

IRON & MANGANESE REMOVAL

with Mangnese Greensand

Type **GIR**

The Iron & Managnese Removal Plants operates with the Managnese Greensand and are designed to work automatically. A time or volume controled central valve ensures the success by preadjustment of the cycle time or requested volume by regeneration with Potassiumpermanganat $KMnO_4$.

Manganese Greensand is formulated from a glaubonite greensand which is capable of reducing iron, manganese and hydrogen sulfide from water through oxidation and filtration. Soluble iron and manganese are oxidized and precipitated by contact with higher oxides of manganese on the greensand granules. The hydrogen sulfide is reduced by oxidation to an insoluble sulfur precipitate.

The plants consists of one corrosion resistant reinforced glass fibre tank, needed filling of softening resin, one central control valve for operating the soft cycles like service and regeneration, brine tank with accessories.

Plant selection :

Type	Flow* m ³ /h	Capacityt **ppm x m ³		M G Vol. Ltr.
		nur Fe	Fe + Mn	
GIR - 10	0,3 - 1,0	55	40	28
GIR - 20	1,0 - 2,0	110	80	56
GIR - 30	1,0 - 3,0	165	120	84
GIR - 50	1,0 - 5,0	275	200	141
GIR - 70	1,0 - 7,0	385	280	198
GIR - 80	1,0 - 8,0	440	320	226
GIR - 130	2,0 - 12,0	715	520	367
GIR - 180	2,0 - 15,0	990	720	509

*at dP 1,2 bar

** pH 7,2; 15°C

Operatingconditions:

pH – Range	6,2 – 8,5
Temperaturerange	5 - 40 °C
Feedpressure	3,0 – 6,0 bar
Fe + Mn-Concent.	max. 15 mg/l
Mn-Concentration	max. 5 mg/l
H ₂ S Concentration	max. 5 mg/l
Oil-Concentration	none
Phosphophate	none

Plantlayout:

Capacity in mg/l Fe x m³ or mg/l /Fe+Mn) x m³
 Standard - Sevifetime (in Std) = Capacityt / (Fe im Feed (in mg/l) x
 Flow (in m³/h)) x F_k

F_k = 4 (domestic)

F_k = 2 (commercial)

F_k = 1 (Industry 24 h sevice)

The Standard plants are equipped with 1" to 2 ½" connecting aggregates which allows a max flow up to 15 m³/h. Larger units could be offered upon request.

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Plant dimensions :

Type	Installation (ca. in mm)			Tank in mm			Connection	
	Length	Width	Height	Diam.*	Height*	Typ	In	Out
GIR - 10	300	300	1650	259	1382	RT 1054	1"	1"
GIR - 20	400	400	1750	333	1392	RT 1354	1"	1"
GIR - 30	500	500	1750	356	1633	RT 1465	2"	2"
GIR - 50	600	600	1800	508	1669	RT 1865	2"	2"
GIR - 70	600	600	1850	554	1654	RT 2260	2"	2"
GIR - 80	700	700	1850	625	1652	RT 2471	2 1/2"	2 1/2"
GIR - 130	900	900	2200	785	2047	RT 3072	2 1/2"	2 1/2"
GIR - 180	1000	1000	2200	905	2062	RT 3672	3"	3"

Scope of supply :

- 1 pcs PARK-GRP Pressure Tank
- 1 pcs Central Control Valve
- 1 filling Manganese Greensand
- 1 pcs KMnO₄ Brinetank, Brinevalve, Brinewell and Grid
- 1 pcs Nozzles top and bottom
- 1 pcs KMnO₄ - suction & Drain hose

Optional:

- 2 pcs Pressure gauge
- 2 pcs Shut off valves
- 1 pcs Flowmeter
- 1 pcs PVC – Piping

All components fits together but not assembled together

Technical changes possible.



GIR 20 with CLACK WS1 TC Valve