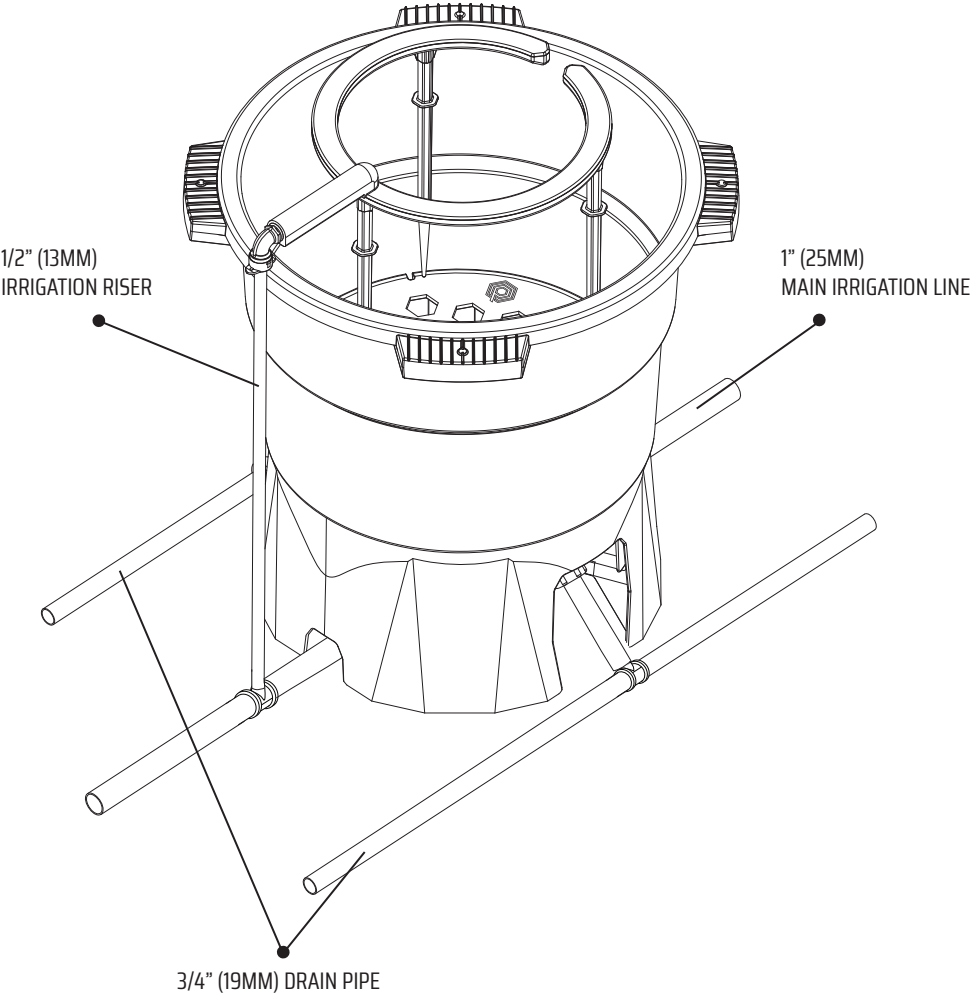
BOTTOM VIEW



IRRIGATION CONNECTION

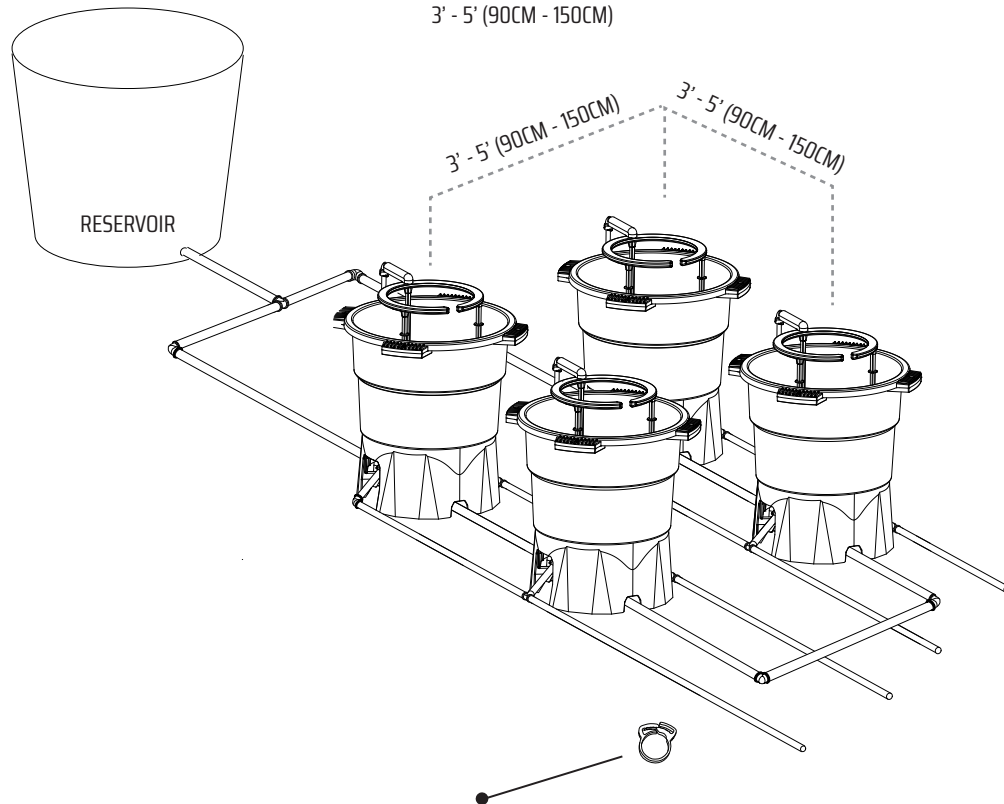
WHAT YOU'LL NEED:

 2X	 2X	 1X	 1X	 2X	 2X
3/4" (19 MM) T	3/4" (19 MM) NPT THREAD BARB CONNECTOR	1/2" (13 MM) ELBOW NPT THREAD BARB CONNECTOR	1" X 1/2 (25 MM X 13 MM) REDUCING T	1" (25 MM) LINE CLAMP	1/2" (13 MM) LINE CLAMP



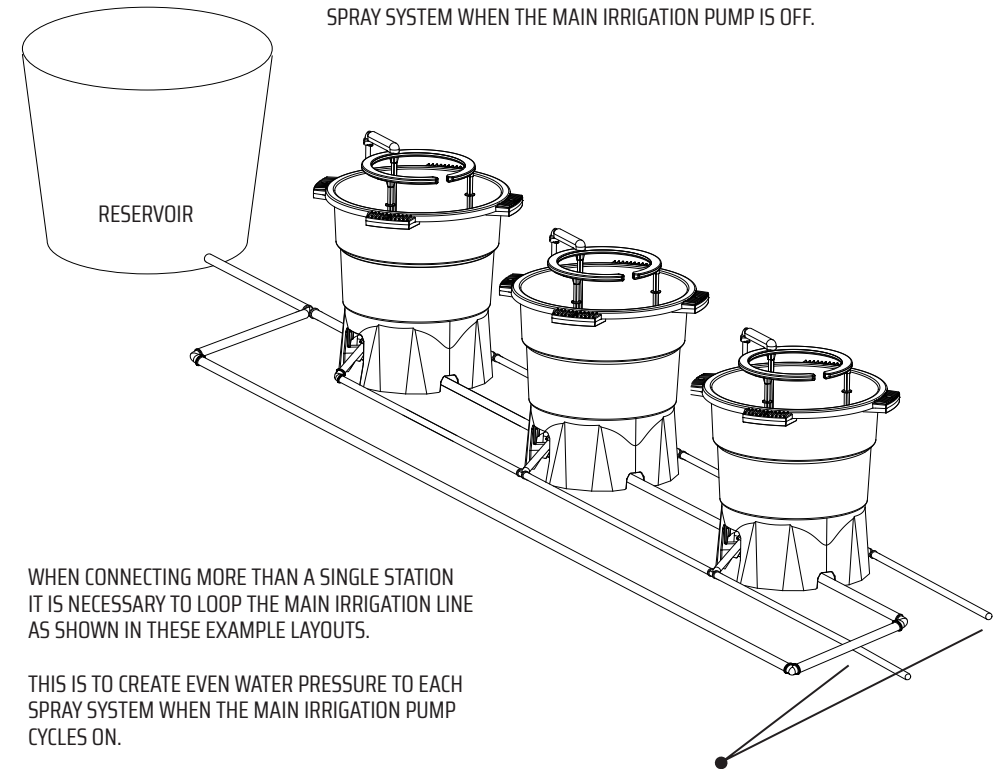
STATION AND IRRIGATION CONFIGURATION

SUGGESTED STATION SPACING (DISTANCE FROM CENTRE OF POT TO CENTRE OF NEXT POT)
3' - 5' (90CM - 150CM)



DUE TO THE HIGH PRESSURE IN WHICH THE SPRAY SYSTEM OPERATES; WE STRONGLY RECOMMEND TO SECURE ALL IRRIGATION MAIN LINE AND RISER CONNECTIONS WITH SUITABLE LINE CLAMPS TO PREVENT WATER LEAKS AND LINE RUPTURES.

WHEN THE TOTAL WATER LEVEL IN THE MAIN NUTRIENT RESERVOIR IS HIGHER THAN THE TOP OF YOUR COMPLETE STATION/S OR 2' (600 MM) IT IS NECESSARY TO INSTALL A CHECK VALVE IN LINE WITH YOUR MAIN IRRIGATION PUMP. THIS IS TO PREVENT WATER SYPHONING THROUGH THE SPRAY SYSTEM WHEN THE MAIN IRRIGATION PUMP IS OFF.

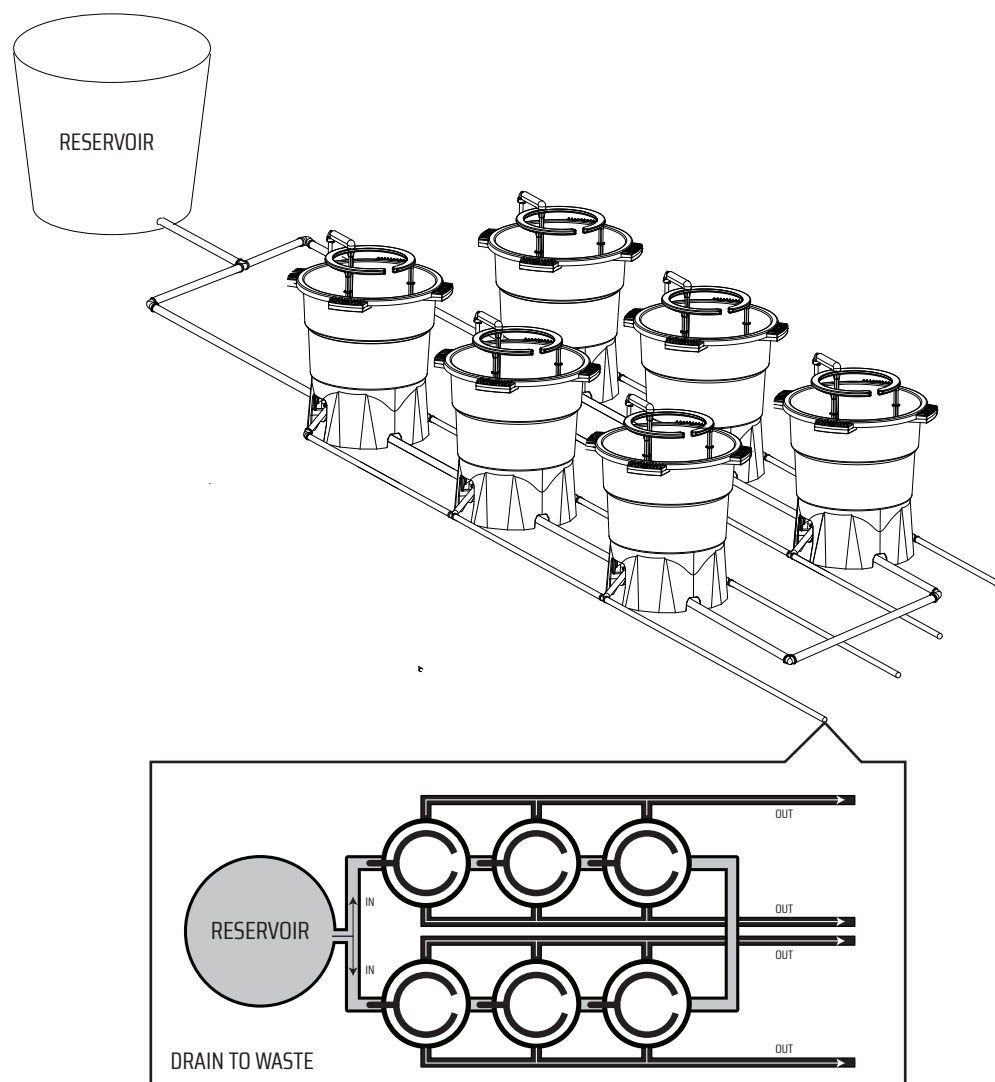


WHEN CONNECTING MORE THAN A SINGLE STATION IT IS NECESSARY TO LOOP THE MAIN IRRIGATION LINE AS SHOWN IN THESE EXAMPLE LAYOUTS.

THIS IS TO CREATE EVEN WATER PRESSURE TO EACH SPRAY SYSTEM WHEN THE MAIN IRRIGATION PUMP CYCLES ON.

3/4" (19MM) DRAIN LINES TO RUN TO WASTE

DRAIN TO WASTE



SYSTEM CONFIGURATION: DRAIN TO WASTE OR RECIRCULATING

THE PRECISION CULTIVATION SYSTEM WAS DESIGNED TO BE USED TOP FEEDING THROUGH THE **SPRAY SYSTEM** ONLY AND IS FULLY COMPATIBLE WITH BOTH DRAIN TO WASTE AND RECIRCULATING HYDROPONIC METHODS.

IT IS IMPORTANT TO UNDERSTAND THAT IF YOU DECIDE TO RECIRCULATE DIRECTLY BACK TO YOUR RESERVOIR; THE MAXIMUM HEIGHT OF WATER IN THAT RESERVOIR INCLUDING THE RETURNING WATER MUST ALWAYS BE LOWER THAN THE HEIGHT OF THE BOTTOM OF THE CORE OF EACH STATION. TO MAKE THIS CONFIGURATION WORK CORRECTLY YOU WOULD REQUIRE A SMALLER RESERVOIR WITH A FLOAT VALVE INSTALLED TO SET THE MAXIMUM WATER HEIGHT IN THE RESERVOIR AND THEN CONNECT THIS SMALLER RESERVOIR TO A LARGER TOP OFF RESERVOIR (AS SHOWN ON PAGE 17).

IF THE WATER HEIGHT IN YOUR SMALLER RESERVOIR EXCEEDS THE HEIGHT OF THE BASE OF THE **CORE**; IT WILL FLOOD THE BOTTOM OF EACH CONNECTED STATION AND EXPOSE THE BOTTOM OF THE ROOT ZONE TO CONSTANT WATER, WHICH CAN SIGNIFICANTLY HARM THE HEALTH OF YOUR PLANTS.

THE PREFERRED CONFIGURATION WHEN USING THE RECIRCULATING METHOD IS TO GRAVITY FEED YOUR RUN OFF BACK TO A SEPARATE CATCH BASIN THAT IS RECESSED INTO THE GROUND (AS SHOWN ON PAGE 17). INSIDE THE CATCH BASIN YOU WOULD INSTALL A SEPARATE FLOAT ACTIVATED SUMP PUMP. WHEN THE WATER LEVEL RISES INSIDE YOUR CATCH BASIN THE FLOAT ACTIVATED SUMP PUMP WILL SWITCH ON AND RETURN THE RUN OFF BACK TO YOUR RESERVOIR.

USING THIS METHOD ALLOWS FOR MORE OVERALL CONTROL OF YOUR PLANT(S) BY MONITORING AND THE ABILITY TO ADJUST THE RUN OFF PPM AND PH LEVELS IF REQUIRED. IT IS NECESSARY TO INSTALL AN INLINE FILTER ON YOUR SUMP PUMP RETURN LINE TO PREVENT ANY WASHED THROUGH SUBSTRATE FROM RETURNING TO YOUR RESERVOIR AND CAUSING YOUR SPRAY SYSTEM OUTLETS TO BECOME BLOCKED.

DRAIN TO WASTE IS A SIMPLER INSTALLATION (AS SHOWN ON PAGE 14) AND MAKES FLUSHING YOUR SUBSTRATE VERY EASY WHEN NECESSARY.

USING EITHER **DRAIN TO WASTE** OR THE CATCH BASIN METHOD ALLOWS YOU TO HAVE A MUCH LARGER NUTRIENT RESERVOIR.

WHEN THE TOTAL WATER LEVEL IN THE NUTRIENT RESERVOIR IS HIGHER THAN THE TOP OF YOUR COMPLETE STATION/S OR 2' (600MM) IT IS NECESSARY TO INSTALL ONE WAY VALVE INLINE WITH YOUR MAIN IRRIGATION PUMP. THIS IS TO PREVENT WATER SYPHONING THROUGH THE SPRAY SYSTEM WHEN THE IRRIGATION PUMP IS NOT SWITCHED ON.

THERE ARE STRENGTHS AND WEAKNESSES TO BOTH CONFIGURATIONS AND THE FINAL CHOICE IS UP TO THE END USERS PREFERENCE.

SYSTEM CONFIGURATION: CATCH BASIN RECIRCULATING OR DRAIN TO WASTE

THE PRECISION CULTIVATION SYSTEM WAS DESIGNED TO BE USED TOP FEED THROUGH THE **SPRAY SYSTEM** ONLY AND IS FULLY COMPATIBLE WITH BOTH DRAIN TO WASTE AND RECIRCULATING HYDROPONIC METHODS.

YOU MUST ONLY CONFIGURE YOUR SYSTEM TO RECIRCULATE IF YOU HAVE THE ABILITY TO INSTALL YOUR CATCH BASIN INTO THE FLOOR BELOW THE LEVEL OF YOUR INTERCONNECTED STATION DRAINS (AS SHOWN ON PAGE 17). THIS ALLOWS ALL WATER RUN OFF TO GRAVITY FEED COMPLETELY FROM YOUR STATION/S AND DRAIN RETURN LINES.

INSIDE THE CATCH BASIN INSTALL A SEPARATE FLOAT ACTIVATED SUMP PUMP (AS SHOWN ON PAGE 17). AS THE WATER LEVEL RISES THE SUMP PUMP WILL SWITCH ON AND RETURN THE RUN OFF BACK TO YOUR MAIN NUTRIENT RESERVOIR. IT IS NECESSARY TO INSTALL AN INLINE FILTER ON THE SUMP PUMP RETURN LINE TO PREVENT ANY DEBRIS FROM RETURNING TO YOUR MAIN NUTRIENT RESERVOIR AND CAUSING YOUR **SPRAY SYSTEM** OUTLETS TO BECOME BLOCKED.

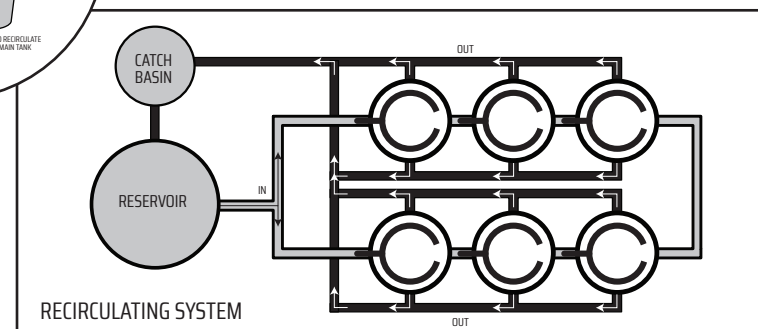
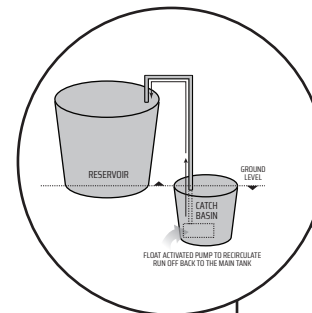
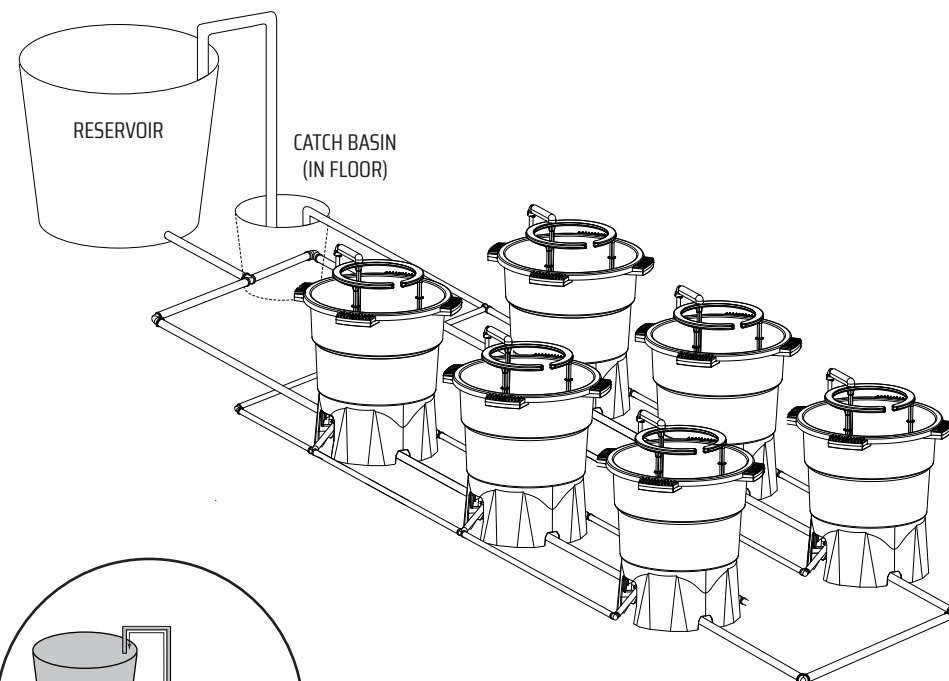
USING THIS RECIRCULATING METHOD SAVES ON NUTRIENT COSTS AND ALLOWS FOR MORE OVERALL SYSTEM CONTROL BY MONITORING THE PLANT(S) RUN OFF AND THEN ADJUSTING PPM AND PH LEVELS WHEN REQUIRED.

WARNING: ATTEMPTING TO RECIRCULATE YOUR RUN OFF DIRECTLY BACK TO YOUR MAIN NUTRIENT RESERVOIR; WITHOUT IT FIRST RETURNING TO THE IN-FLOOR CATCH BASIN WILL CAUSE THE BOTTOM OF YOUR INTERCONNECTED STATIONS TO FLOOD AND EXPOSE THE BOTTOM OF THE ROOT ZONE TO CONSTANT WATER. THIS CAN SIGNIFICANTLY HARM THE HEALTH OF YOUR PLANTS AS WELL AS CREATE EXCESSIVE BIOFILM BUILDUP IN YOUR DRAIN LINES.

DRAIN TO WASTE IS A SIMPLER INSTALLATION (AS SHOWN ON PAGE 12-14) AND MAKES FLUSHING YOUR INERT SUBSTRATE EASY WHEN NECESSARY.

USING EITHER DRAIN TO WASTE OR THE CATCH BASIN METHOD ALLOWS YOU TO HAVE A MUCH LARGER MAIN NUTRIENT RESERVOIR. WHEN THE TOTAL WATER LEVEL IN THE MAIN NUTRIENT RESERVOIR IS HIGHER THAN THE TOP OF YOUR COMPLETE STATION/S OR 2' (600 MM) IT IS NECESSARY TO INSTALL A CHECK VALVE INLINE WITH YOUR MAIN IRRIGATION PUMP. THIS IS TO PREVENT WATER SYPHONING THROUGH THE SPRAY SYSTEM WHEN THE IRRIGATION PUMP IS NOT TURNED ON.

THERE ARE STRENGTHS AND WEAKNESSES TO BOTH CONFIGURATIONS AND THE FINAL CHOICE IS UP TO THE END USER'S PREFERENCE.



PRECISION CULTIVATION SYSTEMS INSTALLATION AND USER GUIDE

EACH PCS COMPLETE STATION KIT COMES WITH THE FOLLOWING COMPONENTS 1 X CORE (MAIN POT) AND 1 X ACCESSORIES KIT (PARTS). INSIDE THE ACCESSORIES KIT YOU WILL FIND THE FOLLOWING COMPONENTS 1 X BASE, 1 X GRID, 1 X BASE BOLT, 1 X STATION LINER, 1 X SPRAY SYSTEM AND 3 X SPRAY SYSTEM LEGS.

ASSEMBLING THE PCS STATION:

PLACE THE **CORE** FACE DOWN SO THE THREE STAINLESS STEEL THREADED INSERTS ARE NOW SHOWING ON THE BOTTOM OF THE **CORE**. SCREW IN YOUR TWO 3/4" (19MM) NPT THREAD TO BARB CONNECTORS INTO THE TWO OUTSIDE DRAIN HOLES (REQUIRED PART "B" AS SHOWN ON PAGE 10)

ALIGN THE CUT OUTS ON THE **BASE** WITH THE CUT OUTS ON THE **CORE** AND PLACE THE **BASE** ONTO THE **CORE** (AS SHOWN ON PAGE 2 & 3). LOCATORS ON THE **BASE** AND THE **CORE** WILL ASSIST WITH ASSEMBLY AND PREVENT THE **BASE** FROM TURNING.

LOCATE THE HOLE IN THE CENTER OF THE **BASE**. NOTICE THE STAINLESS STEEL THREADED INSERT BELOW AT THE CENTER OF THE **CORE**. USING THE **BASE BOLT** FIX THE **BASE** TO THE **CORE** BY TURNING THE **BASE BOLT** IN A CLOCKWISE DIRECTION UNTIL HAND TIGHT. THE STATION IS NOW READY TO BE TURNED UPRIGHT.

PLACE THE **GRID** INTO THE **CORE** (AS SHOWN ON PAGE 4) WITH THE CONCAVE SIDE FACING UPWARDS AND THE HONEYCOMB SIDE FACING DOWNWARDS. THE **GRID** WHEN INSTALLED CORRECTLY WILL REST FLAT AGAINST THE BOTTOM OF THE **CORE**. THE STATION IS NOW READY TO BE PLACED INTO POSITION.

WE RECOMMEND THAT THE **STATION LINER** AND THE **SPRAY SYSTEM** ARE NOT INSTALLED UNTIL ALL OF YOUR STATIONS ARE PLACED WITH THE IRRIGATION AND DRAINAGE TUBING CONNECTED (SEE PAGES 10-13)

ASSEMBLING THE PCS SPRAY SYSTEM:

TAKE CARE WHEN REMOVING THE **SPRAY SYSTEM** FROM THE SECONDARY BOX TO PREVENT OVER FLEXING. THE **SPRAY SYSTEM** IS ULTRASONICALLY WELDED TOGETHER AND OVER FLEXING MAY CAUSE THE WELD TO BREAK RESULTING IN CATASTROPHIC FAILURE.

START BY INSTALLING YOUR 1/2" (13MM) NPT THREAD TO BARB ELBOW FITTING (REQUIRED PART "C" AS SHOWN ON PAGE 10) INTO THE STAINLESS STEEL THREADED END OF THE **SPRAY SYSTEM**.

FIRST APPLY TEFLON TAPE TO THREAD OF YOUR 1/2" (13MM) NPT THREAD TO BARB ELBOW FITTING. HOLD THE ARM OF THE **SPRAY SYSTEM** FIRMLY IN ONE HAND FOR SUPPORT AND THEN SCREW IN YOUR 1/2" (13MM) NPT THREAD TO BARB ELBOW FITTING UNTIL TIGHT. WHEN INSTALLED CORRECTLY THE INLET OF YOUR 1/2" (13MM) NPT THREAD TO BARB ELBOW FITTING SHOULD BE FACING DOWNWARDS.

ATTACH THE **SPRAY SYSTEM** LEGS BY PUSHING THE HEXAGONAL END INTO THE LOCATORS ON THE UNDER-SIDE OF THE **SPRAY SYSTEM** ASSEMBLY (AS SHOWN ON PAGE 6).

ALWAYS SUPPORT THE TOP SIDE OF THE **SPRAY SYSTEM** WHEN INSTALLING THE **SPRAY SYSTEM** LEGS TO AVOID ANY OVER FLEXING.

THE **SPRAY SYSTEM** LEGS HAVE BUILT IN HEXAGONAL SHAPED DEPTH GUIDES LOCATED 3" (75MM) FROM THE TOP WHICH ARE USED TO SET THE CORRECT INSTALLATION HEIGHT FOR YOUR **SPRAY SYSTEM** TO PROVIDE EVEN AND ACCURATE WATERING. **INSTALLING THE PCS STATION LINER:**

THE **STATION LINER** IS TO BE FITTED ONLY ONCE THE **GRID** HAD BEEN INSTALLED INSIDE OF THE **CORE** (AS SHOWN ON PAGE 5 & 6).

PLACE THE **STATION LINER** INSIDE THE **CORE** WITH THE MESH MATERIAL FACING DOWNWARDS UNTIL IT IS RESTING FIRMLY AGAINST THE **GRID**.

ALIGN THE FOUR CUT OUTS NEAR THE TOP OF THE **STATION LINER** WITH THE **CORE** HANDLES AND FOLD THE EDGES OF THE **STATION LINER** OVER THE EDGE OF THE **CORE** (AS SHOWN ON PAGE 6 & 7).

SUBSTRATE SELECTION:

ONCE ALL OF THESE STEPS HAVE BEEN COMPLETED YOU ARE NOW READY TO FILL YOUR **STATION LINER** WITH YOUR SUBSTRATE OF CHOICE.

THE PRECISION CULTIVATION SYSTEM IS COMPATIBLE WITH EVERY KIND OF SUBSTRATE AND SOIL TYPE. YOU SIMPLY ADJUST THE TOTAL NUMBER AND DURATION OF WATERING CYCLES PER 24 HOUR PERIOD DEPENDING ON THE WATER RETENTIVENESS OF YOUR CHOSEN SUBSTRATE OR SOIL.

TO BE USED AS A GUIDE ONLY. IF USING A COMMON INERT MIXTURE OF 70 PERCENT COCO COIR AND 30 PERCENT PERLITE; YOU WOULD START WITH 1 X 10 TO 15 SECOND WATERING CYCLE EVERY 12 TO 24 HOURS. THIS WOULD GRADUALLY INCREASE TO 4 X 10 TO 15 SECOND WATERING CYCLES PER 24 HOUR PERIOD AS THE PLANTS INCREASE IN SIZE AND DEVELOPMENT. EACH WATERING CYCLE SHOULD DELIVER APPROXIMATELY 1 GALLON (3.7 LITRES) PER STATION WITH AN OVERALL RUNOFF OF 10 TO 20 PERCENT. WHEN OVERALL RUN OFF BECOMES LESS THAN 10 TO 20 PERCENT; IT IS TIME TO INCREASE THE WATERING CYCLE DURATION.

WHEN USING A LESS WATER RETENTIVE AND HIGHER OXYGEN CAPACITY SUBSTRATE SUCH AS PURE PERLITE; YOU WILL REQUIRE MORE FREQUENT AND LONGER WATERING CYCLES.

WHEN RUNNING PURE PERLITE; YOU SHOULD USE A COARSE GRADE #4 AND START WITH 1 X 15 TO 30 SECOND WATERING CYCLE EVERY 4 HOURS UNTIL HARVEST AND INCREASE YOUR WATERING CYCLE DURATION AS NECESSARY.

WHEN FIRST LEARNING THE FUNCTION OF THE PRECISION CULTIVATION SYSTEM WE RECOMMEND TO CHOOSE A SUBSTRATE WHICH YOU HAVE PRIOR EXPERIENCE WITH.

FIRST PLANTING:

FILL EACH STATION TO 1/2" (13MM) BELOW THE TOP OF EDGE OF YOUR **STATION LINER**. ONCE THE STATION/S HAVE BEEN FILLED YOU CAN NOW PLACE YOUR PLANT/S OR CUTTING/S INTO THE CENTER OF THE SYSTEM.

ONCE PLANT/S OR CUTTING/S HAVE BEEN PLANTED WE STRONGLY RECOMMEND TO HAND WATER THEM

IN FOR THE FIRST 7 DAYS IN ADDITION TO RUNNING THE **SPRAY SYSTEM**. THIS ALLOWS FOR THE PLANTS ROOT ZONE TO BECOME ESTABLISHED BEFORE COMPLETELY RELYING ON THE **SPRAY SYSTEM** FOR WATERING DUTIES.

INSTALLING THE PCS SPRAY SYSTEM:

THE **SPRAY SYSTEM** SHOULD BE PLACED CENTERED OVER THE **CORE**. WHILE HOLDING BOTH SIDES OF THE **SPRAY SYSTEM**; PUSH EVENLY DOWNWARDS INTO THE SUBSTRATE UNTIL THE HEXAGONAL SHAPED DEPTH GUIDES LOCATED ON THE **SPRAY SYSTEM** LEGS TOUCH THE TOP OF THE SUBSTRATE. THIS PREDETERMINED DEPTH SETS THE CORRECT OPERATIONAL HEIGHT OF THE **SPRAY SYSTEM** TO PROVIDE EVEN SATURATION ACROSS THE ENTIRE **CORE** WHILE LEAVING A 4" (100MM) DRY ZONE AROUND THE BASE OF THE PLANT STEM/S.

YOU CAN NOW CONNECT YOUR 1/2" (13MM) IRRIGATION RISER TO YOUR 1/2" (13MM) NPT THREAD TO BARB ELBOW FITTING (AS SHOWN ON PAGE 10 & 11).

DUE TO THE HIGH PRESSURE IN WHICH THE **SPRAY SYSTEM** OPERATES; WE STRONGLY RECOMMEND TO SECURE ALL IRRIGATION MAIN LINE AND RISER CONNECTIONS WITH SUITABLE LINE CLAMPS TO PREVENT WATER LEAKS AND LINE RUPTURES.

IRRIGATION PUMP SELECTION:

IT IS CRITICAL TO SELECT THE CORRECT SIZE IRRIGATION PUMP TO ACHIEVE THE PROPER FUNCTION OF THE **SPRAY SYSTEM**. EACH INDIVIDUAL STATION CONNECTED TO THE MAIN IRRIGATION LINE WILL REQUIRE A MINIMUM OF 500 GALLONS (2,000 LITRES) PER HOUR OF FLOW WITH A TOTAL HEAD HEIGHT OF 3' (1 METRE).

WHEN CONNECTING MORE THAN A SINGLE STATION TO THE MAIN IRRIGATION LINE THEN MULTIPLY 500 GALLONS (2,000 LITRES) PER HOUR OF FLOW FOR TOTAL NUMBER OF STATIONS YOU HAVE INSTALLED AND BASE YOUR PUMP SELECTION ON TOTAL FLOW RATE REQUIRED.

FOR LARGER INSTALLATIONS THAT HAVE MULTIPLE ROWS OF OVER 10 STATIONS PER LINE; YOU USE THE SAME FLOW RATE CALCULATIONS ABOVE AND USE INDIVIDUAL SOLENOID VALVES TO CONTROL EACH MAIN IRRIGATION LINE PER ROW OF STATIONS.