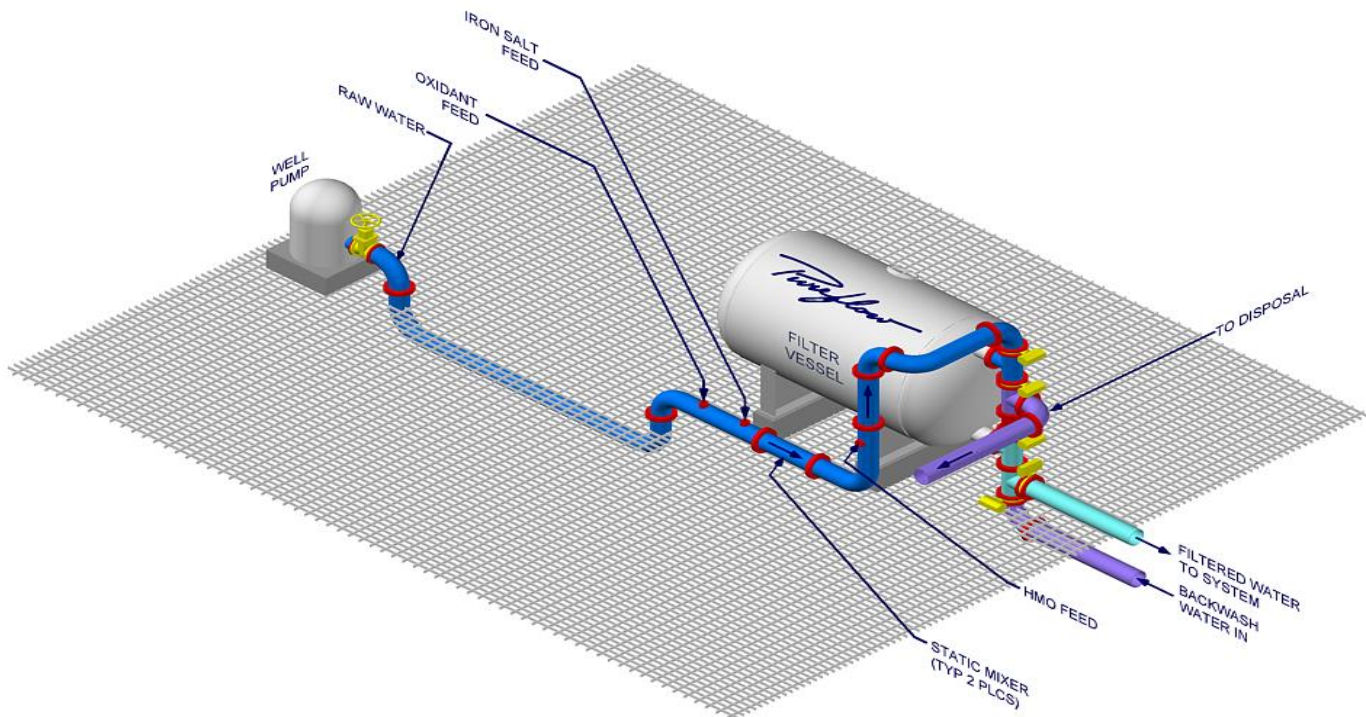




6739 Washington Ave., P.O. Box 469, Whittier, CA 90608
 (800) 926-3426 (562) 945-3425
 e-mail: info@waterbypureflow.com
 website: www.waterbypureflow.com

RADIUM And URANIUM REMOVAL SYSTEMS

The **PUREFLOW® SYSTEM FOR RADIUM AND URANIUM REMOVAL** is an advanced design for the water treatment industry. A highly adsorptive NSF approved media, and chemical pretreatment system, combined with automatic controls, provides a simple, safe, compact filtration system requiring minimal attendance by maintenance personnel.



- o LOW OPERATIONAL COSTS
- o NO REGENERATION CHEMICALS OR ACID / CAUSTIC WASTE DISPOSAL
- o MINIMAL MAINTENANCE REQUIREMENTS
- o STAINLESS STEEL WEDGEWIRE WRAPPED UNDERDRAINS
- o CHEMICAL PRETREATMENT
 - ... OXIDANT (Chlorine, Hypochlorite, Ozone, Etc.)
 - ... FLOCCULANTS (Ferric Hydroxide / HMO's)
- o DESIGN / BUILD SYSTEMS
- o TOTAL SYSTEM RESPONSIBILITY
- o FLOW RANGES FROM 20 GPM TO 10,000 GPM
- o NO-HASSLE SERVICE

THE SYSTEM AND HOW IT WORKS

The removal of Radium and Uranium from potable water supplies can be achieved by coagulation / filtration processes as follows: Radium is removed by sorption onto preformed Hydrous Manganese Oxides (HMOs) and the removal of the HMO / Radium by adsorption onto a filter media. Uranium is removed by sorption onto a Ferric Hydroxide floc and by its adsorption onto a filter media. The Pureflow multi-media filter includes a highly active catalytic adsorptive media that adsorbs heavy metals, including Iron, Manganese, Cadmium, Zinc, etc., in essentially hydroxide forms. The filter media is cleaned by backwashing the filter with processed water. The backwash to filtration ratio is less than 2%.

Well water containing Radium / Uranium is chemically treated, first with Chlorine to oxidize Iron (or other contaminants) in the raw water. Ferric Hydroxide ($\text{Fe}(\text{OH})_3$) (if required) is then fed to remove the Uranium by sorption onto the Ferric Hydroxide floc; an HMO is then fed to remove the Radium by sorption onto the Hydrous Manganese Oxide floc. Sufficient Chlorine is fed to provide a free Chlorine residual to the treated water distribution system.

TYPICAL FILTER SIZES

gpm*	MODEL NUMBER	SURFACE AREA SQ. FT.	FILTER DIAMETER IN INCHES	FILTER STRAIGHT SIDE SHELL	FILTER SHIPPING WEIGHT LBS.	PIPE OUTLETS IN INCHES
20	C-40	2	20	54" Vert.	200	1 1/2
30	C-60	3	24	54" Vert.	300	2
50	C-100	5	30	54" Vert.	400	2 1/2
70	C-140	7	36	54" Vert.	1020	3
95	C-190	9.5	42	54" Vert.	1100	3
125	C-250	12.5	48	54" Vert.	1340	4
155	C-310	15.5	54	54" Vert.	1800	4
200	C-400	20	60	54" Vert.	2000	6
250	C-480	23.5	66	54" Vert.	2300	6
280	C-560	28	72	54" Vert.	2600	6
330	C-660	33	78	66" Vert.	3000	6
385	C-760	38	84	66" Vert.	3500	6
500	C-1000	50	84	74" Horiz.	6000	8
750	C-1500	75	84	120" Horiz.	8000	10
1000	C-2000	100	84	166" Horiz.	10000	12
1250	C-2500	125	84	212" Horiz.	12000	12
1500	C-3000	150	84	258" Horiz.	14000	12
2000	C-4000	200	84	351" Horiz.	19000	14
2500	C-5000	250	96	356" Horiz.	26000	16

*@ 10 gpm/FT² FLUX RATE, FOR OTHER SIZES CONSULT PUREFLOW®

LOCAL REPRESENTATIVE:

The filter media does not contain Greensand or Activated Alumina, and therefore does not require regenerating chemicals such as Potassium Permanganate or acid / caustic solutions. Backwash water is discharged in accordance with local regulations.

The chemical pretreatment is manually set and automatically operated. The filter effluent is continuously monitored with a Chlorine residual analyzer to permit the positive and simple adjustment of the oxidant chemical feed.

A PLC based control panel (with Operator Interface Unit) provides automatic operation of the filtration system, and includes flexibility in the simple adjustment of various filter cycles.

A pilot testing program is available to insure the proper design and operation of every system. The cost of this program is deductible from the purchase price.

STANDARD FEATURES AND EQUIPMENT:

- o 75 psi ASME code pressure vessel
- o Oxidation, Flocculant and HMO pretreatment equipment
- o Multi-media filter load
- o Filter face piping
- o Electrically operated butterfly valves
- o Filter flow control valves
- o Backwash flow control valves
- o Automatic control panel with PLC / OIU
- o Stainless steel underdrains
- o SSCP-SP5 sandblasted interior
- o NSF approved interior coatings (holiday tested)
- o Process analyzer and recorder
- o Manways, plus hatchway when required
- o Up to 4" valved drain on each filter
- o Air relief valves
- o Custom written O & M Manuals
- o Start-up instruction

OPTIONS AND SPECIAL DESIGNS:

- o High pressure ASME code vessels
- o Systems designed to fit tight site conditions
- o Ozone pretreatment systems
- o Design / Build Systems
- o Service contracts
- o Pilot filters for field testing
- o Special options and designs available on request.