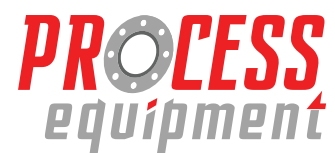
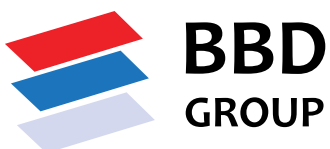




# WATER TREATMENT EQUIPMENT

ION EXCHANGE FILTER



# ION EXCHANGER FILTERS

Ion exchangers are devices used for elimination of calcium and magnesium ions dissolved in the water, which otherwise cannot be removed. Their application is in medical, pharmaceutical, laboratory, cosmetic and other technological processes that require absolutely clean water.

The water softener consists of softener vessel and vessel for regenerate. The vessels are cylindrical, vertical, made from steel sheets. A perforated plate with nozzles that retain the ion exchange mass and let by water is installed in the lower part of the softener container.

In the standard design, ion exchangers have two columns and consist of a cationic and an anionic column, while the third, "mixed" column, which removes the remaining traces of electrolyte and regulates pH to neutral, can be added for the obtaining of extremely pure demineralised water.

The interior vessel surfaces are protected from corrosion with epoxy coating approved for the food industry or rubberized ebonite rubber with vulcanization in an autoclave, and the outer surfaces are painted with primary and final paint.

The quality of raw water at the entrance to demineralizer must be at least equal to the quality of drinking water. If this is not the case, it is necessary to install the appropriate pre-treatment of water before demineralization.

The temperature of incoming water is in the range + 5 °C to + 50 °C, at a working pressure of 6 bar.

Demineralized water, in addition to process water in boiler units, is also used for the following:

- preparation of HVAC water (heating, cooling),
- production of household chemicals,
- production of drinks (soft drinks, carbonated beverages),
- laboratories for production of pharmaceutical preparations,
- electrical industry.



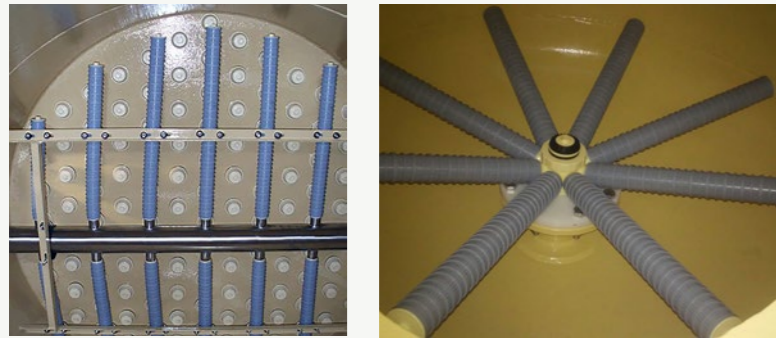
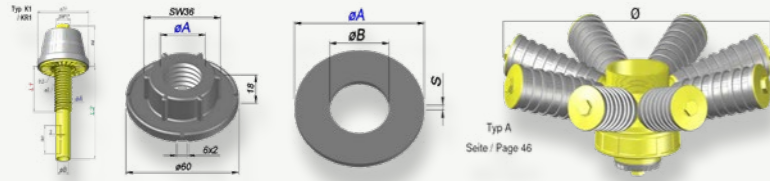
Filters can be fitted with different types of distribution systems :

- distributor with tapered end,
- distributor with laterals,
- star distributor,
- distributor with PP pipes,
- plate with filter nozzles.

Depending on the operating temperature, they are made of polypropylene, carbon or stainless steel.

At the request of the client, the following can be installed in the vessels:

- mechanism for opening of the inspection manhole,
- connection for inspection glass with reflective or transparent glass.

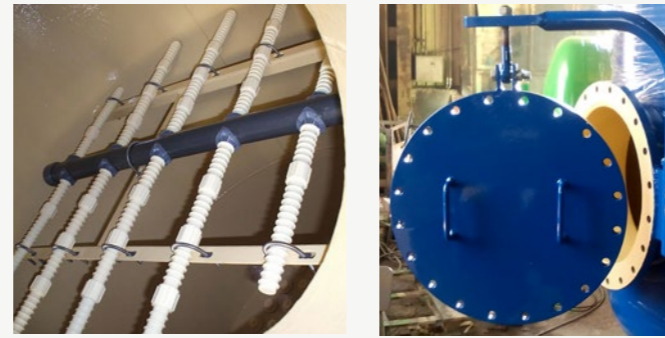
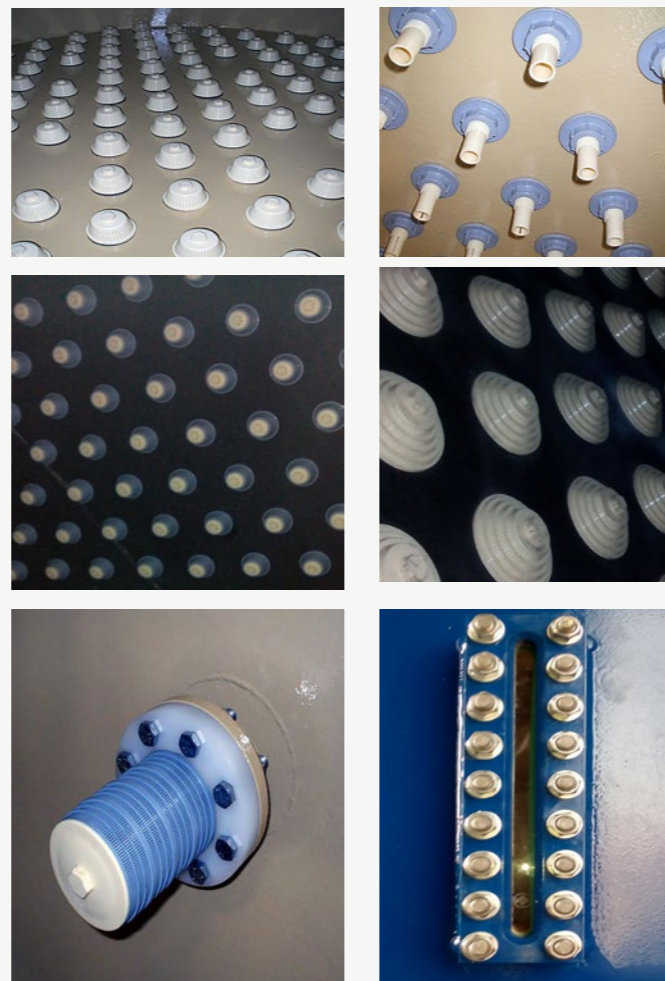


### PACKING

Standard packing includes wrapping with stretch foil. Depending on the mode of transport, the vessels are placed on:

- saddle support - cradle,
- Euro-pallet,
- wooden transport blocks.

The vessels are always fixed with "belts", which ensures the stability during transport. In the case of long-term transport or storage, transport in wooden or metal containers is recommended.



### SURFACE PROTECTIONS:

Degreasing, Sandblasting: Sa-2,5

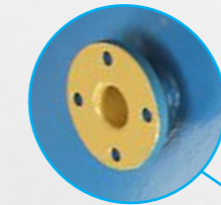
### INSIDE COATING:

Epoxy, Food grade, 300 microns\* or Ebonit rubber, 4mm\*

### OUTSIDE COATING:

3-layer epoxy system, 120 microns\*

\* Other materials and thickness of coating are available at client's request.

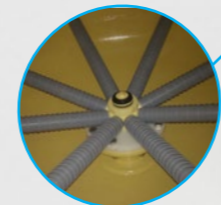


CONNECTION FLANGE  
EN 1092-1

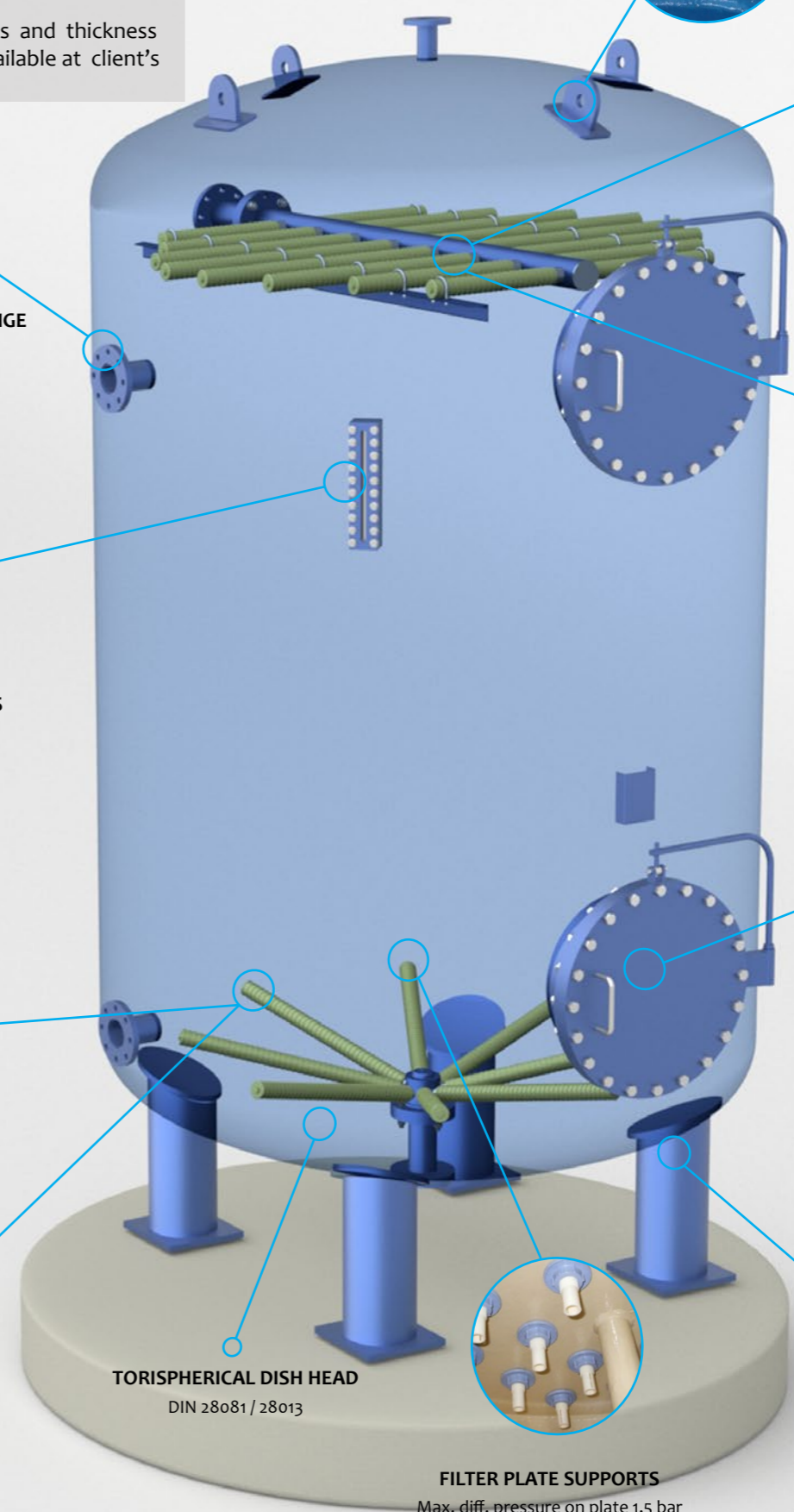


LEVEL GAUGE  
with SIGHT GLASS

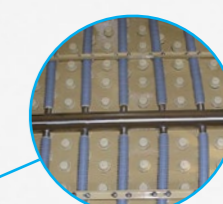
FILTER NOZZLES  
Standard option:  
KSH Type: K1



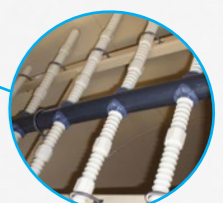
STAR DISTRIBUTOR  
Filter Lateral  
KSH Type: A



LIFTING LUGS  
DIN 28086



TOP DISTRIBUTOR  
\*different possibilities  
on client request



MANHOLE DN 500  
\*other sizes and davit  
arm on request



SUPPORTS  
DIN 28081

TORISPHERICAL DISH HEAD  
DIN 28081 / 28013

FILTER PLATE SUPPORTS  
Max. diff. pressure on plate 1,5 bar

# STANDARD ION EXCHANGER TYPES

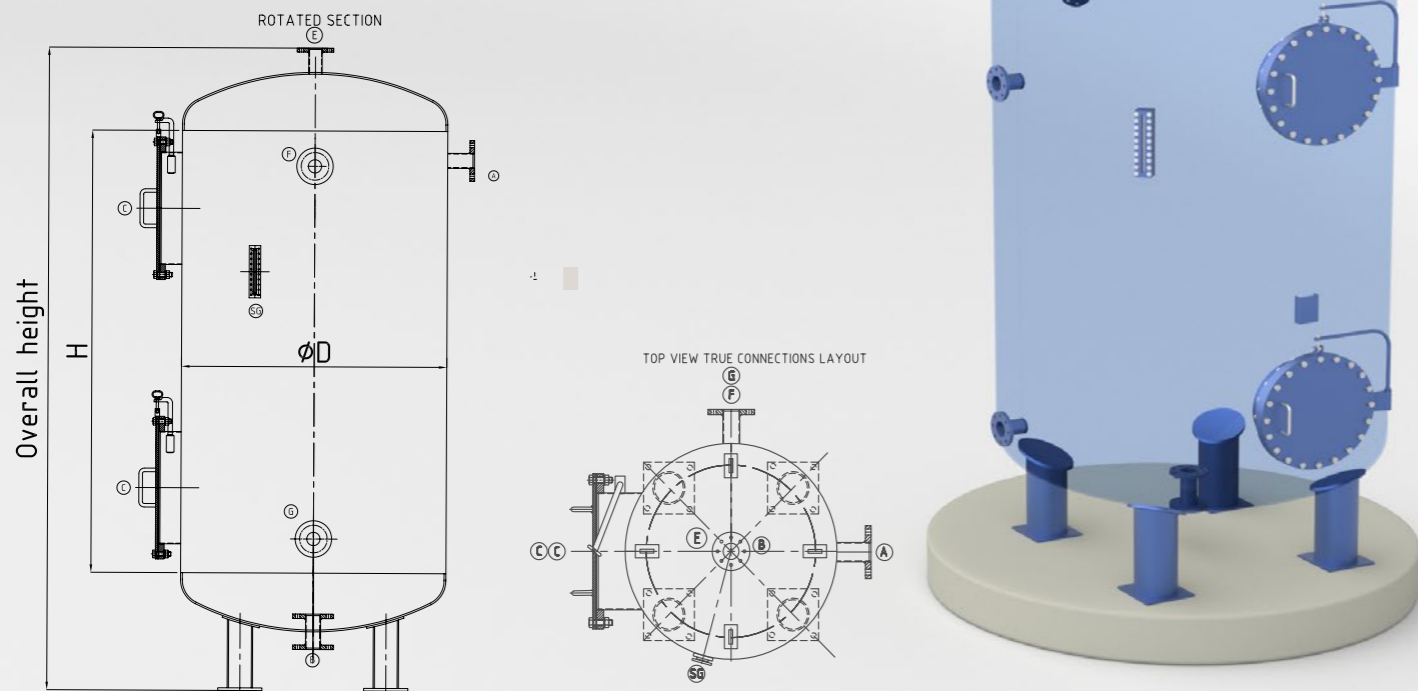
<b>MATERIAL:</b>	CS (S235JRG2) / AISI 304 / AISI 316L
<b>EXTERNAL SURFACE PROTECTION:</b>	Sandblasted (SA 2,5) Total 120 µm, 3 layers
<b>INTERNAL SURFACE PROTECTION:</b>	Sandblasted (SA 2,5) Ebonit Rubber 4mm
<b>WORK PRESSURE/TEST PRESSURE:</b>	6 bar / 9 bar
<b>WORK TEMPERATURE:</b>	max. 50°C
<b>MAX. FLUSHING SPEED:</b>	30 m/h
<b>WATER FLOW SPEED THROUGH PIPES:</b>	max. 2,5 m/s
<b>CALCULATION / DOCUMENTATION:</b>	PED 2014/68 CE art 3.3

## CONNECTIONS

	DN	STANDARD	PN	FUNCTION
A	65-200	EN 1092-1	PN10	WATER INLET
B	65-200	DIN 28117	PN10	WATER OUTLET
C	500	EN 1092-1	PN6	MANHOLE SHELL
D	500	EN 1092-1	PN6	MANHOLE DISH HEAD
E	50	EN 1092-1	PN10	DE - AERATION
F	80	EN 1092-1	PN10	RESIN INLET
G	80	EN 1092-1	PN10	RESIN OUTLET
SG		DIN 28120		SIGHT GLASS

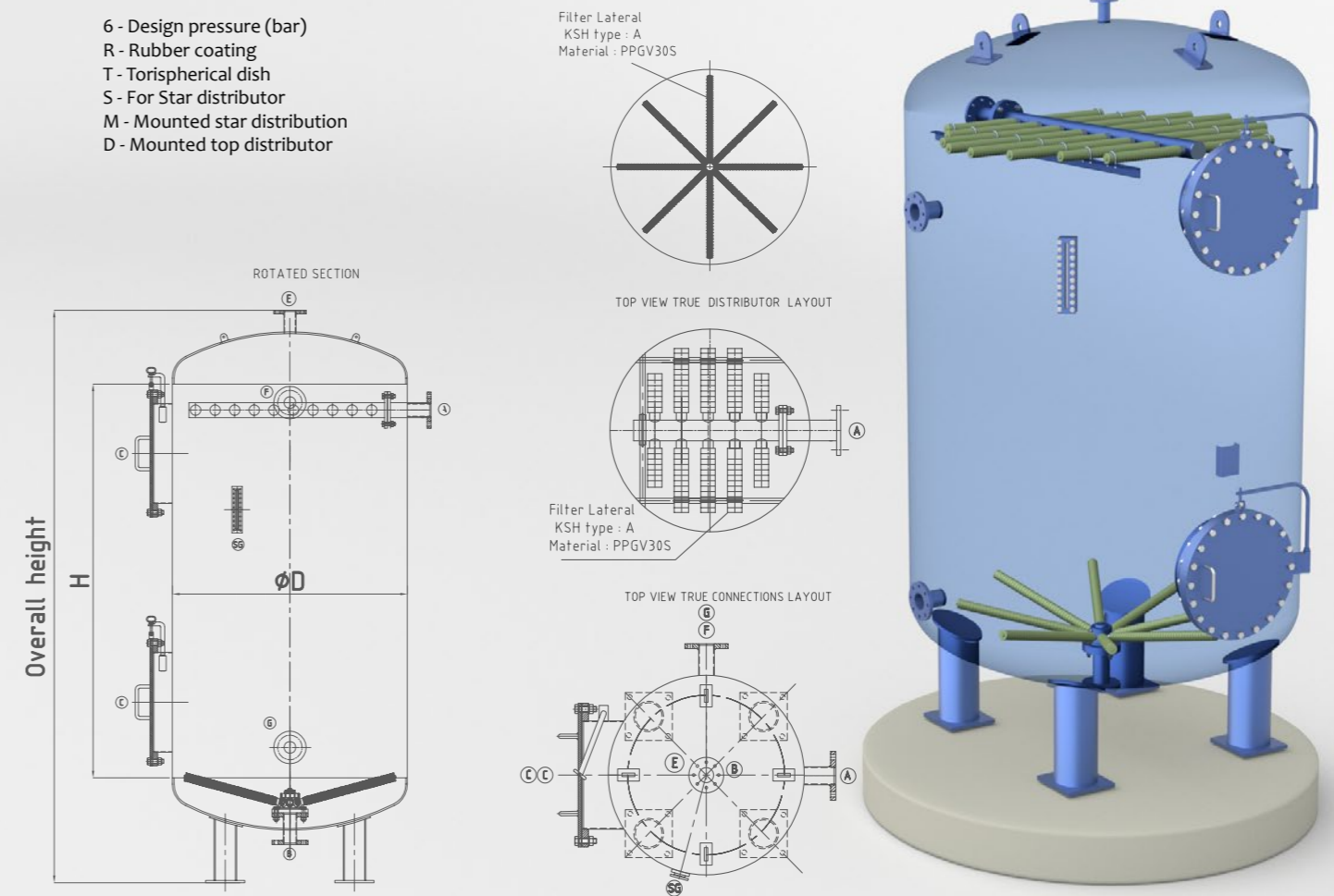
## TYPE IE 6 R-T-C

6 - Design pressure (bar)  
R - Rubber coating  
T - Torispherical dish  
(without filter plate and star distributor)  
C - Connection for distribution



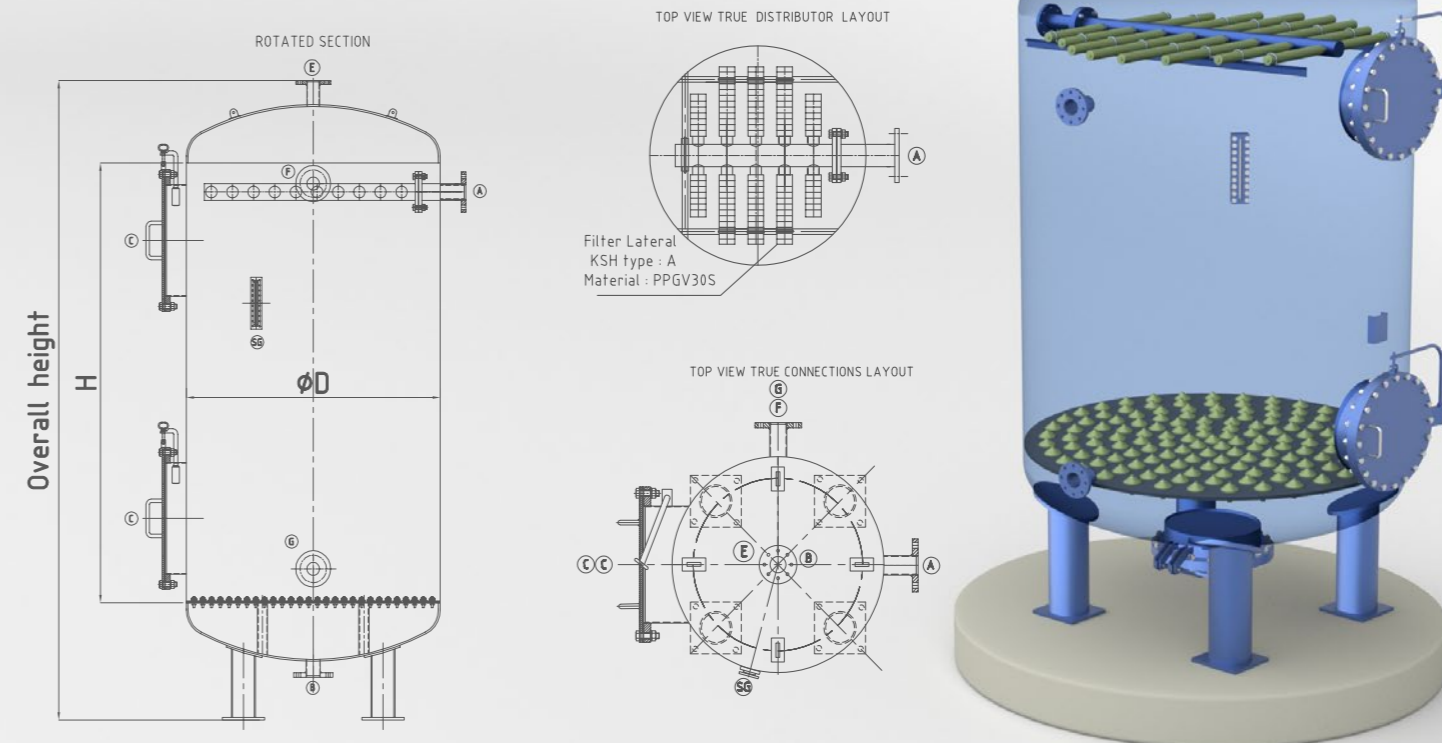
## TYPE IE 6-R-T-S-M-D

6 - Design pressure (bar)  
R - Rubber coating  
T - Torispherical dish  
S - For Star distributor  
M - Mounted star distribution  
D - Mounted top distributor



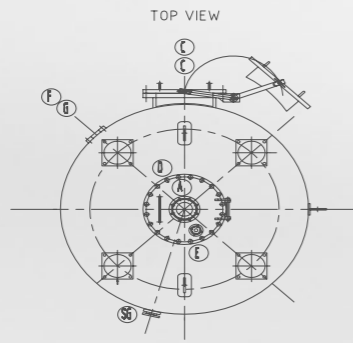
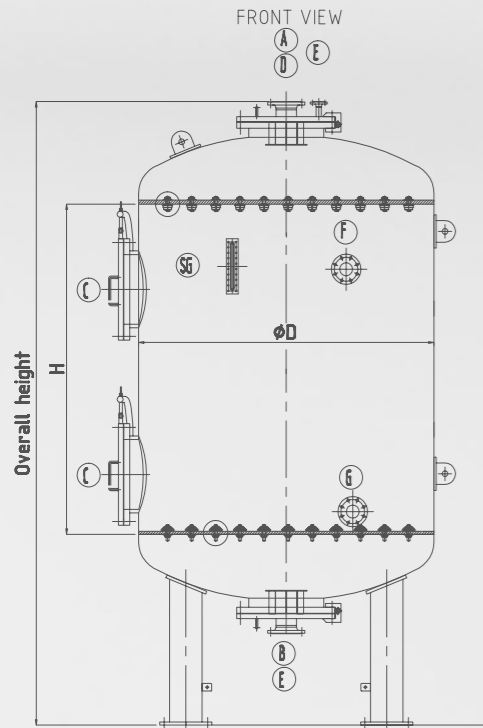
## TYPE IE 6-R-T-P-M

6 - Design pressure (bar)  
R - Rubber coating  
T - Torispherical dish  
P - Filter with nozzle plate  
M - Mounted filter nozzles

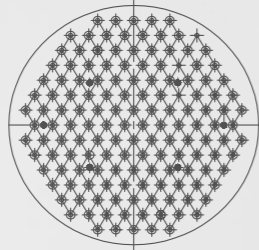


## TYPE IE 6-R-T-2P-M

6 - Design pressure (bar)  
 R - Rubber coating  
 T - Torispherical dish  
 2P - Filter with two nozzle plates  
 M - Mounted filter nozzles

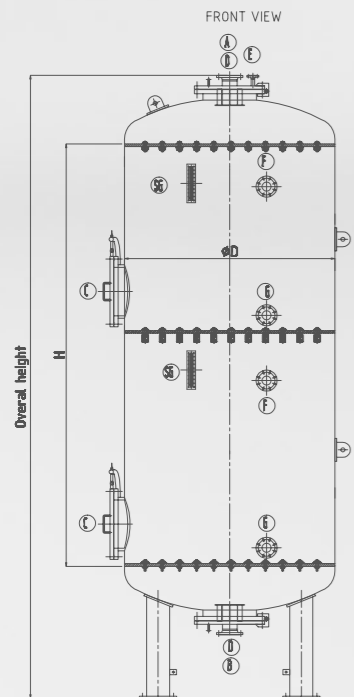


TOP AND BOTTOM FILTER PLATES

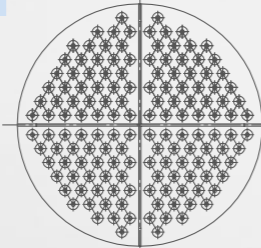


## TYPE IE 6-R-T-3P-M

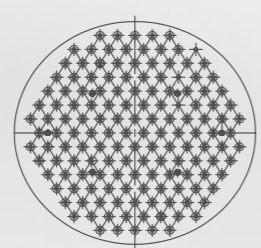
6 - Design pressure  
 R - Rubber coating  
 T - Torispherical dish  
 3P - Filter with three nozzle plates  
 M - Mounted filter nozzles



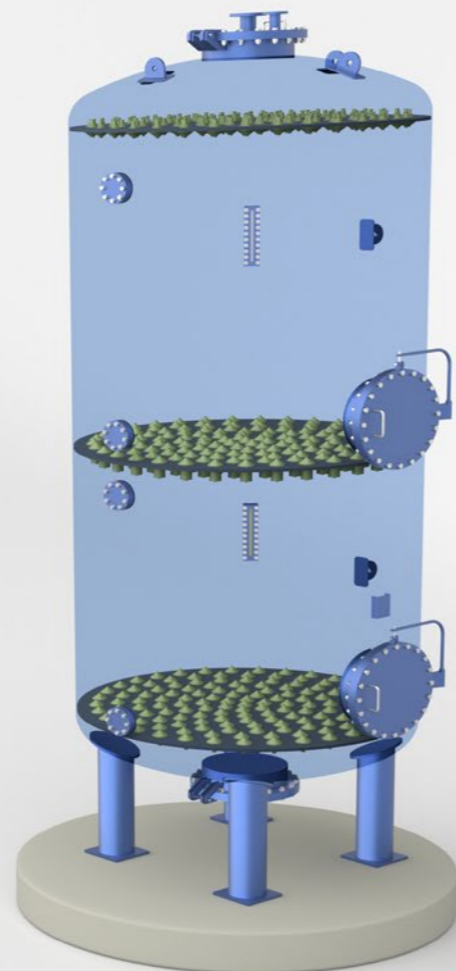
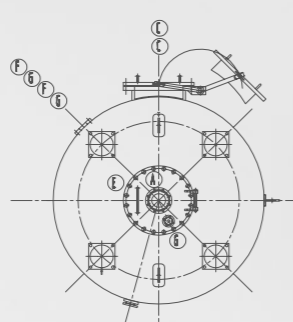
MIDDLE FILTER PLATE



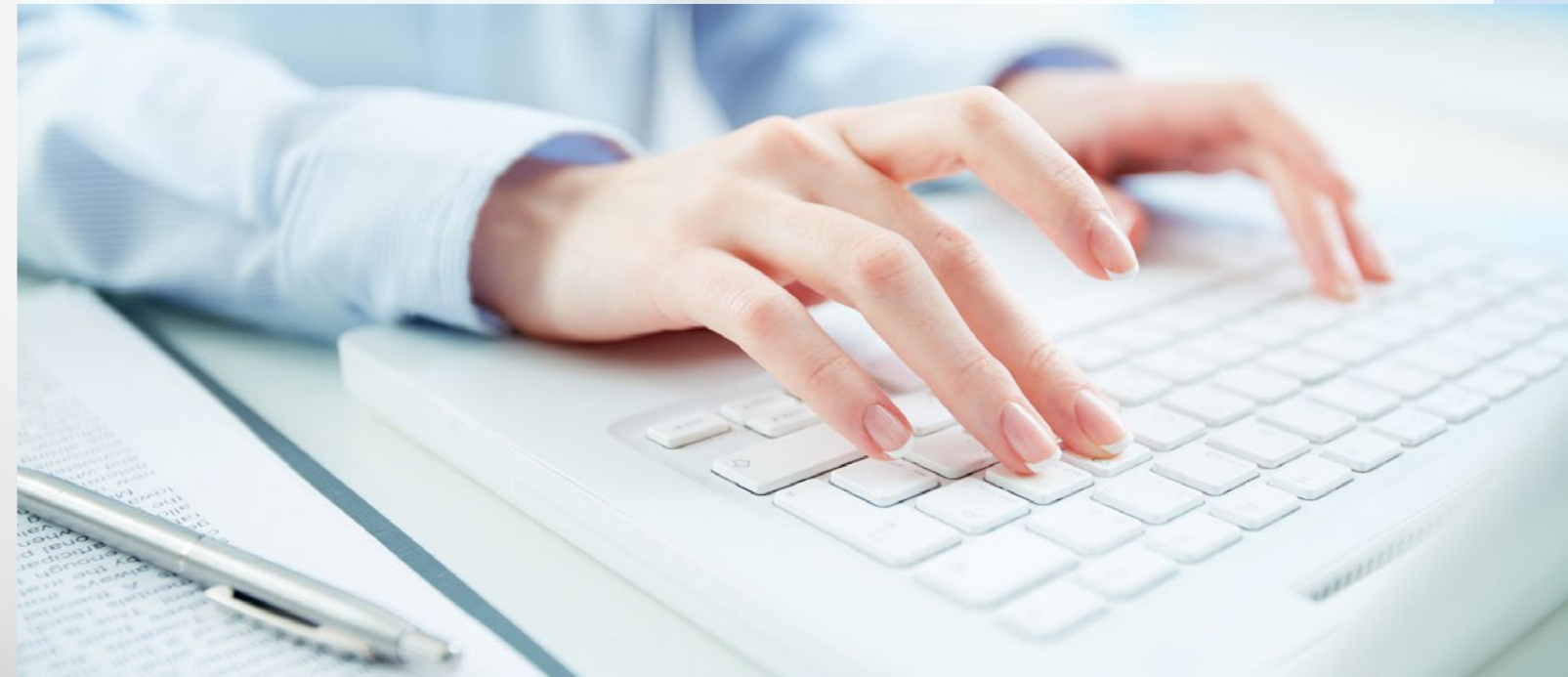
TOP AND BOTTOM FILTER PLATES



TOP VIEW



# DOCUMENTATION

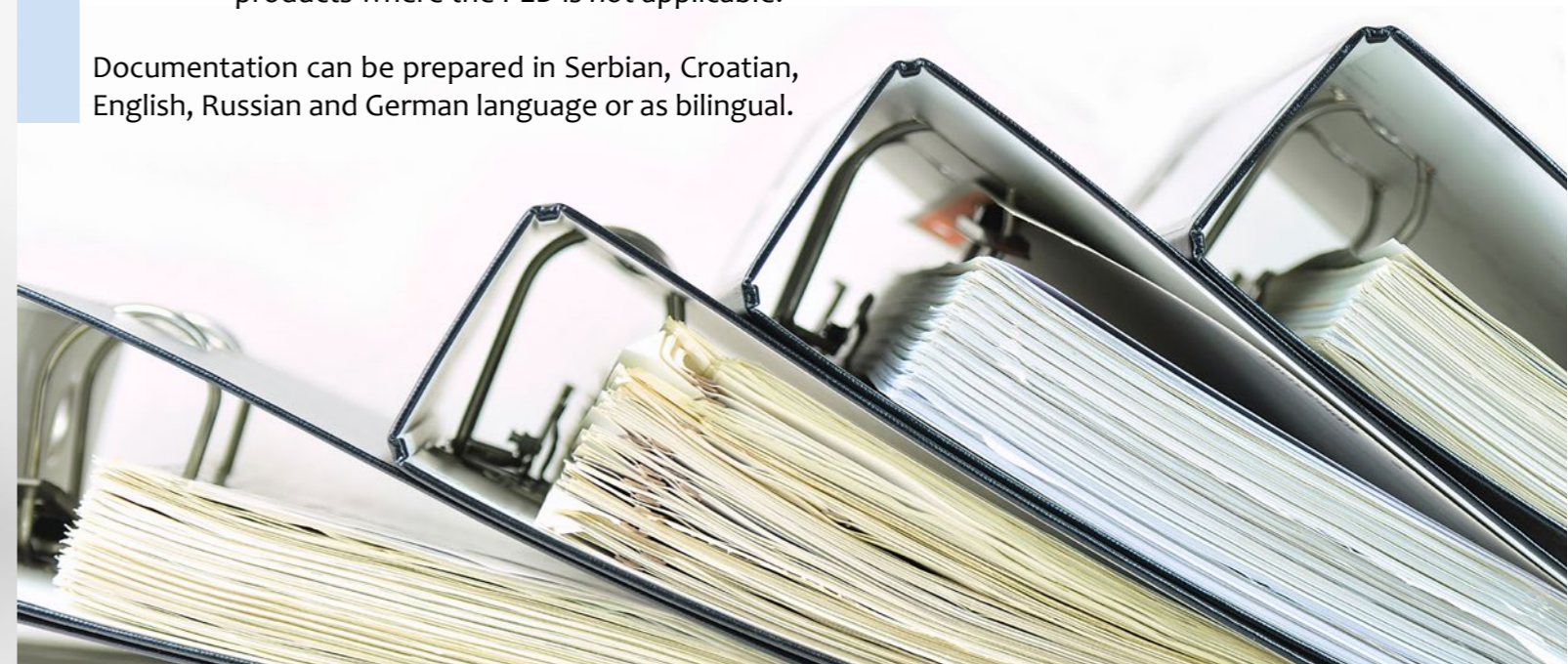


In order to provide the highest quality of products and services, we follow PED regulations. At the request of the client, we are able to manufacture products with accompanying documentation in accordance with other standards (ASME and GOST-R).

In relation to specific requests and the implementation of specific procedures, we prepare documentation for the following:

- SEP,
- third party control (notified body),
- CE mark,
- products where the PED is not applicable.

Documentation can be prepared in Serbian, Croatian, English, Russian and German language or as bilingual.



# CERTIFICATIONS



Quality management system  
ISO 9001

- Customer focus
- Customer satisfaction
- Continuous improvement
- System/process effectiveness

ID 15 100 159250



Environmental management system  
ISO 14001

- Environmental protection as management task
- Improvement of environmental performance
- Reduction of environmental risks

ID 15 104 181604

We have introduced the Quality Management System, control of welds and non-destructive testing in accordance with the highest European and international standards.

We are committed to follow and implement QMS procedures in every operation phase, from design to production. We produce vessels with CE certificate.

We have the following certificates:

- ISO 9001: 2015
- EN ISO 3834-2
- AD Merkblatt HPO
- INTERNATIONAL WELDING ENGINEER
- EUROPEAN WELDING ENGINEER
- NON - DESTRUCTIVE TESTING



We are in the process of obtaining of GOST-R and ASME certificates.



 SERVICES

**PROCESS**  
equipment

 WATER SOLUTIONS

 ENERGY



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