R12

PRECIOUS METAL RECOVERY

Highlights

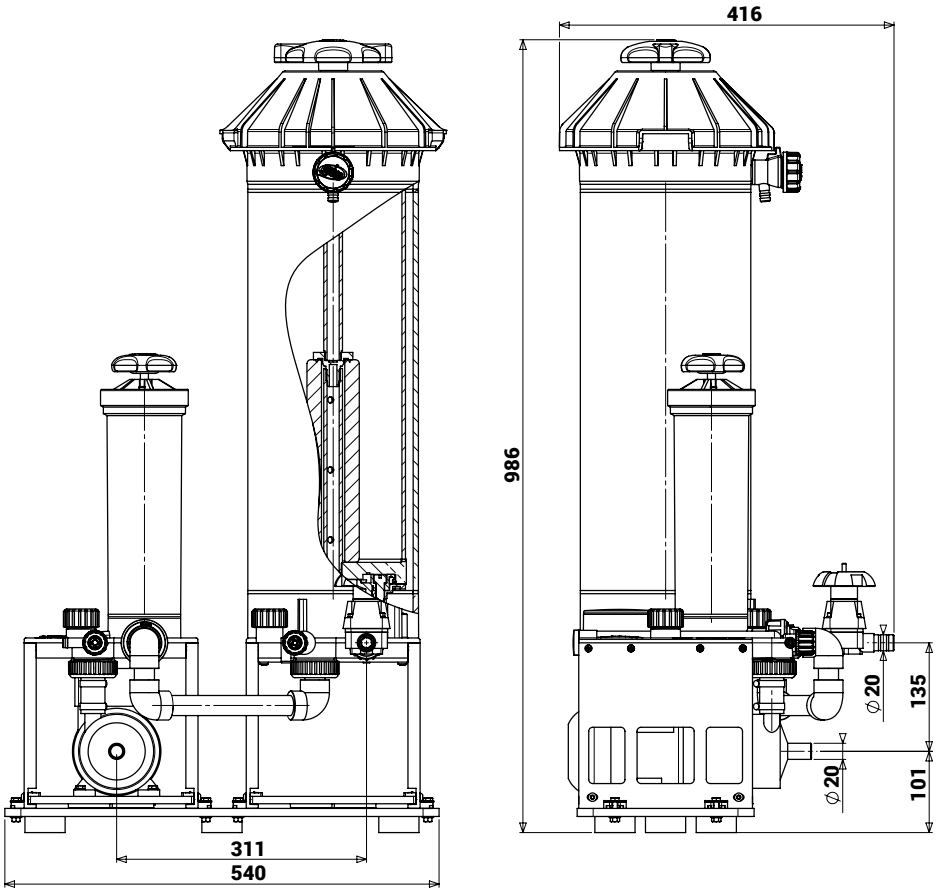
Siebec designed a precious metal recovery device, using ion exchange resins ror small volume processes containing precious metals.

- Pre-filtration
- One passage needed on the resins
- Ideal for volumes over 300L

Technical features

Materials	PP
Max temperature	80°C
Pre-filtration	10 µm
Treatment	Ion exchange resin
Pumps	M35
Flowrate	1,3 up to 3m³/h
Connections	Grooved nozzles

Dimensions R12 - M15



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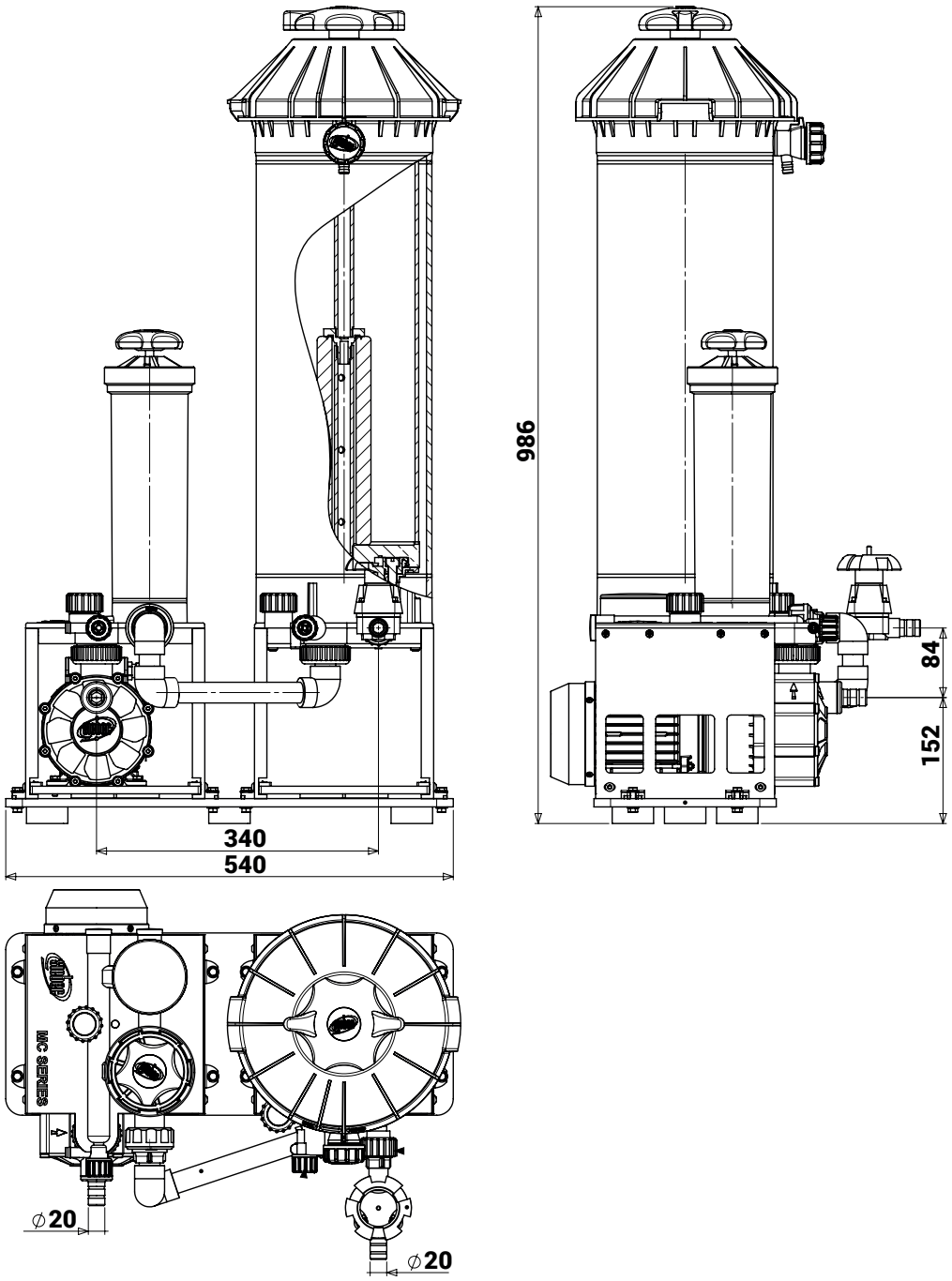
Dimensions R12 - M35



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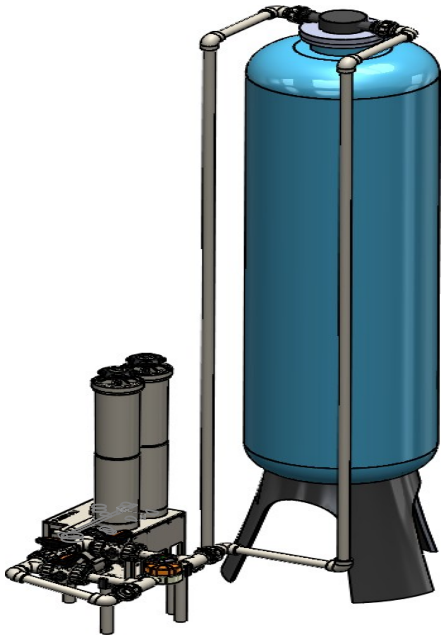


ION EXCHANGE SYSTEMS

For effluent treatment, metal recovery and surface treatment bath purification

✓ **RECOVERY OF METALS FROM RINSE WATERS**

(effluent treatment)

✓ **PURIFICATION OF TRIVALENT PASSIVATION BATHS**

(increasing bath life and consistency of corrosion protection)

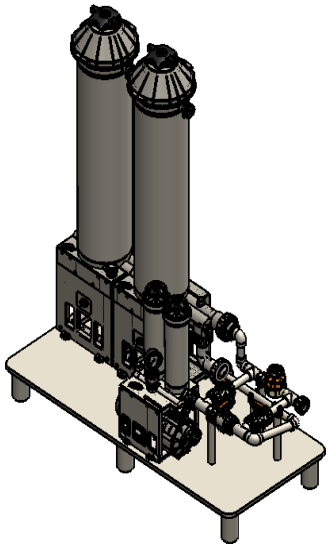
✓ **PRECIOUS METAL RECOVERY**

(economic recovery of gold and other metals from plating baths and rinses)

RECOVERY OF METALS FROM RINSE WATERS

Systems must be configured to plant conditions and discharge regulations; details available upon request; examples given below:

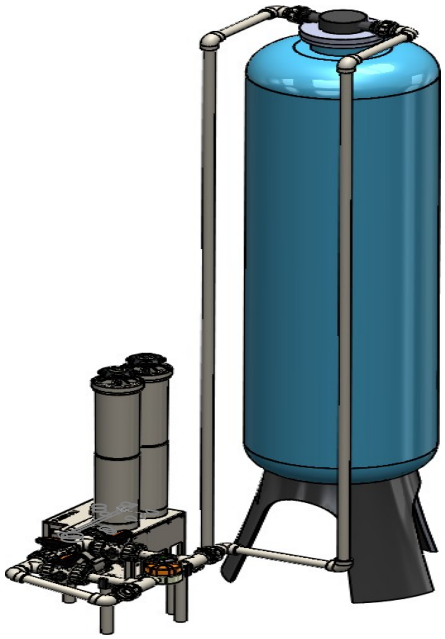
MC 15 L 82



- ✓ For volumes up to 20 m^3 / 24 hr
- ✓ Pre – filtration by filter MC 15 – two chambers 20” standard or spun bonded cartridges to protect the resin by removing particulates
- ✓ Ion exchange treatment in two 30” chambers – anion and cation volume ca 20 litre
- ✓ Regeneration of resin enabled by series of pipes and valves for passage of appropriate volumes of acid and alkali solution respectively

MC 15 RDC 650

- ✓ For volumes up to 200 m^3 / 24 hr
- ✓ Pre – filtration by filter MC 15 – two chambers 20” standard or spun bonded cartridges to protect the resin by removing particulates
- ✓ Ion exchange treatment in several ca 140 l chambers – anion and cation (only one shown here for convenience)
- ✓ Regeneration of resin enabled by series of pipes and valves for passage of appropriate volumes of acid and alkali solution respectively



Please contact your local representative for designing a system appropriate for your needs

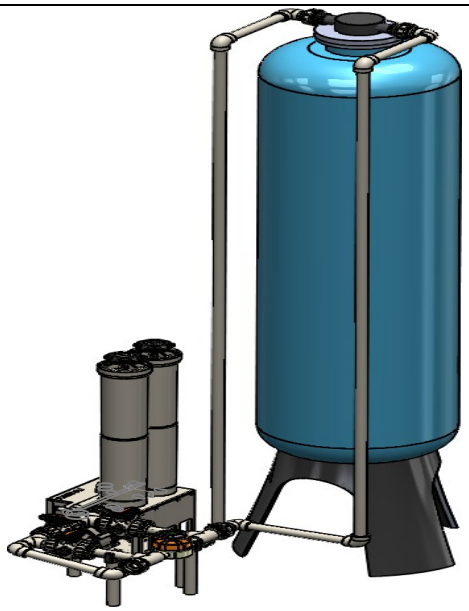
PURIFICATION OF TRIVALENT PASSIVATION BATHS

Systems must be configured to plant conditions; details available upon request; some examples given below

Generally, our systems are designed to reduce iron ion concentration <45 ppm & zinc ion concentration <4500 ppm

MC 15 RDC 650

- ✓ For passivation bath volumes up to 20 m^3
- ✓ Pre – filtration by filter MC 15 – two chambers 20" standard or spun bonded cartridges to protect the resin by removing particulates
- ✓ Ion exchange treatment in one 140 l chamber with special cation resin
- ✓ Regeneration of resin enabled by series of pipes and valves for passage of appropriate volume of acid



L 52 M 50

- ✓ For passivation bath volumes up to 2.5 m^3
- ✓ Pre – filtration by filter L tech – one chamber 20" pleated cartridge to protect the resin by removing particulates
- ✓ Ion exchange treatment in one 20 l chamber with special cation resin
- ✓ Regeneration of resin enabled by series of pipes and valves for passage of appropriate volume of acid

ADVANTAGES

- Selective removal of iron ions which reduce the bath life of trivalent passivates, so bath life increases
- Consistent performance of the passivate leading to reproducible corrosion protection results
- Pre – filtration removes particulate matter which can lower corrosion protection if co-deposited and impede resin performance

PRECIOUS METAL RECOVERY

For recovery of gold and silver from spent baths, drag outs etc – even at low concentrations up to 5 ppm.

For higher concentrations > 50 ppm (e.g. from baths used to prepare precious metal salts) we recommend the use of electrolytic recovery – using our 'ELECTRUM' system.

R 3

- ✓ Pre – filtration by 10-micron cartridge in MC 10 filter to remove particulate impurities
- ✓ R 3 selective resin for gold and silver; recovery of other precious metals is also possible, resin selection is provided on request
- ✓ Generally, one pass is enough to remove all the precious metal
- ✓ Can also be run in closed – loop to recover larger quantities of precious metal
- ✓ Resin can be incinerated in appropriate facility to recover precious metal

R 12

- ✓ Pre – filtration by 10-micron cartridge in MC 10 filter to remove particulate impurities
- ✓ R 12 selective resin for gold and silver; recovery of other precious metals is also possible, resin selection is provided on request
- ✓ Generally, one pass is enough to remove all the precious metal
- ✓ Can also be run in closed – loop to recover larger quantities of precious metal
- ✓ Resin can be incinerated in appropriate facility to recover precious metal

GROUP: Siebec SAS., Bohncke GmbH (Germany), QUALI-FILTRES SAS (France), SOFRAPER SAS (France)

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