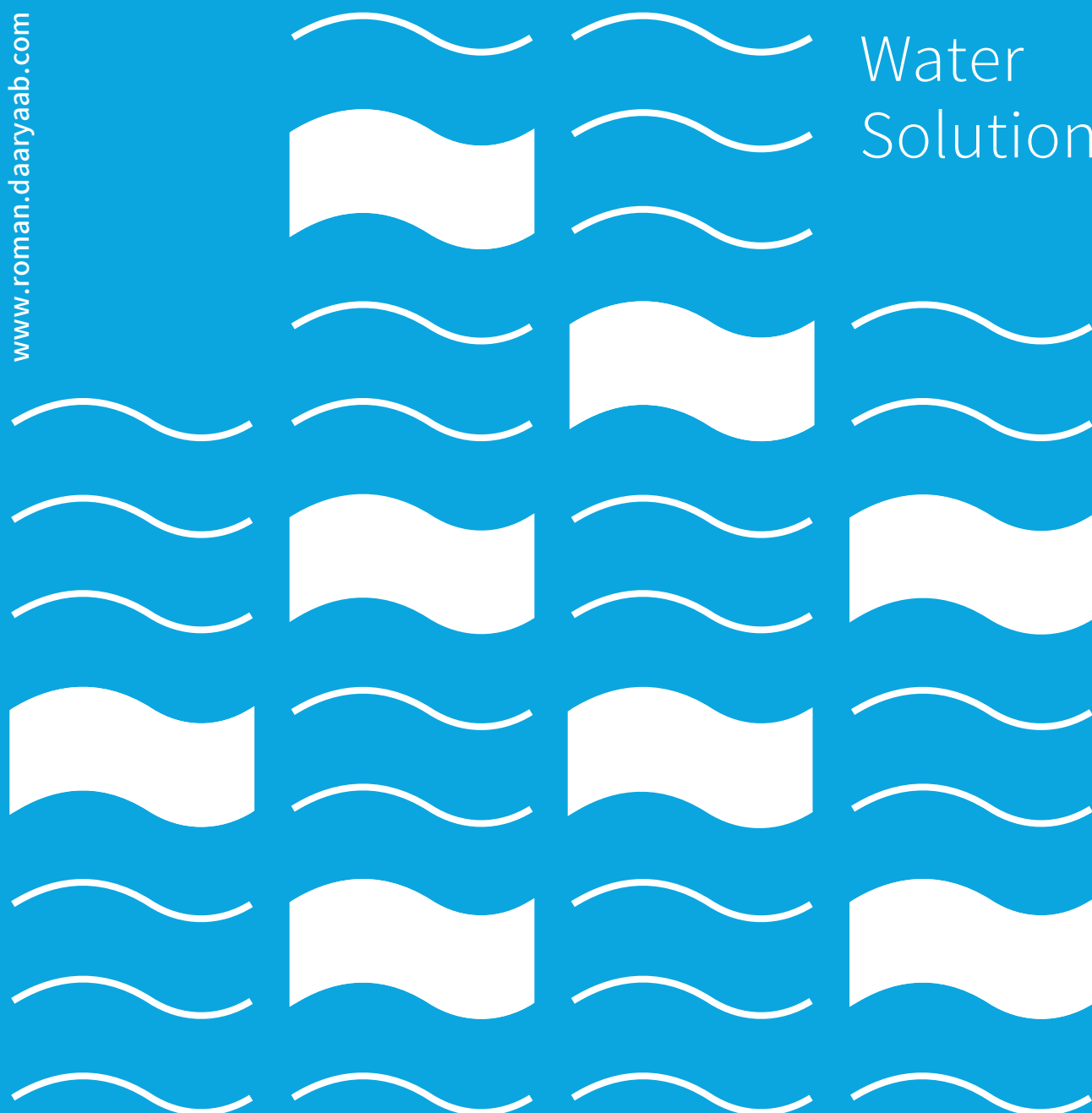


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Water
Solution



ROMAN

Water solution



Chemical Dosing Package

powered by **PACKMAN** industrial group



Chemical Dosing Package



Product Description

Chemicals used to treat steam boiler systems are applied based upon the demand and mode of reaction of each chemical use. The theoretical versus actual consumption and the ease of control of these chemicals can vary according to many factors specific to each application. Dosages and controls of chemicals are affected by how and where they are fed. The reaction and residual part of the chemical dosage calculation equation can affect control and results. Looking at the reaction percent helps deciding whether it will work. The residual percent tells how easy it is to control. If all waters, all pretreatment equipment, all condensate, all feed equipment, all operators, and all boilers were the same, the chemical treatment would become routine, rather simple, easy, and reliable. However, since each steam system is unique in many ways, there are plenty of opportunities to provide application expertise by understanding each specific condition and the associated problems.

Chemical injection packages are commonly used in production facilities in the oil & gas industry. They prevent or mitigate wide range of problems that might negatively affect the production flow and/or process completion. Frames designs, manufactures and supplies custom-built injection systems for a broad range of process applications, including production processes, (produced) water treatment and hydrate control in pipelines and wells. The chemicals are transferred from the tank to the injection point by means chemical injection pumps, while flow rates can be adjusted locally or remotely in order to ensure that the correct amount of chemicals is injected.

Technical Details

PACKMAN can provide a chemical injection system as a part of an integrated solution, thus reducing onsite installation and commissioning time.

PACKMAN multi-disciplinary engineering capability ensures that each chemical injection system is designed in accordance with client specifications and local legislation. Being supplier-independent, Frames is in an excellent position to select the best solutions, striking a balance between capital investment (CAPEX) and operating

costs (OPEX). PACKMAN's Chemical Injection Packages are made of Polyethylene/ Triple Layer PE. Injection pressures up to 15,000 PSI or 1,034 bar (g)



and flows from low m³/h to high m³/h.

Manufacturing Standards

ASME Sec VIII, Div. 1 is used in the construction of Chemical Injection Packages. Piping designed to code, such as ANSI, fabrication to ASME Section IX Vessels designed to code, such as ASME / PED / PD5500 & National Board Registered as required.

Welding Procedure

Welding is done by using Swedish ISBU submerged arc welding equipment. After constructing the tank and welding the lugs, the body of the tank is connected to the heads by welding with a submerged arc welding method. In addition, the head is welded internally and externally, which increases the lifetime and the strength of the heads. In the welding root pass, the TIG, argon or welding methods with the 6010 cellulose electrode is used. The EW7018 electrode is used in welding fill pass. The submerged method using EW7018 electrodes in the welding cover pass.

Product Selection

There are several different chemical approaches are used to treat boilers and their selection and performance depend upon many factors. Some of these include:

- Feed-water characteristics.

- The type and reliability of external treatment Boiler type.

- Boiler pressure and heat flux.

- Steam load and variations in load.

- Waterside condition of the boiler and current and long-term goals of the program such as cleaning up scale or maintaining present conditions.

- Client and service provider preference.

- Steam purity requirements.

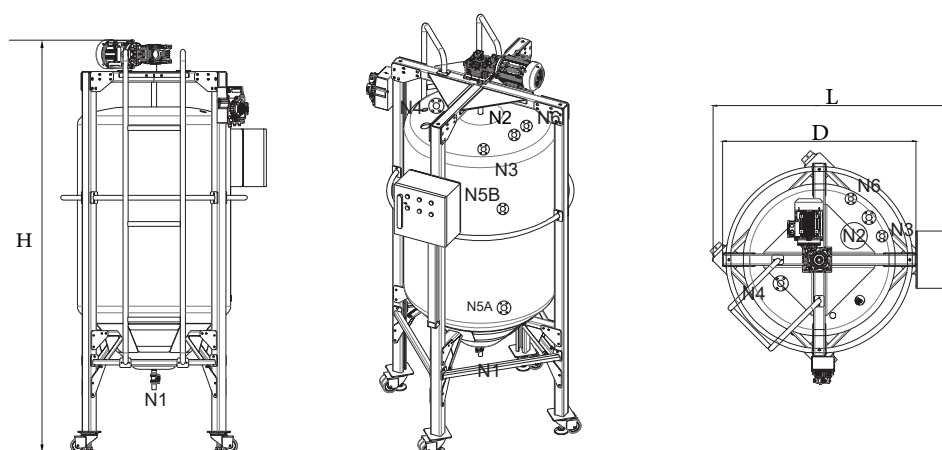
- Regulatory restrictions such as FDA requirements, other health and safety concerns, or process restrictions.

- Feed, testing, and control needs or restriction

- Economic considerations.

- Boiler room layout and number of boilers.

The dosage of sodium sulfite or other oxygen scavengers may be calculated by looking at their reaction rate to remove the oxygen and then their residual dosage to provide a feed-water or boiler water residual. It is recommended to consult with authorized technicians for selecting the best chemical dosing package.



Model	Unit	CH-100	CH-150	CH-200	CH-500	CH-1000
Technical Data						
Vessel Type	-	Vertical				
Volume Capacity	litr	100	150	200	500	1000
Working Fluid Temperature	°C	35	35	35	35	35
Max Design Fluid Temperature	°C	50	50	50	50	50
Corrosion Allowance	mm	0	0	0	0	0
Connection Size						
Drain	in	1/2	1/2	1/2	1/2	1
Inlet	in	1	1	1	1	1
Level Switch	in	1/2	1/2	1/2	1/2	1/2
Chemical Insert	in	1	1,1/2	1,1/2	1,1/2	1,1/2
Water View	in	1/2	1/2	1/2	1/2	1/2
Water View	in	1/2	1/2	1/2	1/2	1/2
Outlet Pump	in	1/2	1/2	1/2	1/2	1/2
Material						
Vessel	-	Polypropylene				
Frame	-	Carbon Steel				
Vessel Dimentions						
Vessel Diameter (D)	mm	650	850	900	1010	1210
Vessel Lengeth(L)	mm	850	1050	1100	1235	1410
Vessel Height (H)	mm	988	1088	1651	2153	2255

PACKMAN GROUP

History

The Packman Company was founded in February 1975, and was soon afterwards registered in companies Registration Office. In early years the Packman construction and service branch focused on building installations. Different mega power plants were built by cooperating with Brown Boveri and Asseck companies in 1976.

The company started its official activities in construction of High-Pressure Vessels such as Hot-Water Boilers, Steam Boilers, Storage Tanks, Softeners and Heat Exchangers from 1984.

Packman Company is one of the first companies which supplied the high quality and standard hot water boilers to the customers.

Packman has exported its products to countries such as Uzbekistan, United Arab Emirates and other countries in the Middle East. It is one of the largest producers of hot-water and steam boilers in the Middle East.

Now we are proud to announce that the Packman industrial group has five major sub-brands that have product titles in all field of HVAC equipment and engineering services, and we do not know this success except with the help and support of our customers.

1. Construction Services Industry Association
2. Industry Association
3. Construction Companies' Syndicate
4. Technical Department Association
5. Mechanical Engineering Association
6. Engineering Standard Association

Departements:

Sales Deps:

- ⌒ Power Plant & Petrochemical
- ⌒ Industrial
- ⌒ Hospitality Service
- ⌒ Commercial & Residential
- ⌒ Sport Complex & Pool

Technical Deps:

- ≡ Manufacturing R&D
- ≡ Innovation Center
- ≡ EPC Execute Unit
- ≡ Product Develop Unit
- ≡ Sales Engineering Dep.

Others:

- ≈ After Sales Service
- ≈ Project Control
- ≈ Financial Office
- ≈ Commercial Office
- ≈ Marketing Department



PACKMAN GROUP Brands



PACKMAN
Industrial Group

Designer&manufacturer
of Condensing, Hot
Water, Steam, Hot Oil &
Waste Heat Boilers, Heat
Exchangers, Autoclave
Pressure & Storage
Vessels & etc



GREENMAN
Green mindset, green future

Engineering &
Designing Commercial
Greenhouse Plant, CO2
Dosing System, Flue
gas Condenser &
Special HVAC Systems,
Sustainable Agriculture
& etc



ROMAN
Water solution

Designer&manufacturer
Reverse Osmosis Plant &
Package, Water
Treatment, Softener &
Filters and Chemical
Dosing Systems & etc



RAADMAN
a look to the future

Designer&manufacturer
of Industrial Mono & Dual
Block Gas, LPG, Light &
Heavy Oil Burners,
Premixed & Postmixed
Burners, Watertube
burners, Process burners,
Special application
burners & Combustion
Solutions & etc



CHILLMAN
Coolest hvac around

Designer&manufacturer
of Air & Water Cooled
Chillers, Air Handling
Units, Fancoil, HVAC
Equipment, Cold
Storage Room & etc



1. Isfahan Factory



2. Vilashahr Factory



3. Parand Factory



4. Parand (2) Factory



5. Bonyad Factory

SOME OF Certificates are



Knowledge Based



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