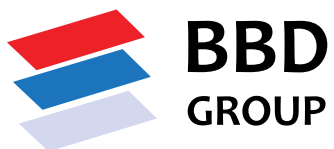


# WATER TREATMENT EQUIPMENT

## ACTIVATED CARBON FILTERS



# ACTIVATED CARBON FILTERS

BBD Group produce mobile / stationary activated carbon filters under two main groups:

- Activated carbon filters for liquid phase purification applications – typical applications include drinking water treatment, process water, beverage purification and wastewater

- Activated carbon filters for gas phase applications – typical applications include biogas purification, odour control and wastegas abatement  
Various sizes of activated carbon filters are available in both liquid and gas phase mobile / stationary filters. The choice of filter depends on your flow rate, contaminant level and treatment objective.

Our team of technical experts could provide for you :

- The optimum and most cost-effective solution for your process requirements.
- Design filters according to AD2000 Merkblatt or EN13445.
- Filters production according to AD2000 Merkblatt or EN13445.
- Surface protection (rubber lining or epoxy lining) according to EN14879-4
- Factory acceptance test
- Technical documentation
- CE mark
- TÜV-approval
- Logistics service

The filters are equipped with threaded fittings necessary for pressure valves, pressure gauges and sampling points. According to customer's requirement filters are available with or without pipe loop. The filters are connected easily to existing lines with the standard threaded fittings or DN connections.

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.



Activated carbon filters can be made of:

- Carbon steel (S235JR, S355JR, P265GH)
- Stainless steel (X5CrNi18-10, X5CrNi-Mo17-12-2)

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.



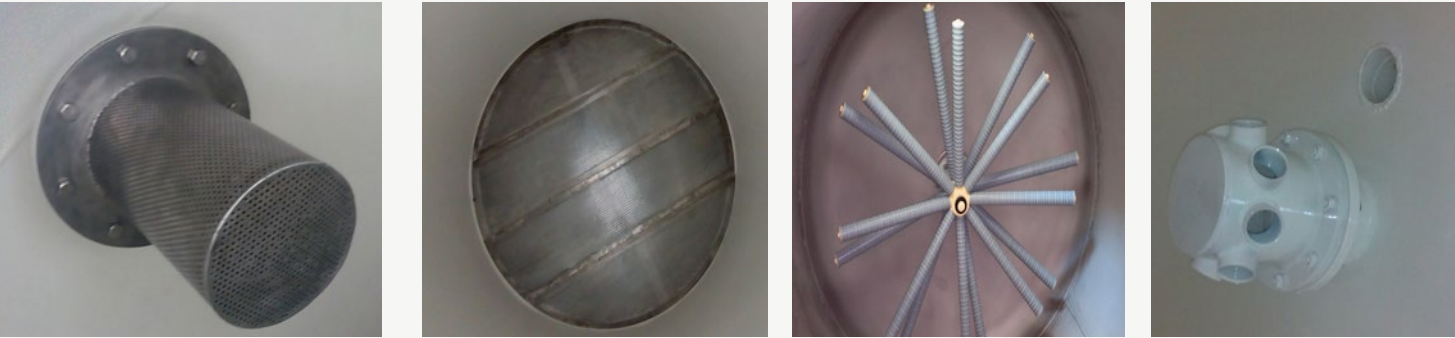


DISTRIBUTION SYSTEM

Activated carbon filters can be fitted with different types of distribution systems :

- Distributor with filter laterals
- Star distributor
- Fliter plate with filter nozzles
- Screen plate

Depending on the operating temperature, they are made of PP , PPGV30s , PVDF , carbon steel or stainless steel.



PACKING

Standard packing includes wrapping with stretch foil. Depending of transport type, 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

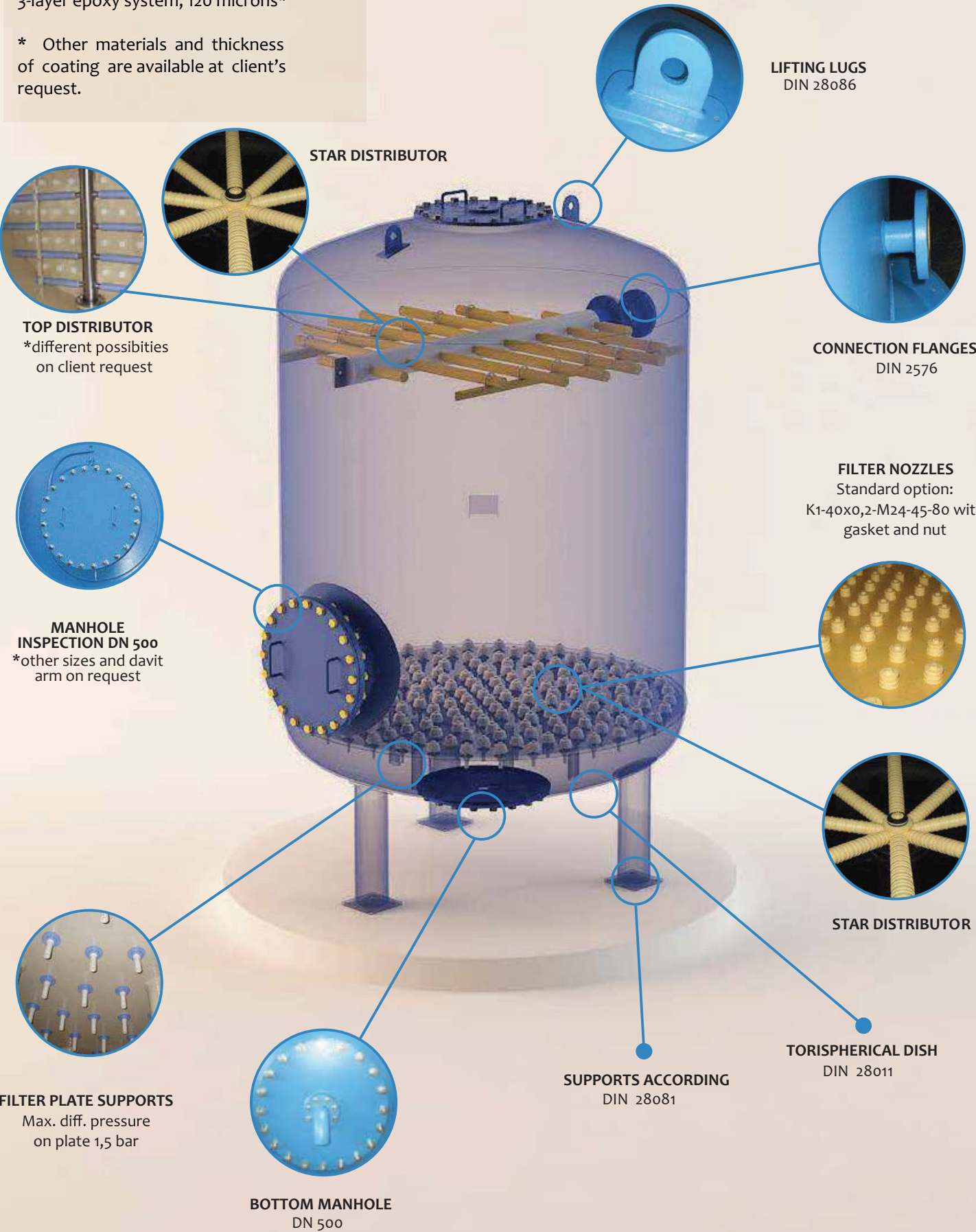
INSIDE COATING:

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.



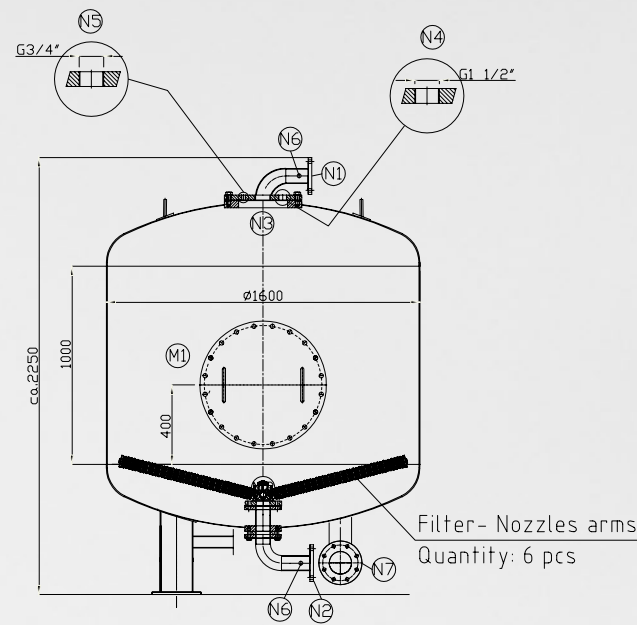


# ACTIVATED CARBON WATER FILTERS

MEDIUM:	Water
PRESS PRESSURE:	4 bar - 6 bar
WORK TEMPERATURE:	max 50°C
MATERIAL:	Carbon Steel - S235JR / S355J2 / P26GH / P355GH Stainless Steel - AISI 304 / AISI 316 / AISI304L / AISI316L / AISI316Ti
EXTERNAL SURFACE PROTECTION:	Sandblasted Sa 2,5 Epoxy layer , thickness min 120 µm
INTERNAL SURFACE PROTECTION:	Sandblasted Sa 2,5 Epoxy layer , thickness min 300 µm (Drinking water certificate) or Sandblasted Sa 2,5 Rubber lining thickness 4mm
FILTER ARMS / NOZZLES:	Material : PP , Slot 0.2mm / 0.5mm
GASKET:	Material : EPDM
BOLTS AND NUTS:	GS / SS
PIPE LINE :	Material : Carbon Steel or Stainless Steel
CALCULATION / DOCUMENTATION:	PED 2014/68 CE art 3.3

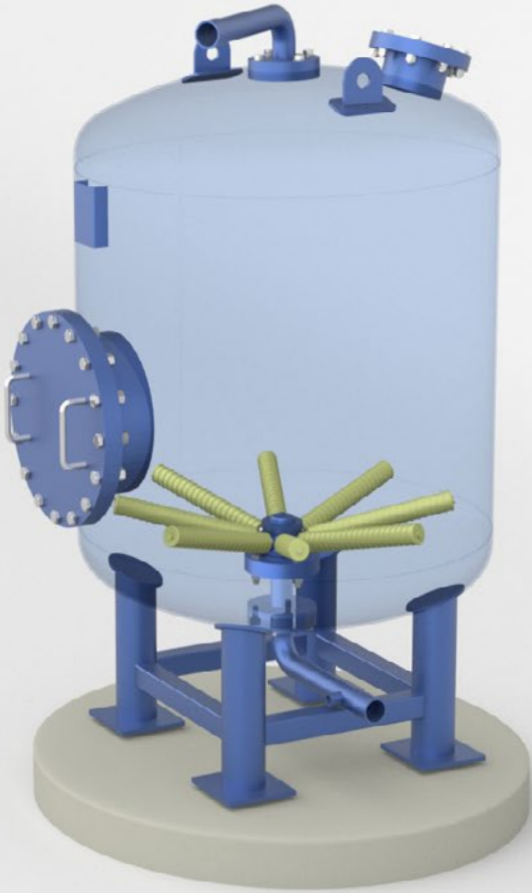
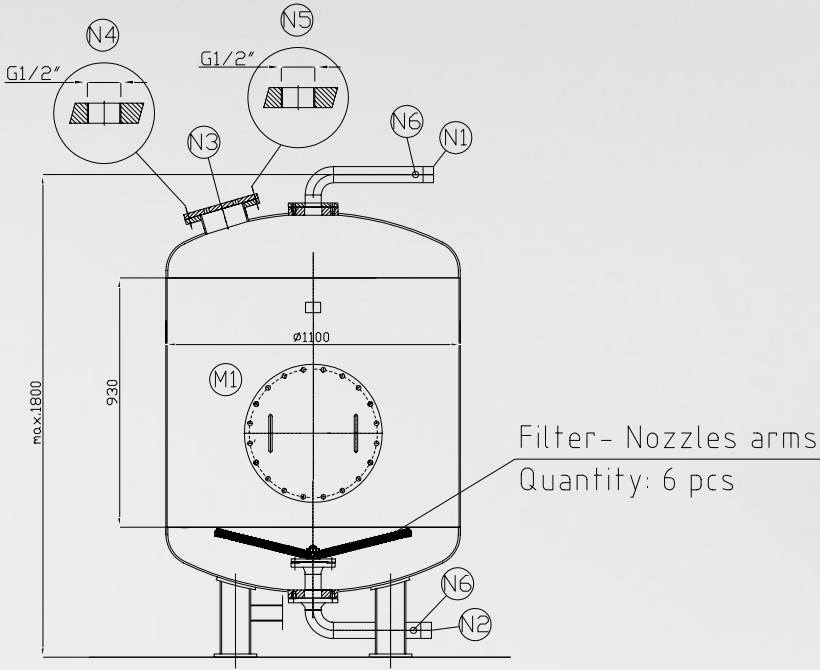
## TYPE : ACWF 2.500

FLANGE					
QUAN.	DN	STANDARD	PN	FUNCTION	
M1	1	500	EN1092-1 Type 01	PN6	MANHOLE
N1	1	65	EN1092-1 Type 01	PN16	INLET
N2	1	65	EN1092-1 Type 01	PN16	OUTLET
N3	1	250	DIN28117	PN10	MEDIUM INLET
N4	1	G1 1/2"	DIN2986		THREADED FITTING
N5	1	G3/4"	DIN2986		THREADED FITTING
N6	2	G1/2"	DIN 2986		THREADED FITTING
N7	1	100	EN1092-1 Type 01	PN16	DRAIN



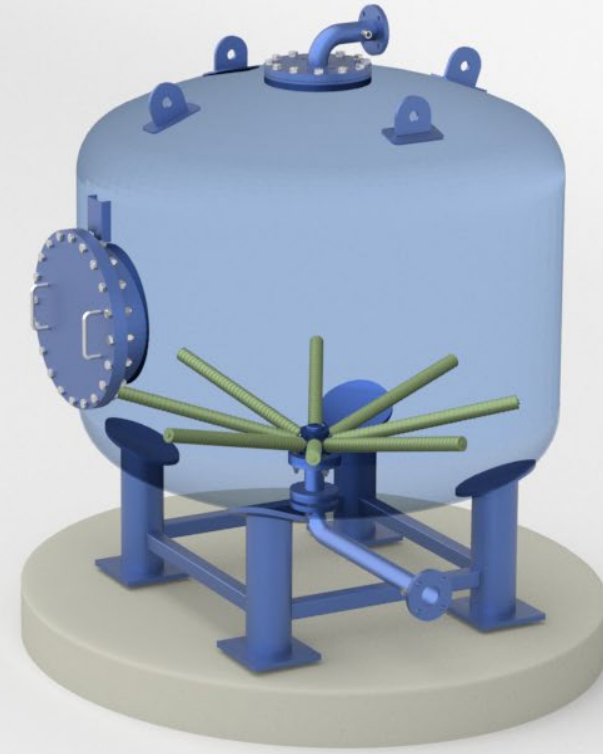
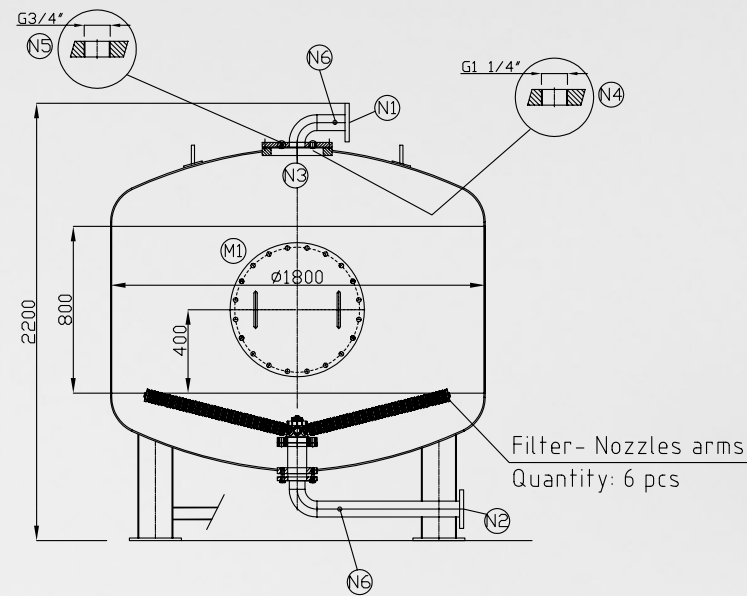
## TYPE : ACWF 1.200

FLANGE					
QUAN.	DN	STANDARD	PN	FUNCTION	
M1	1	400	EN1092-1 Type 01	PN6	MANHOLE
N1	1	G2"	DIN 2986		INLET
N2	1	G2"	DIN 2986		OUTLET
N3	1	150	EN 1092-1 Type 01	PN6	MANHOLE
N4	1	G1/2"			THREADED FITTING
N5	1	G1/2"			THREADED FITTING
N6	2	G3/4"	DIN 2986		THREADED FITTING



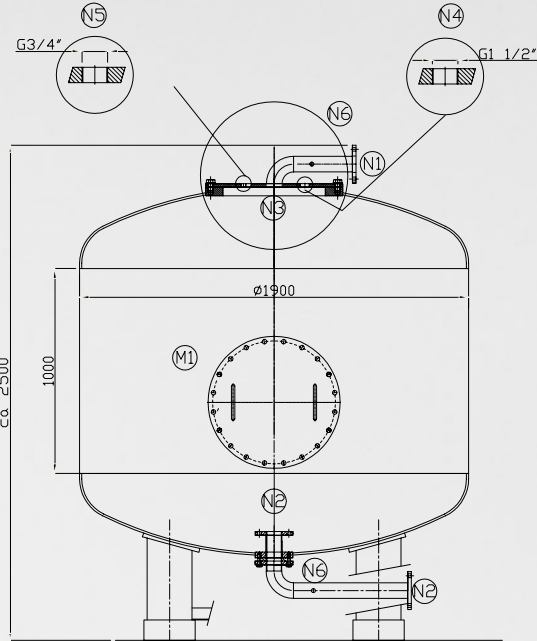
## TYPE : ACWF 3.000

FLANGE					
QUAN.	DN	STANDARD	PN	FUNCTION	
M1	1	400	EN1092-1 Type 01	PN6	MANHOLE
N1	1	G2"	DIN 2986		INLET
N2	1	G2"	DIN 2986		OUTLET
N3	1	150	EN 1092-1 Type 01	PN6	MANHOLE
N4	1	G1/2"			THREADED FITTING
N5	1	G1/2"			THREADED FITTING
N6	2	G3/4"	DIN 2986		THREADED FITTING



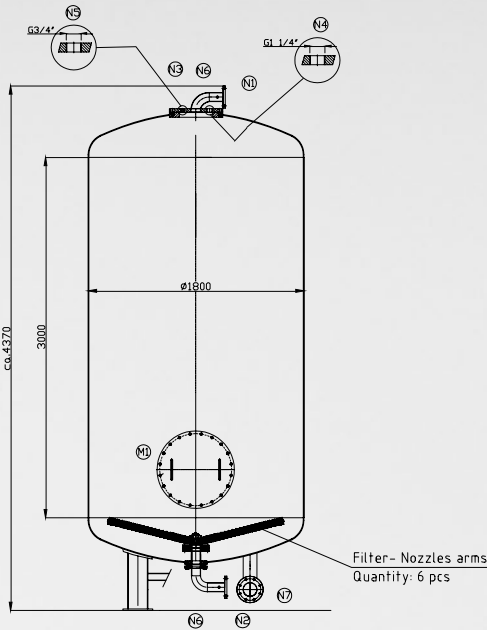
TYPE : ACWF 4.000

FLANGE					
	QUAN.	DN	STANDARD	PN	FUNCTION
M1	1	500	EN1092-1 Type 01	PN6	MANHOLE
N1	1	100	EN1092-1 Type 01	PN16	INLET
N2	1	100	EN1092-1 Type 01	PN16	OUTLET
N3	1	500	DIN28117	PN10	MEDIUM INLET
N4	1	G1 1/2"	DIN2986		THREADED FITTING
N5	1	G3/4"	DIN2986		THREADED FITTING
N6	2	G1/2"	DIN 2986		THREADED FITTING



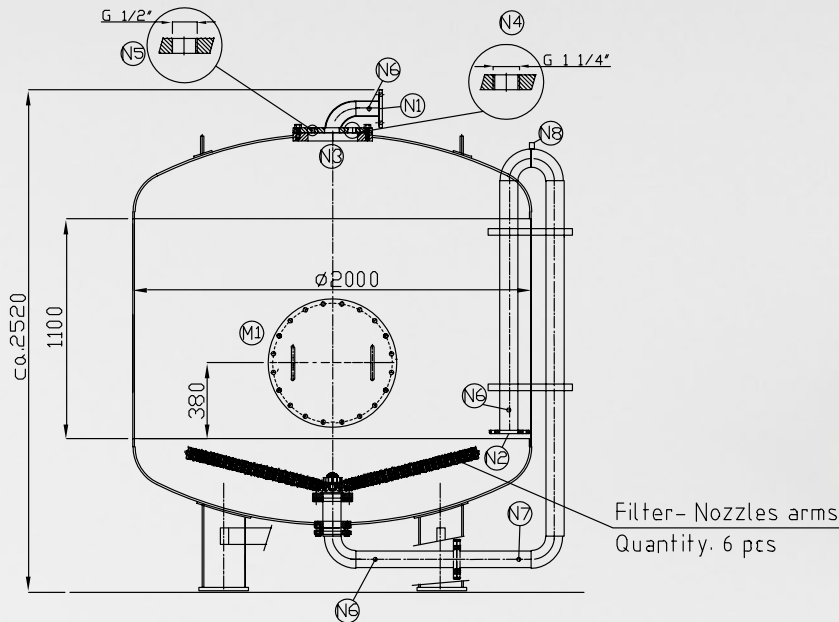
TYPE : ACWF 8.000

FLANGE					
	QUAN.	DN	STANDARD	PN	FUNCTION
M1	1	500	EN1092-1 Type 01	PN6	MANHOLE
N1	1	65	EN1092-1 Type 01	PN16	INLET
N2	1	65	EN1092-1 Type 01	PN16	OUTLET
N3	1	250	DIN28117	PN10	MEDIUM INLET
N4	1	G1 1/4"	DIN2986		THREADED FITTING
N5	1	G3/4"	DIN2986		THREADED FITTING
N6	2	G1/2"	DIN 2986		THREADED FITTING
N7	1	100	EN1092-1 Type 01	PN16	DRAIN



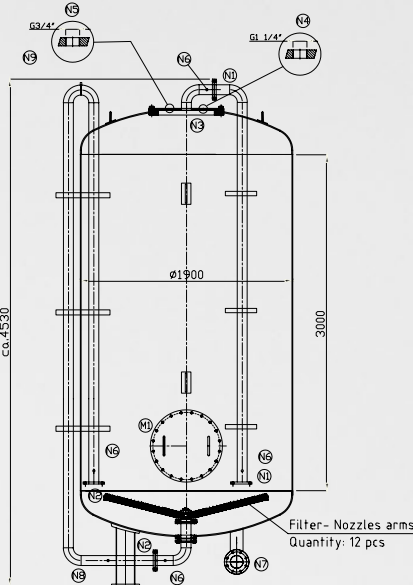
TYPE : ACWF 5.000

FLANGE					
	QUAN.	DN	STANDARD	PN	FUNCTION
M1	1	500	EN1092-1 Type 01	PN6	MANHOLE
N1	1	80	EN1092-1 Type 01	PN16	INLET
N2	1	80	EN1092-1 Type 01	PN16	OUTLET
N3	1	250	DIN28117	PN10	MEDIUM INLET
N4	1	G1 1/4"			THREADED FITTING
N5	1	G1/2"			THREADED FITTING
N6	3	G1/2"	DIN2986		THREADED FITTING
N7	1	G2"	DIN2986		THREADED FITTING
N8	1	G3/2"	DIN2986		THREADED FITTING



TYPE : ACWF 10.000

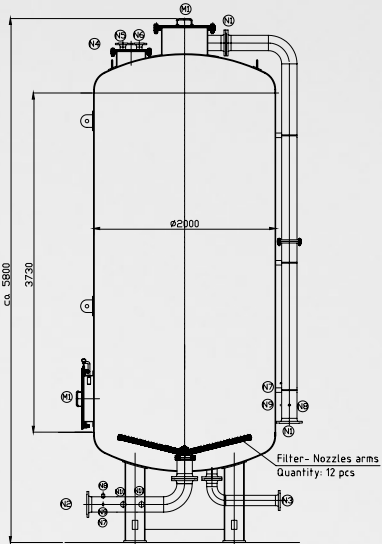
FLANGE					
	QUAN.	DN	STANDARD	PN	FUNCTION
M1	1	500	EN1092-1 Type 01	PN6	MANHOLE
N1	1	80	EN1092-1 Type 01	PN6	INLET
N2	1	80	EN1092-1 Type 01	PN16	OUTLET
N3	1	500	DIN2986	PN16	MEDIUM INLET
N4	1	G1/4"	DIN2986		THREADED FITTING
N5	1	G3/2"	DIN2986		THREADED FITTING
N6	2	G1/2"	DIN2986		THREADED FITTING
N7	1	100	EN1092-1 Type 01	PN16	DRAIN
N8	1	G2"	DIN2986		THREADED FITTING
N9	1	G3/4"	DIN2986		THREADED FITTING





TYPE : ACWF 12.000

FLANGE					
QUAN.		DN	STANDARD	PN	FUNCTION
M1	2	500	EN1092-1 Type 01	PN16	MANHOLE
N1	1	150	EN1092-1 Type 01	PN16	INLET
N2	1	150	EN1092-1 Type 01	PN16	OUTLET
N3	1	100	EN1092-1 Type 01	PN16	DRAIN
N4	1	300	EN1092-1 Type 01	PN6	MANHOLE
N5	1	50	EN1092-1 Type 01	PN16	MESAURING PORT
N6	2	50	EN1092-1 Type 01	PN16	MESAURING PORT
N7	2	G1"	DIN2986		THREADED FITTING
N8	2	G1/4"	DIN2986		THREADED FITTING
N9	2	G2"	DIN2986		THREADED FITTING
N10	2	500	DIN2986		THREADED FITTING

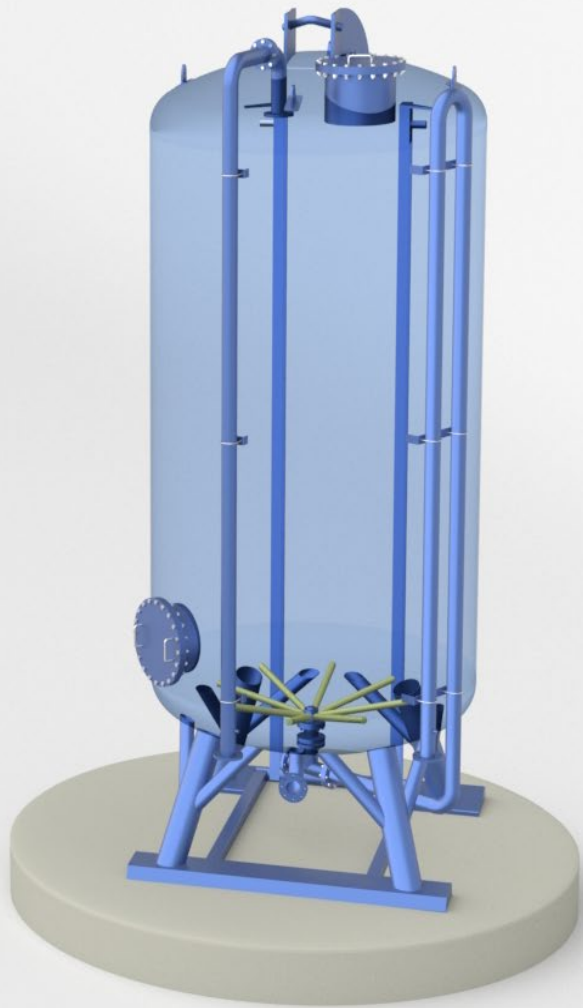
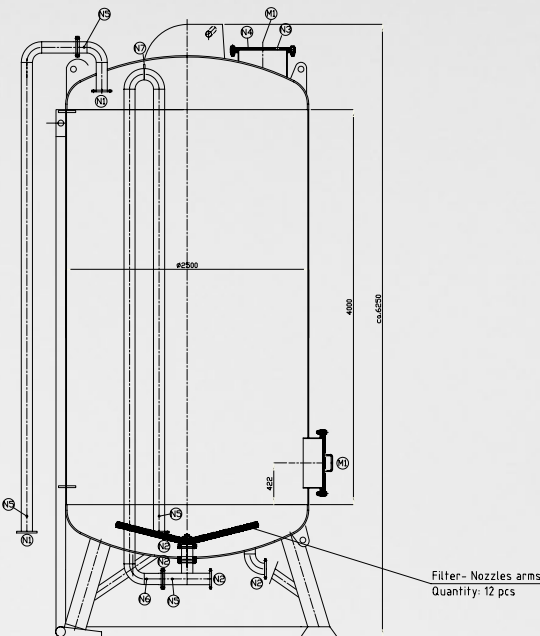


ACTIVATED CARBON  
GAS FILTERS

MEDIUM:	Air / Gas
PRESS PRESSURE:	0.45 bar - 3 bar
WORK TEMPERATURE:	max 80°C
MATERIAL:	Carbon Steel - S235JR / S355J2 / P265GH / P355GH Stainless Steel - AISI 304 / AISI 316 / AISI304L / AISI316L / AISI316Ti
EXTERNAL SURFACE PROTECTION:	Sandblasted Sa 2,5 Epoxy layer , thickness min 120 µm
INTERNAL SURFACE PROTECTION:	Sandblasted Sa 2,5 Epoxy layer , thickness min 300 µm
PERFORATED PLATE:	Material : Stainless steel , Hole 3mm – 20 mm
GASKET:	Material : EPDM
BOLTS AND NUTS:	GS / SS
CE MARK:	Yes (over 0,5 bar)
CALCULATION / DOCUMENTATION:	PED 2014/68 CE art 3.3

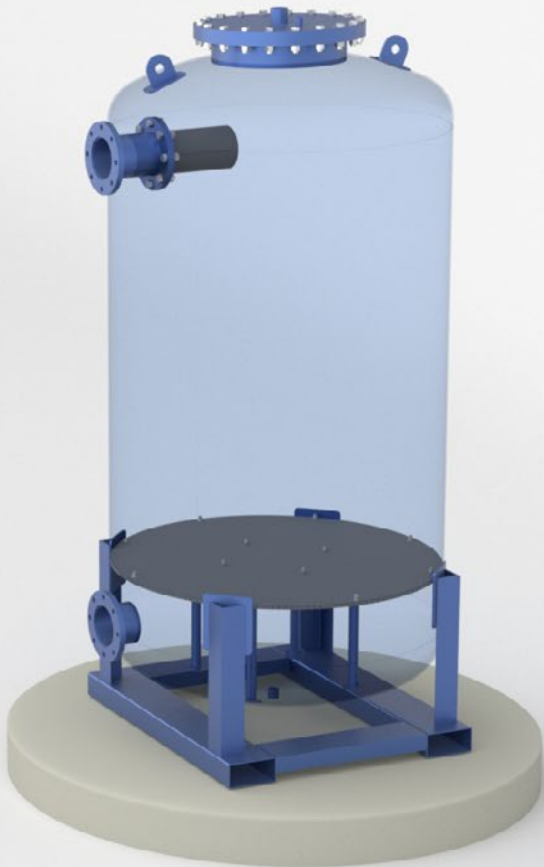
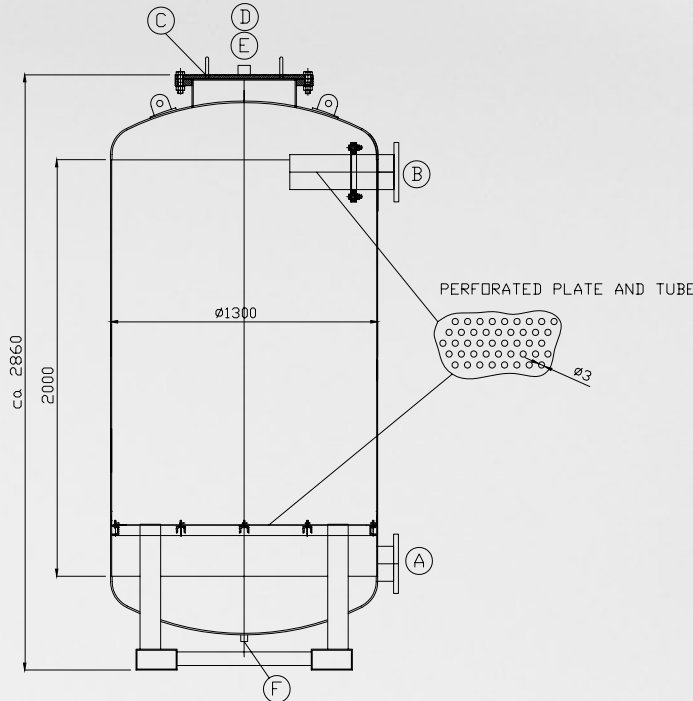
TYPE : ACWF 20.000

FLANGE					
QUAN.		DN	STANDARD	PN	FUNCTION
M1	2	500	EN1092-1 Type 01	PN6	MANHOLE
N1	1	100	EN1092-1 Type 01	PN16	INLET
N2	2	100	EN1092-1 Type 01	PN16	OUTLET
N3	1	G1 1/2"			MEDIUM INLET
N4	1	G 3/4"			THREADED FITTING
N5	4	G1/2"	DIN2986		THREADED FITTING
N6	1	G2"	DIN2986		THREADED FITTING
N7	1	G3/4"	DIN2986		THREADED FITTING



TYPE : ACGF 2.000

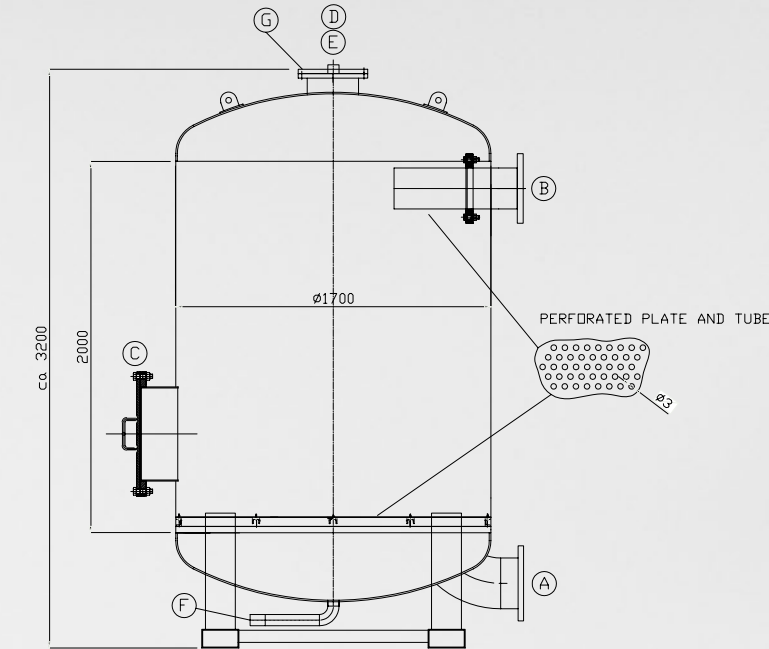
FLANGE					
	QUAN.	DN	STANDARD	PN	FUNCTION
A	1	150	EN1092-1 Type 01	16	GAS INLET
B	1	150	EN1092-1 Type 01	16	GAS OUTLET
C	1	500	EN1092-1 Type 01	2,5	MANHOLE
D	1	2"	EN10241		SOCKET
E	1	1/2"	EN10241		SOCKET
F	1	1	EN10241		SOCKET WITH PLUG





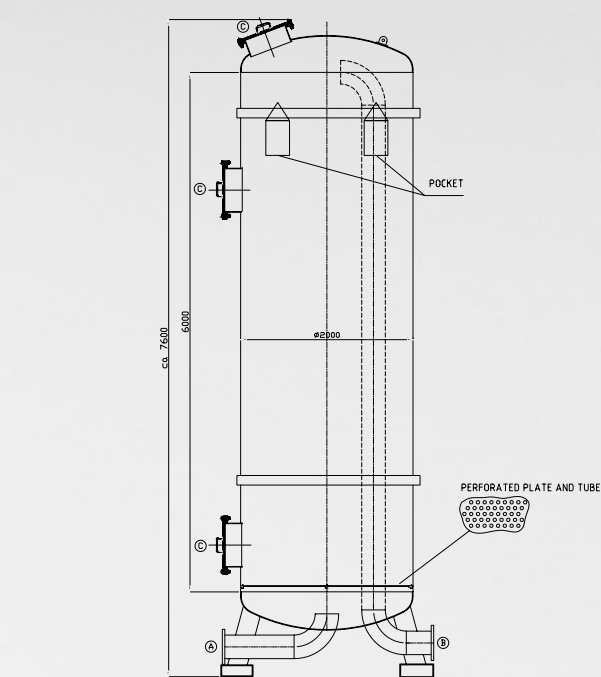
TYPE : ACGF 5.000

FLANGE					
QUAN.	DN	STANDARD	PN	FUNCTION	
A	1	250	EN1092-1 Type 01	16	GAS INLINE
B	1	250	EN1092-1 Type 01	16	GAS OUTLET
C	1	500	EN1092-1 Type 01	2,5	MANHOLE
D	1	2"	EN10241		SOCKET
E	1	1/2"	EN10241		SOCKET
F	1	2"	EN10241		SOCKET
G	1	250	EN1092-1 Type 01	2,5	MEDIUM INLET



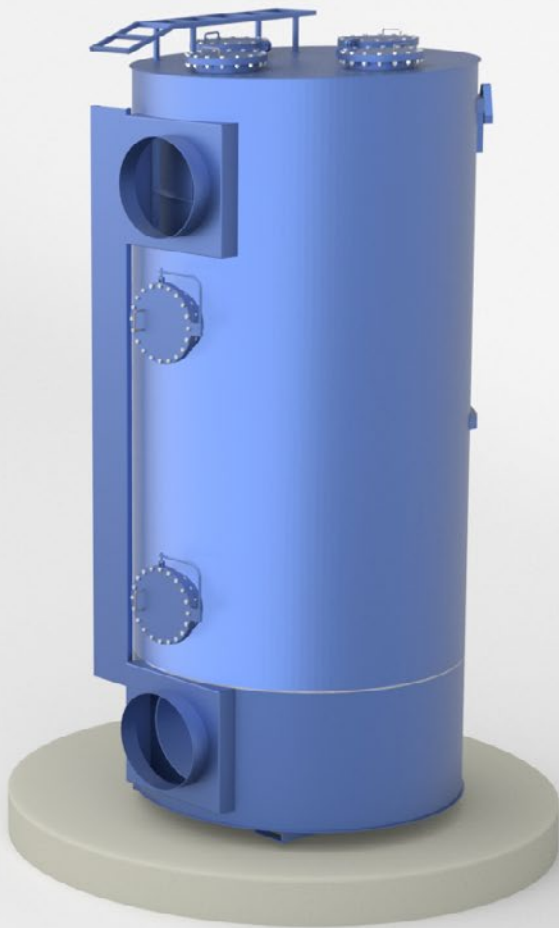
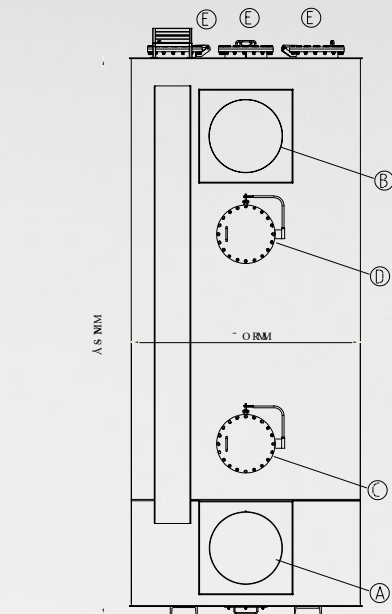
TYPE : ACGF 20.000

FLANGE					
QUAN.	DN	STANDARD	PN	FUNCTION	
A	1	250	EN1092-1 Type 01	16	GAS INLET
B	1	250	EN1092-1 Type 01	16	GAS OUTLET
C	3	500	EN1092-1 Type 01	2,5	MANHOLE
D	1	2"	EN10241		SOCKET
E	1	1/2"	EN10241		SOCKET
F	1	2"	EN10241		SOCKET
G	2	250	EN1092-1 Type 01	2,5	MEDIUM INLET



TYPE : ACGF 30.000

FLANGE					
QUAN.	DN	STANDARD	PN	FUNCTION	
A	1	400			GAS INLINE
B	1	400			GAS OUTLET
C	1	500	EN1092-1 Type 01	6	MANHOLE
D	1	500	EN1092-1 Type 01	6	MANHOLE
E	4	500	EN1092-1 Type 01	6	MANHOLE

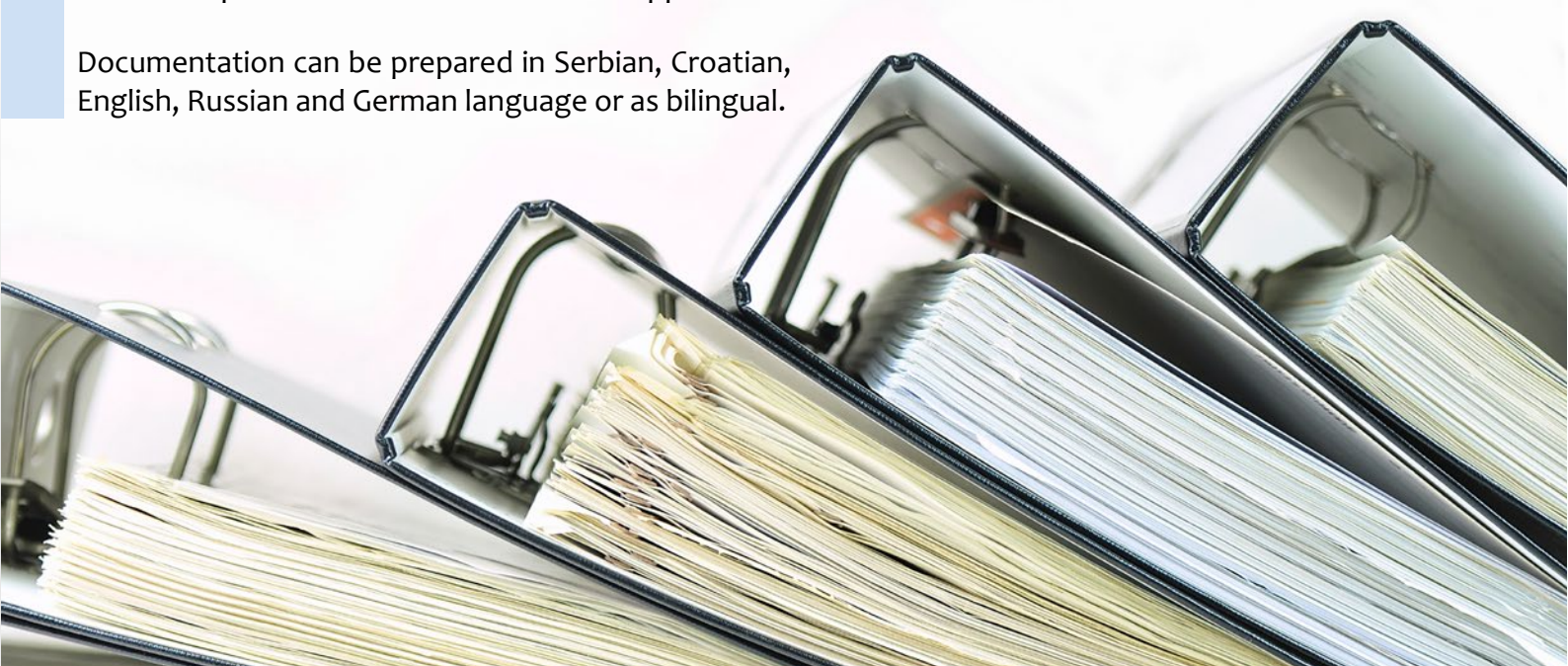


In order to provide the highest quality of products and services, we follow PED regulations. At the request of the client, we are able to manufacture products with accompanying documentation in accordance with other standards (ASME and GOST- R).

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



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.







## BALKAN BUSINESS DEVELOPMENT GROUP LTD

NOVI SAD  
23a/15 Zeleznicka street,  
21000 Novi Sad, Serbia  
Tel/Fax: +381 21 524 800

BELGRADE  
21/9 Bulevar Vojvode Misica,  
11000 Belgrade, Serbia  
Tel/Fax: +381 11 409 38 04  
office@bbd.rs | www.bbd.rs

