

Congratulations! You're about to build one of the coolest things ever to hit the window cleaning world, and save a lot of money!

These instructions are just how I built my system. I can't guarantee your build. Yours should come out similar, but as you look through the videos and Fittings Guide, as well as this parts list, you'll see where there's a bit of room for your creativity.

In addition, there's several modifications that you could do to make this more efficient, or add extra stages to the system.

Some of these are:

Adding a second RO housing and membrane in line (Benefit of having more volume pass through at lower pressure; operating 2 poles from 1 system)
Retail cost +\$1000
Your cost ~\$300

Adding another prefilter before the RO (Helps to protect all the filters down the line, just a little bit better from specific contaminants)
Retail cost +\$200-400
Your cost ~\$75

By the time you read and watch all the parts of this tutorial, you should have the skill and information to make any of those upgrades, and troubleshoot any issues you may be having.

Quick Tips:

- Watch these two videos before you start, and reference them as you build
 - 1) Fittings Guide - <https://youtu.be/AOCzFXoNe7A>
 - 2) Components Install Guide - <https://youtu.be/Cc9h9kbnfz0>
- Look over the fittings guide BEFORE you start this project. Reference it as you build
- Teflon tape all your fittings. A couple wraps around should be plenty (Make sure you wind it so that it goes with the direction you'll turn the fitting to install)
- Grease every O-ring you see. And even the ones you don't see.
- Before you test, watch this video. (You'll thank me later when you don't foul your DI while running your first test.)
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- 1) First Test - <https://youtu.be/blQve88X3lo>

Enough of this though, let's get to the parts 🙌

What Do I Need To Buy? (All links tested 5/31/24)

10x4.5" Big Blue DI Housing - [Geekpure 10-Inch Whole House Big Blue Water Filter Housing with Wrench and Bracket-4.5 x 10 Inch-3/4-Inch Port](#)

DI 10x4.5" Refillable Cartridge - <https://www.freshwatersystems.com/products/10-x-4-5-clear-empty-refillable-water-filter-cartridge>

10x2.5 Slimline Charcoal Housing - https://www.amazon.com/dp/B07V6RY5B4/ref=cm_sw_r_cp_api_glt_fabc_8RMBRYQ2MT7JH512Q4JY

Charcoal Filter - [ICEPURE 1 Micron 2.5" x 10" Whole House CTO Carbon Sediment Water Filter Cartridge Compatible with Dupont WFPFC8002, WFPFC9001, SCWH-5, WHCF-WHWC, WHCF-WHWC, FXWTC, CBC-10, RO Unit, Pack of 3](#)

RO Housing - https://www.amazon.com/Max-Water-Commercial-Membranes-industrial/dp/B07N3XTRZS/ref=mp_s_a_1_8?crid=20I648OH7I3D3&keywords=ro+membrane+housing&qid=1668465355&prefix=ro+membrane+,aps,265&sr=8-8&th=1&pssc=1

RO Membrane - [Max Water Element-XLP-4040 Commercial Extreme Low Pressure RO Membrane :2400GPD size 4" x 40" High Contaminate Rejection good for Industrial, Agricult](#)

Fittings (I found these at Home Depot, I'm sure you can find them on amazon as well):

- (1) 1/2" NPT 45 angle adapter male to female
- (2) 1/2" NPT male 90 angle adapter to 1/2"ID barb
- (2) 3/4" NPT male to 3/4" GHT female adapter
- (2) 3/4" NPT male to 3/4" GHT male adapter
- (1) 3/4" NPT male to 1/2" NPT female adapter
- (1) 1/2" ball valve (depending on your setup you may want a second. Watch the fittings video)
- (1) 1/2" NPT brass plug
- (2) 3/4" GHT 90 angle
- (2) 3/4" NPT male to 3/4" GHT male adapter
- (1) 3/4" GHT female to 1/2"ID barb
- (1-2) Quick connects for garden hose. You're going town to have a second set of these on hand https://www.amazon.com/HQMPC-Garden-Connector-Quick-Female/dp/B08BL22P74/ref=sr_1_15?crid=3C9FP5L0IFMSH&dchild=1&keywords=ght+quick+connect&qid=1630183180&srefix=ght+qui%2Ctools%2C204&sr=8-15
- (1) Unger Hydropower on/off Valve - <https://windowcleaner.com/unger-hydropower-on-off-valve>

Misc:

Teflon Tape
Plumber's Grease