



eVOQUA
WATER TECHNOLOGIES



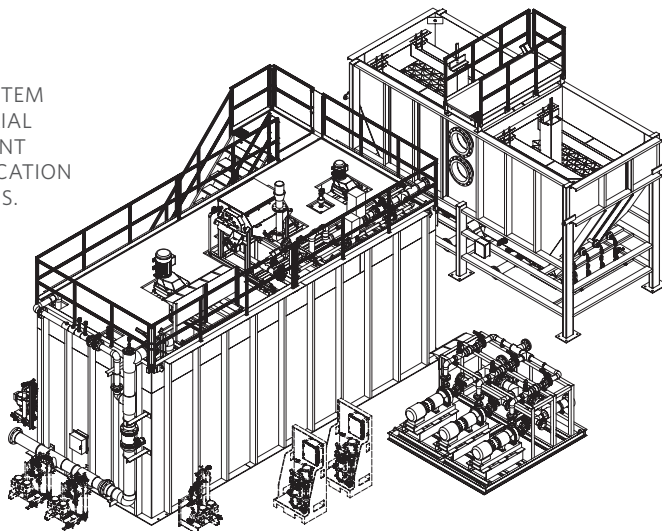
REACTION TANKS

THE COMAG® SYSTEM FOR INDUSTRIAL APPLICATIONS

Simple and reliable, the CoMag® system uses magnetite to ballast conventional chemical floc, enhancing settling rates and increasing the performance of wastewater and water treatment operations. The high-density, magnetite ballasted floc flows into a modified compact high rate clarifier. To minimize the amount of solids escaping the unit, the solids separator is equipped with a baffle plate and restrictive flow tube settlers. The solids separator is designed to maintain a sludge blanket in the hopper compartments under the tube settlers that act as a pre-filter.

In addition to achieving high rate clarification, the CoMag system employs a sludge recycle function to increase the system performance and the clarity of its effluent. Approximately 20% of the clarifier underflow is recirculated back to the system's reaction tank. In the recirculation loop, sludge is processed through an inline, high-speed shear mixer where the magnetite is liberated from the floc. The resulting two-part slurry is then passed under a magnetic recovery drum. The permanent and stationary magnets inside the drum help to capture more than 99% of the magnetite and return it to the system. The sheared sludge, minus the magnetite, then flows to a filter press for sludge dewatering.

COMAG® SYSTEM
FOR INDUSTRIAL
PRETREATMENT
AND CLARIFICATION
APPLICATIONS.
SHOWN:
RX22-6108



Included in standard design:

- Coagulation, ballast, and polymer mixing tanks with agitators
- Clarifier with flush manifold, shakers, and tubular settling media
- Solids recycle/waste pump skid
- Shear mill and magnetite recovery drum
- Chemical dosing skid for coagulant
- Variable speed controls for all motors
- PLC control system with HMI
- Instrumentation:
 - Influent flow and turbidity
 - Coagulant tank pH
 - Clarifier sludge blanket level
 - Effluent turbidity
 - Recycle/waste flow

Available Options:

- Chemical dosing skids for hypochlorite, pH balancing, and polymer
- Coagulation tank ORP instrumentation

Benefits of Magnetite:

- Hydrophobic - shuns water and naturally bonds with chemical floc
- Dense - specific gravity of 5.2 means increased floc density and faster settling
- Fully oxidized and insoluble - will not rust, degrade, or easily dissolve like some ballasting agents
- Non-abrasive - will not erode components while incorporating with floc
- Inexpensive - readily-available commodity that helps keep operational cost low
- Easily recovered using magnets

CLARIFIER SPECIFICATIONS

Model Number	6104	6108	6112
Nominal Flow Rate	600 gpm / 136 m ³ /h	1,200 gpm / 273 m ³ /h	1,800 gpm / 409 m ³ /h
Maximum Flow Rate	1,000 gpm / 227 m ³ /h	2,000 gpm / 454 m ³ /h	3,000 gpm / 681 m ³ /h
Tubular Media Cross-Sectional Area	59 ft ² 5.5 m ²	92 ft ² 8.5 m ²	139 ft ² 12.9 m ²
Tubular Media Height	30"	36"	24"
Tubular Media Available Settling Area	909 ft ² 84 m ²	1,702 ft ² 158 m ²	1,710 ft ² 159 m ²
Number of Cones	1	2	2
Influent/Effluent Nozzle	12"/12"	16"/16"	20"/20"
Dimensions with Hand Rails (Nominal: LxWxH)	11'-0" x 8'-7" x 17'-4" 5.2 x 4.9 x 5.7 m	20'-2" x 9'-5" x 17'-4" 6.1 x 2.9 x 5.3 m	21'-0" x 12'-0" x 17'-4" 6.4 x 3.6 x 5.3 m
Shipping Dimensions (Nominal: LxWxH)	11'-0" x 8'-7" x 12'-0" 3.3 x 2.6 x 3.7 m	21'-0" x 9'-5" x 12'-0" 6.4 x 2.9 x 3.7 m	21'-3" x 12'-0" x 12'-0" 6.5 x 3.7 x 3.7 m
Approximate Shipping Weight	8,875 lbs 4,030 kg	18,000 lbs 8,200 kg	24,000 lbs 10,900 kg
Approximate Operating Weight	53,600 lbs 24,300 kg	69,400 lbs 31,500 kg	100,000 lbs 45,400 kg

PRETREATMENT SKID SPECIFICATIONS

Model Number	RX11	RX22	RX33
Coagulation Mix Tank Volume	6,700 gallons	12,000 gallons	18,000 gallons
Magnetite Mix Tank Volume	2,500 gallons	4,900 gallons	7,450 gallons
Polymer Mix Tank Volume	2,500 gallons	4,900 gallons	7,450 gallons
Influent/Effluent Nozzle	6"/12"	8"/16"	10"/20"
Shipping Dimensions (Nominal: LxWxH)	17'-1" x 11'-6" x 12'-0" 5.2 x 3.5 x 3.7 m	29'-2" x 11'-6" x 12'-0" 8.9 x 3.5 x 3.7 m	42'-4" x 11'-6" x 12'-0" 6.5 x 3.7 x 3.7 m
Dimensions with Hand Rails (Nominal: LxWxH)	17'-1" x 16'-0" x 18'-7" 5.2 x 4.9 x 5.7 m	29'-2" x 13'-0" x 18'-8" 8.9 x 4.0 x 5.7 m	42'-4" x 15'-9" x 19'-4" 12.9 x 4.8 x 5.9 m
Approximate Shipping Weight	28,200 lbs 12,800 kg	26,500 lbs 12,000 kg	60,500 lbs 27,450 kg
Approximate Operating Weight	136,600 lbs 62,000 kg	200,000 lbs 90,700 kg	365,000 lbs 165,600 kg
Magnetite Recovery Drum Size	20" dia. x 18", 1hp	20" dia. x 36", 1.5hp	36" dia. x 36", 3hp

RECYCLE/WASTE PUMP SKID SPECIFICATIONS

Model Number	RX11-6104	RX11-6108	RX11-6112	RX22-6108	RX22-6112	RX33-6112
Number of pumps, hp	(2) 5 hp	(3) 3 hp	(3) 3 hp	(3) 5 hp	(3) 5 hp	(3) 7.5 hp



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