

# IRON & MANGANESE REMOVAL

## with BIRM Filtermaterial

Type **BIR**

The Iron & Manganese Removal Plants operates with the BIRM Filtermaterial and are designed to work automatically. A time or volume control valve ensures the success by preadjustment of the cycle time or requested soft water quantity.

- Under the proper conditions, no chemicals to purchase for maintenance. Regeneration not required.
- Iron removal efficiency is extremely high.
- Negligible labor costs: only periodic backwashing required
- Durable material with a long life and wide temperature range

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 <sup>3</sup> /h	Capacity **ppm x m <sup>3</sup>		BIRM Vol. Ltr.
		nur Fe	Fe + Mn	
<b>BIR - 10</b>	0,3 - 1,0	50	36	28
<b>BIR - 20</b>	1,0 - 2,0	100	74	56
<b>BIR - 30</b>	1,0 - 3,0	150	110	84
<b>BIR - 50</b>	1,0 - 5,0	250	180	141
<b>BIR - 70</b>	1,0 - 7,0	355	260	198
<b>BIR - 80</b>	1,0 - 8,0	400	300	226
<b>BIR - 130</b>	2,0 - 12,0	670	485	367
<b>BIR - 180</b>	2,0 - 15,0	920	660	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. 8 mg/l
Mn-Concentration	max. 2 mg/l
H <sub>2</sub> S Concentration	max. 0 mg/l
Oil-Concentration	non
free Chlorine	max. 0,2 mg/l
COD	max. 5 mg/l

### Plantlayout:

Capacity in mg/l Fe x m<sup>3</sup> or mg/l /Fe+Mn) x m<sup>3</sup>  
 Standard - Sevicetime ( in Std ) = Capacity / ( Fe im Feed ( in mg/l ) x  
 Flow ( in m<sup>3</sup>/h ) ) x F<sub>k</sub>

F<sub>k</sub> = 4 (domestic)  
 F<sub>k</sub> = 2 (commercial)  
 F<sub>k</sub> = 1 (Industry 24 h sevice)

The Standard plants are equipped with 1" to 2 1/2" connecting aggregates which allows a max flow up to 15 m<sup>3</sup>/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
<b>BIR - 10</b>	300	300	1650	259	1382	RT 1054	1"	1"
<b>BIR - 20</b>	400	400	1750	333	1392	RT 1354	1"	1"
<b>BIR - 30</b>	500	500	1750	356	1633	RT 1465	2"	2"
<b>BIR - 50</b>	600	600	1800	508	1669	RT 1865	2"	2"
<b>BIR - 70</b>	600	600	1850	554	1654	RT 2260	2"	2"
<b>BIR - 80</b>	700	700	1850	625	1652	RT 2471	2 1/2"	2 1/2"
<b>BIR - 130</b>	900	900	2200	785	2047	RT 3072	2 1/2"	2 1/2"
<b>BIR - 180</b>	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 BIRM - Filtermaterial
- 1 pcs Aerationvalves
- 1 pcs Nozzles top and bottom
- 1 pcs Brine 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.



**BIR 20 with CLACK WS1 TC Valve  
( without aerationdevice)**