



# WATER TREATMENT EQUIPMENT

VERTICAL PRESSURE FILTERS



**BBD**  
GROUP

**PROCESS**  
equipment



# VERTICAL PRESSURE FILTERS

Vertical pressure filters are vessels used for separation of all mechanical impurities of size larger than 60 microns. Depending on the type of installation, the operating pressure in the filter varies in the range from 2 to 10 bar and the operating temperature from 20 °C to 50 °C. Filtration under pressure can be carried out in one or more parallelly connected filters.

The vertical pressure filters can be made of:

- carbon steel (S235JR, S355JR, P265GH);
- stainless steel (X5CrNi18-10, X5CrNiMo17-12-2).

Carbon steel filter surface is coated with multilayer epoxy coatings. External protection includes coating with primary and final polyurethane coating of minimum thickness of 120 µm. The thickness of the internal epoxy coating is minimum 300 µm, and it also includes the certificate for use in the food industry. The interior of the filter can be rubbered with acid-resistant ebonite rubber of thickness of 3-4 mm. With this kind of protection, the filter can be used in installations where aggressive media are used (disinfection of water with ozone, or in any processes in which the filling is regenerated with acids).





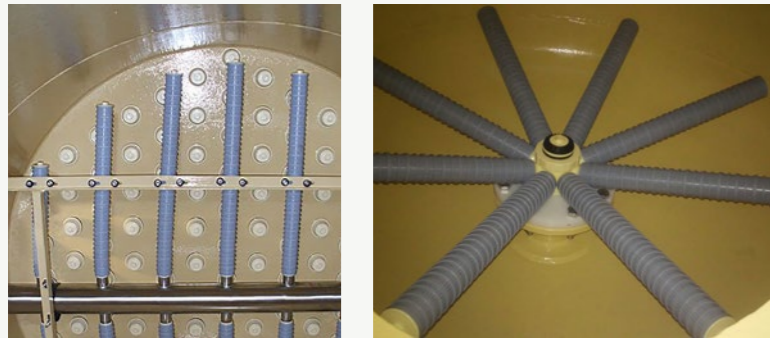
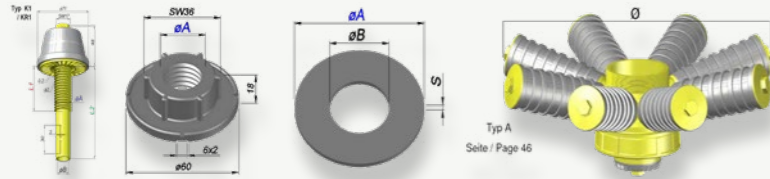
Filters can be fitted with different types of distribution systems :

- 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.

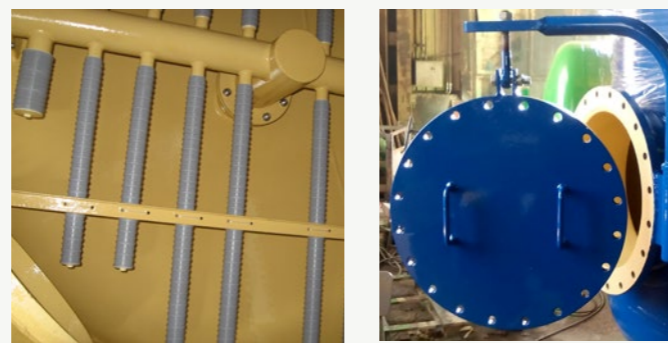
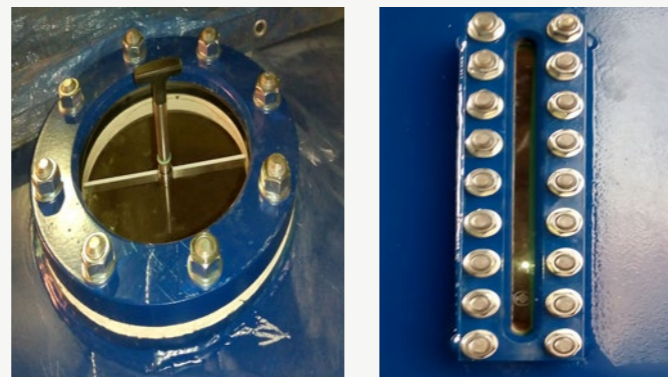


**PACKING**

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

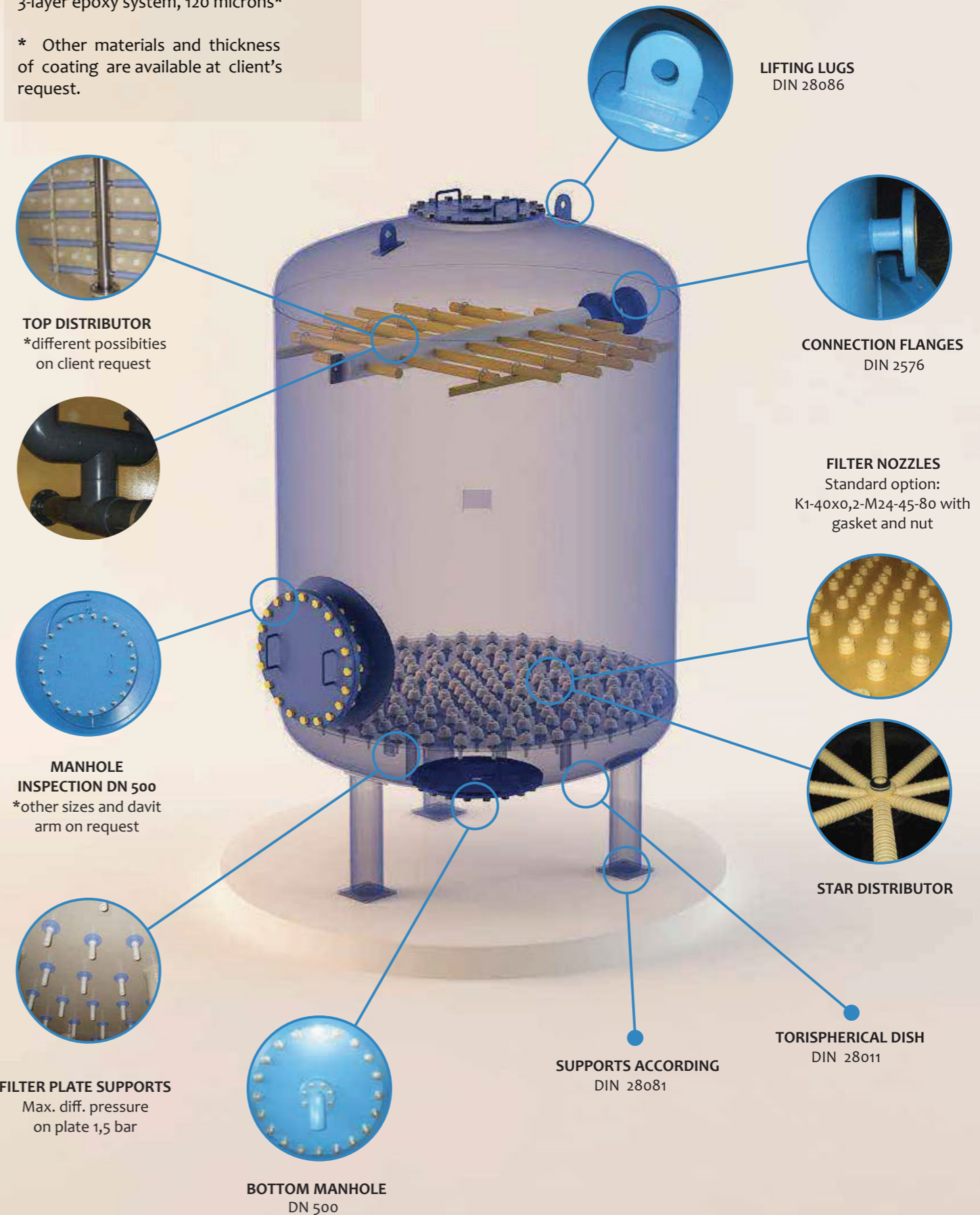
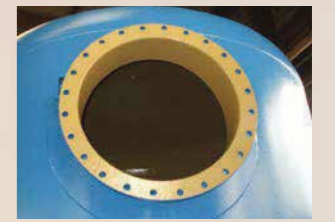
**INSIDE COATING:**

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.

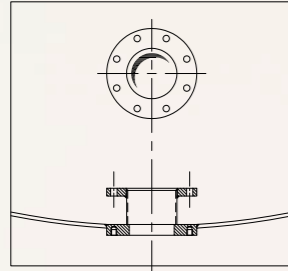




# STANDARD FILTERS TYPES

<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) Total 300 µm, epoxy for food industry application
<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

DETAIL CONNECTION B

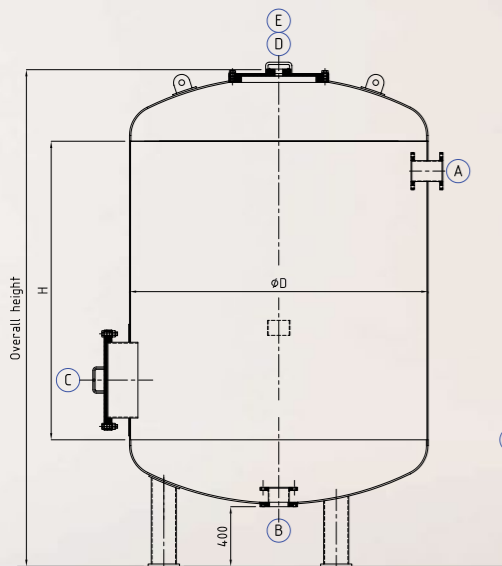


## CONNECTIONS

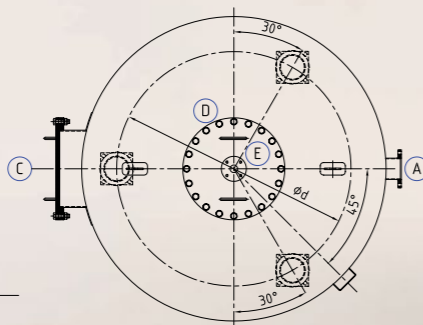
	DN	STANDARD	PN	FUNCTION
<b>A</b>	125	DIN 2576	PN 10	WATER INLET
<b>B</b>	125	DIN 28117	PN 10	WATER OUTLET
<b>C</b>	500	DIN 2573	PN 6	MANHOLE SHELL
<b>D</b>	500	DIN 28117	PN 10	MANHOLE DISH
<b>E</b>	500	DIN 28117	PN 10	MANHOLE BOTTOM DISH
<b>F</b>	50	DIN 28117	PN 10	DE-AERATION
<b>G</b>	50	DIN 2576	PN 10	AIR INLET

## TYPE 6-E-T-C

- 6 - Design pressure
- E - Epoxy coating
- T - Torispherical dish
- C - Top distributor connection

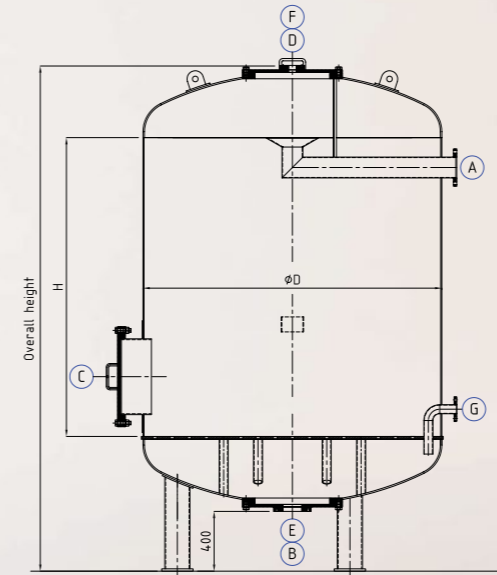


TOP VIEW CONNECTIONS LAYOUT

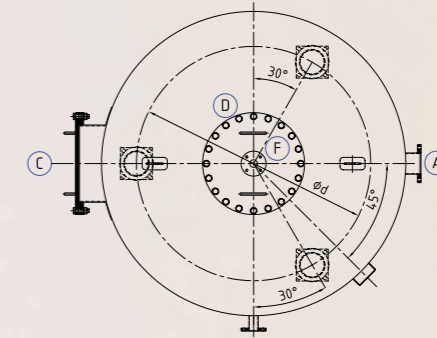


## TYPE 6-E-T-P

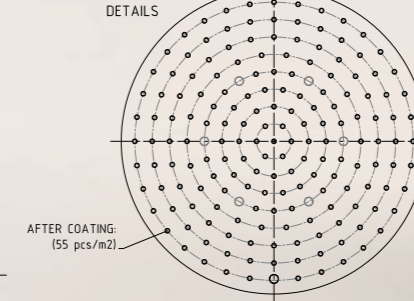
- 6 - Design pressure
- E - Epoxy coating
- T - Torispherical dish
- P - Filter plate (nozzles not included)



TOP VIEW CONNECTIONS LAYOUT

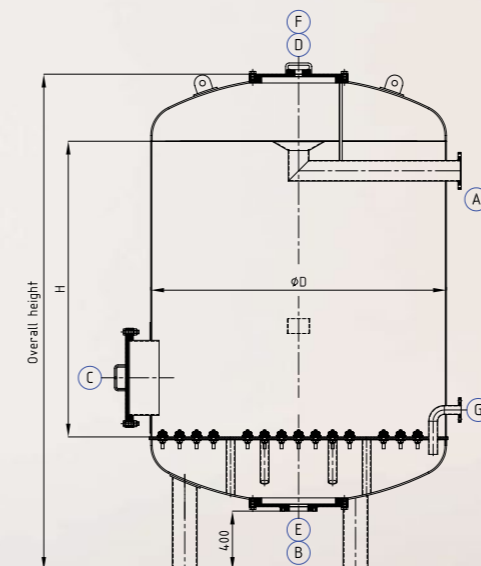


FILTER PLATE DETAILS

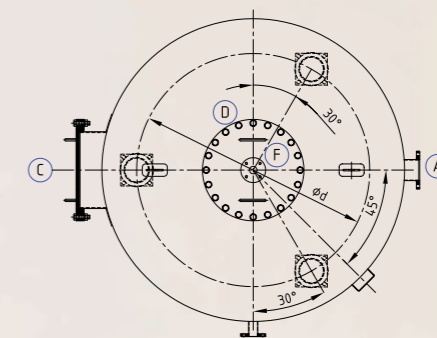


## TYPE 6-E-T-P-M

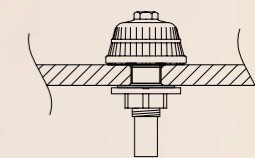
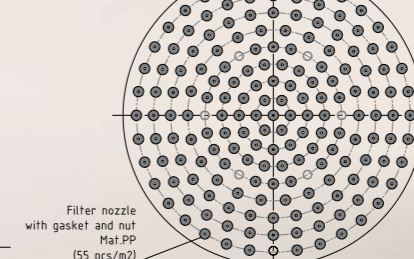
- 6 - Design pressure
- E - Epoxy coating
- T - Torispherical dish
- P - Filter panel
- M - Muted nozzles



TOP VIEW CONNECTIONS LAYOUT



FILTER PLATE DETAILS

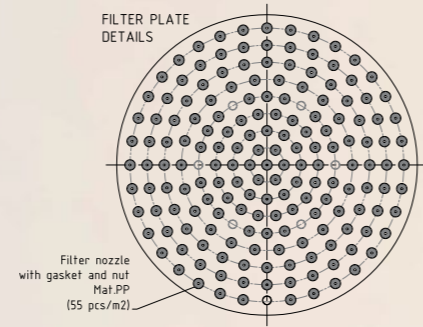
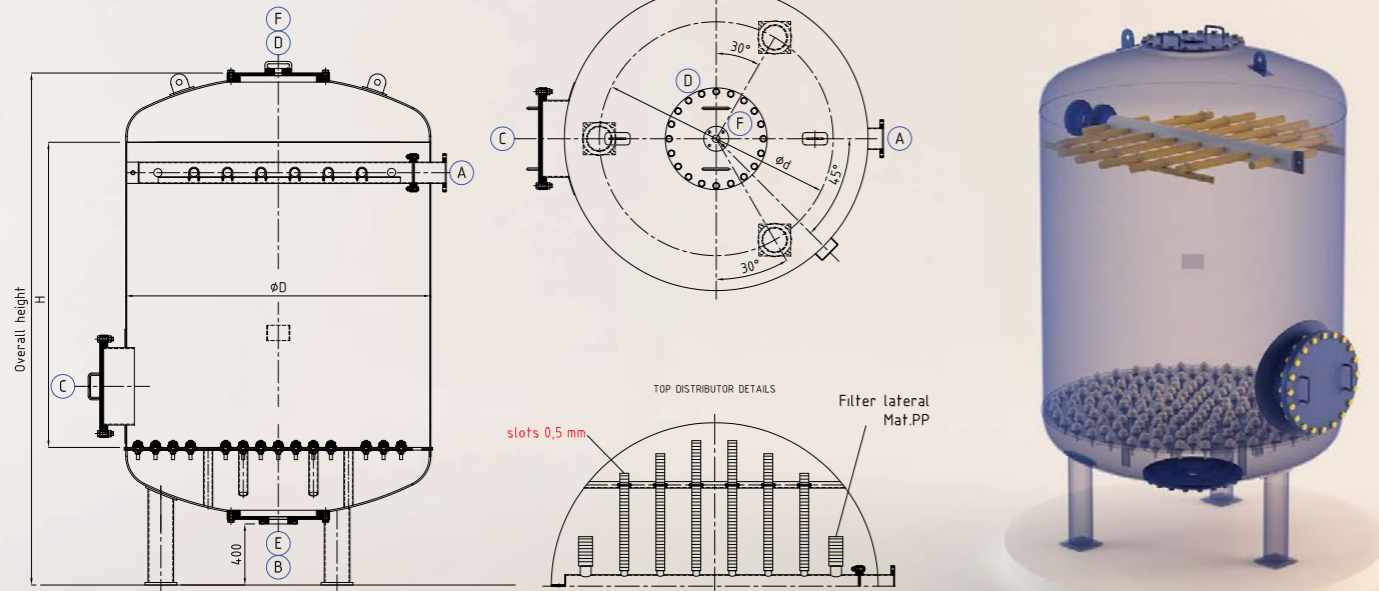




## TYPE 6-E-T-P-M-D

Distributor and KSH nozzles  
(nozzle type K1), (distributor type A)

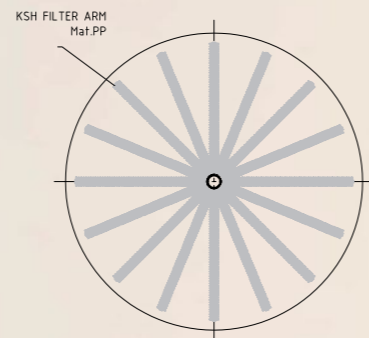
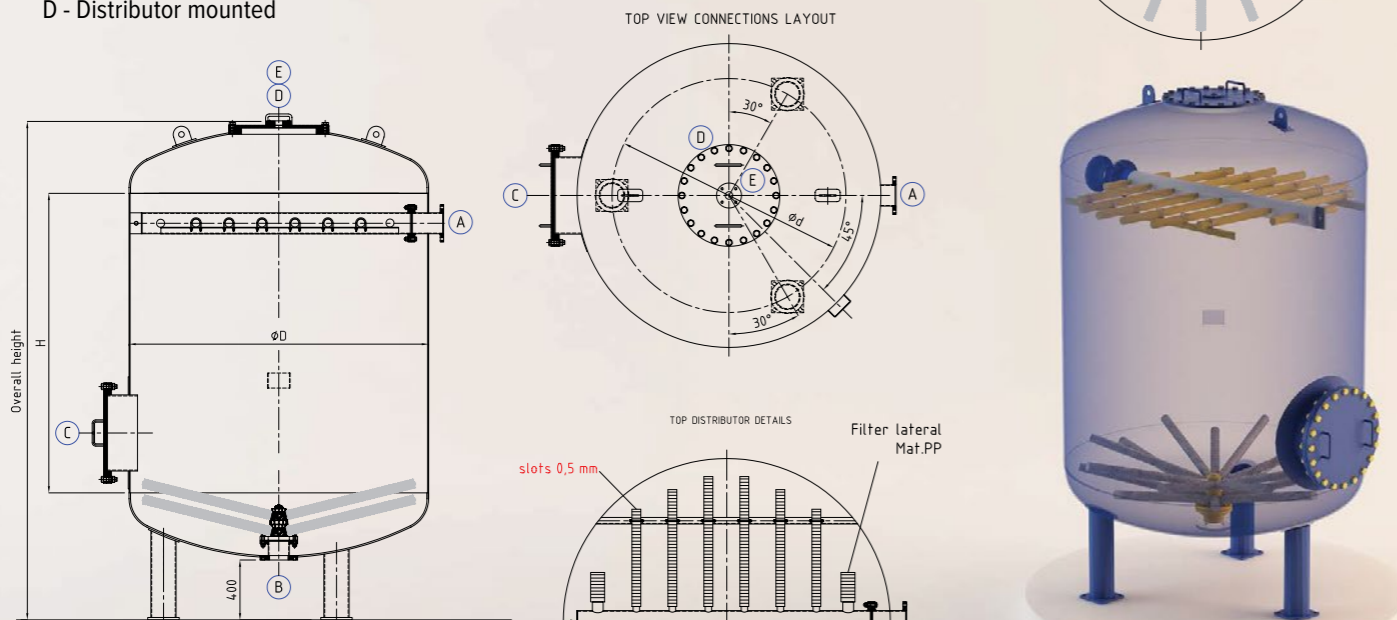
6 - Design pressure  
E - Epoxy coating  
T - Torispherical dish  
P - Filter plate  
M - Mounted nozzles  
D - Distributor mounted



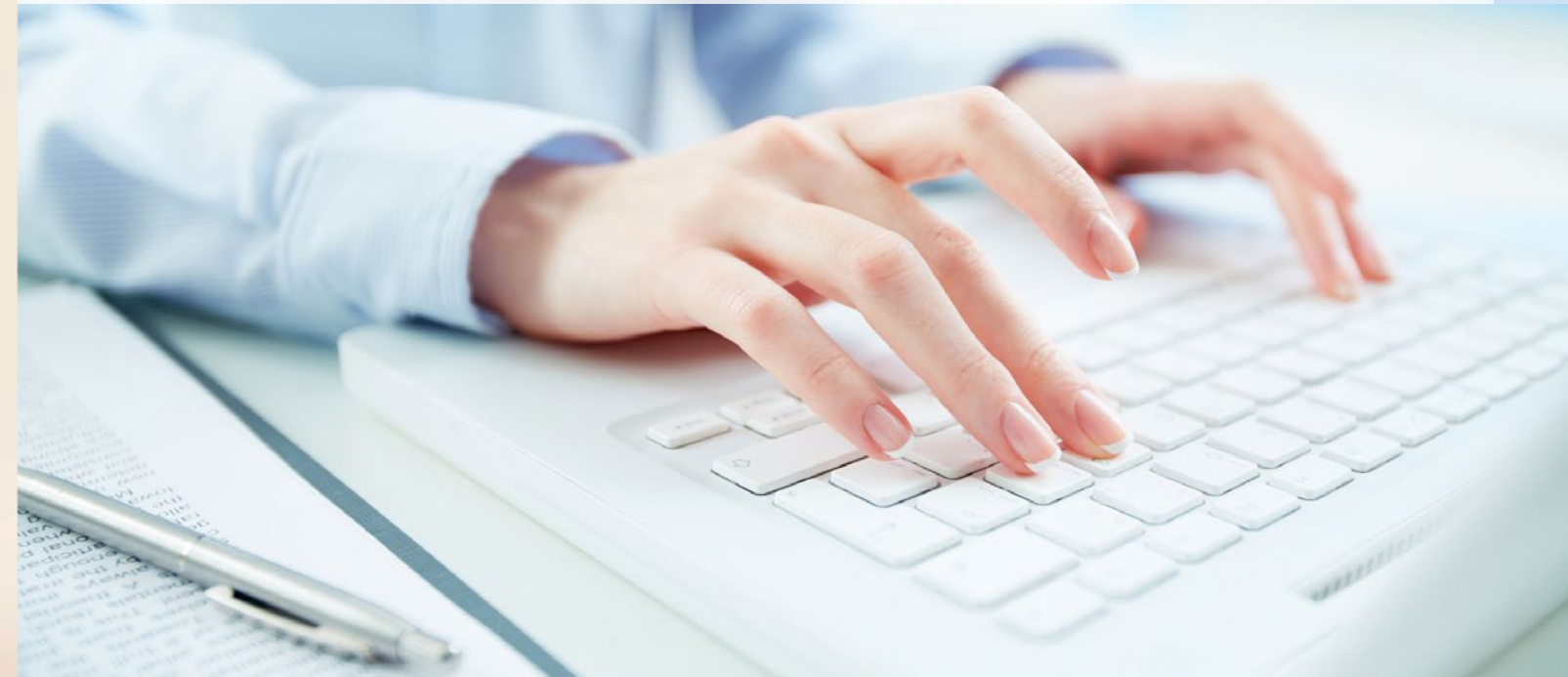
## TYPE 6-E-T-S-M-D

Distributor and KSH nozzles  
(nozzle type K1), (distributor type A)

6 - Design pressure  
E - Epoxy coating  
T - Torispherical dish  
S - Star distributor  
M - Mounted nozzles  
D - Distributor mounted



# 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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