

# High quality water for commercial applications.

Water solutions using membrane technology equipment.

WGR SERIES COMMERCIAL  
REVERSE OSMOSIS SYSTEMS



A division of  
WaterGroup

**Hydrotech**   
Your clear choice in water treatment.

# WGR Series

The Hydrotech WGR Series Commercial Reverse Osmosis Systems remove up to 99% of the total dissolved solids (TDS) in raw commercial feedwater, producing high quality process water for applications such as:

- Boiler Feed
- Drinking Water
- Food and Beverage Processing
- Humidification Systems
- Industrial Processes
- Spot Free Rinse



WGR 150



WGR 300



WGR 450



## WGR 150, 300 and 450 Reverse Osmosis Systems

### Features:

- Membranes: Thin Film Composite (TFC) for maximum rejection of impurities
- Membrane Housings: WGR 150, 300 and 450 housings are stainless steel
- Process Pump: Direct coupled rotary vane pump, designed for continuous high pressure service
- Frame: Corrosion and scratch resistant powder coated steel
- Prefilters: 5 Micron Pre-Filter - for the removal of sediment  
Granular Activated Carbon Pre-Filter - for the removal of chlorine
- Inlet Isolation Valve: Provides a convenient shut-off for easy pre-filter replacement
- Inlet Low Pressure Shut-off Switch: Automatic protection for the process pump should insufficient feed water pressure be available
- Outlet Tank Full Shut-off Switch: System will automatically start when tank pressure falls below 30 psi and stop when pressure reaches 50 psi
- Simple Maintenance / Inspection: WGR Series components are strategically located on the frame for easy access and inspection

### WGR 150, 300 and 450 Optional Features:

- a. Stainless Steel Process Pump - replaces standard brass process pump
- b. Float Switch - mechanical tank full float switch for atmospheric type storage tanks
- c. Low Energy Membranes (available on WGR 300 only)



WGR 600



WGR 1200



WGR 1800



## WGR 600, 1200 and 1800 Systems

### Features:

- Membranes: Thin Film Composite (TFC) for maximum rejection of impurities
- Membrane Housings: WGR 600, 1200 and 1800 housings are PVC
- Process Pump: Direct coupled rotary vane pump, designed for continuous high pressure service
- Frame: Corrosion and scratch resistant powder coated steel
- Prefilters: 5 Micron Pre-Filter - for the removal of sediment  
Radial Flow Activated Carbon Pre-Filter - for the removal of chlorine
- Flow Meters: Product, Reject and Recycle stream flow meters for monitoring of operating conditions.
- Control Box: NEMA 12X rated control box with ON/OFF switch and mode indicator lights
- Air Purge: System automatically purges air out of process pump and membranes before startup
- Inlet Isolation Valve: Provides a convenient shut-off for easy pre-filter replacement
- Inlet Low Pressure Shut-off Switch: Automatic protection for the process pump should insufficient feed water pressure be available
- Tank Full Pressure Switch: System will automatically start when tank pressure falls below 30 psi and stop when pressure reaches 50 psi
- Simple Maintenance / Inspection: Components are strategically located on the frame for easy access and inspection

### WGR 600, 1200 and 1800 Optional Features:

- a. Stainless Steel Membrane Housings - replaces standard PVC membrane housings
- b. Stainless Steel Process Pump - replaces standard brass process pump
- c. Float Switch - mechanical tank full float switch for atmospheric type storage tanks
- d. 230V / 1 Ph / 60Hz - optional electrical
- e. Automatic Flush - allows unit to automatically flush membranes for 1 minute every two hours of consecutive operation.
- f. Low Energy Membranes (available on WGR 600, 1200 and 1800)

## Performance Specifications

Item Number	Model	Capacity (GPD) <sup>(1)</sup>	Maximum Operating Pressure (psi)	Typical <sup>(2)</sup> TDS Rejection	Typical <sup>(2)</sup> Recovery	Membranes	Dimensions HxWxD (In.)	Inlet Connection	Motor (HP)	Electrical (Standard)	Shipping Weight (lbs)
2610	WGR-150	150	190	> 97%	up to 50%	1	32 x 14 x 20	1/2"	1/4	115V / 1Ph / 60Hz	48
2611	WGR-300	300	190	> 97%	up to 50%	1	32 x 14 x 20	1/2"	1/3	115V / 1Ph / 60Hz	50
2612	WGR-450	450	190	> 97%	up to 50%	2	32 x 14 x 20	1/2"	1/3	115V / 1Ph / 60Hz	55
2613	WGR-600	600	190	> 97%	up to 50%	1	53 x 22 x 24	1/2"	1/2	115V / 1Ph / 60Hz	155
2614	WGR-1200	1200	190	> 97%	up to 50%	2	53 x 22 x 24	1/2"	3/4	115V / 1Ph / 60Hz	163
2615	WGR-1800	1800	190	> 97%	up to 50%	3	53 x 22 x 24	3/4"	3/4	115V / 1Ph / 60Hz	170

<sup>(1)</sup> The capacity denotes the system production in U.S. Gallons per Day as defined by the membrane specifications and the feedwater conditions of 2000 ppm (of NaCl), 25°C (77°F), 200 psi operating pressure and outlet to atmosphere.

<sup>(2)</sup> TDS rejection and water recovery are variable and can be affected by temperature and feedwater conditions.

## Feed Water Requirements

Minimum Feed Pressure (psi)	30	Hydrogen Sulfide (H <sub>2</sub> S)	0.00 mg/L
Maximum Feed Pressure (psi)	85	Organics Tolerance <sup>(3)</sup>	0 mg/L
Temperature Range	40 - 100°F (4 - 37°C)	Oil (Hydrocarbons) Tolerance	0 mg/L
Total Dissolved Solids (TDS)	<2000 ppm	Turbidity <sup>(3)</sup>	<1 NTU
Hardness	<10 Grains/USGal as CaCO <sub>3</sub>	SDI (Silt Density Index)	<5
Total Iron (Fe)	<0.1 mg/L	Chlorine Tolerance <sup>(3)</sup>	0 mg/L
Manganese (Mn)	<0.05 mg/L	pH Range	2.0 - 11.0

<sup>(3)</sup> Sediment and Carbon pre-filters, standard on the WGR Series must be replaced regularly to protect membranes.

These feed requirements also include that the water be potable before treatment by a WGR Series RO system.

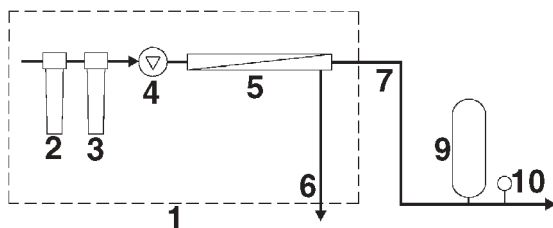
## Recommended Installations

Hydrotech has a wide variety of storage tank and repressurization equipment options to complement the WGR Series of Reverse Osmosis systems. Contact customer service for details.

### Type A

#### Pneumatic Pressure Tank

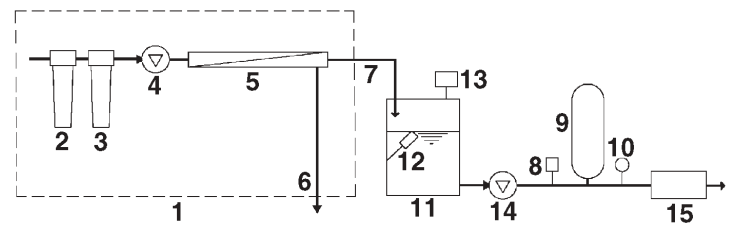
Operation: Flow to service drops pressure in pneumatic tank to cut-in point on pressure switch which starts R.O. booster pump. R.O. runs until cut-out pressure is reached when tank is full.



### Type B

#### Storage Tank / Repressurization

Operation: Flow to service drops level in storage tank causing float switch to start R.O. booster pump. Repressurization pump operates as with Type A.



#### Legend:

- |   |  |   |
|---|--|---|
| 1. WGR Series Commercial Reverse Osmosis Unit | 6. Reject Water (Concentrate) to Drain | 12. Float Switch                          |
| 2. 5 Micron Cartridge Pre-Filter              | 7. Product Water to Service            | 13. Air Filter for Storage Tank Vent      |
| 3. Carbon Pre-Filter                          | 8. Pressure Switch                     | 14. Stainless Steel Repressurization Pump |
| 4. R.O. Process Pump                          | 9. Pneumatic Storage Tank              | 15. Ultraviolet Sterilizer                |
| 5. R.O. Module/Membrane Assembly              | 10. Pressure Gauge                     |   |
|   | 11. Polyethylene Storage Tank          |   |

Hydrotech has other commercial reverse osmosis equipment available including larger capacity systems. Call for details.



**WaterGroup Inc.**  
Fridley, Minnesota  
Mira Loma, California  
1-800-354-7867

[www.hydrotechwater.com](http://www.hydrotechwater.com)

**WaterGroup Companies Inc.**  
Cambridge, Ontario  
Regina, Saskatchewan  
1-877-299-5999

MEMBER  
**Water Quality Association**

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