# **GREASE SEPARATORS**

# AS-FAKU

Grease in sewage systems causes problems of mechanical (blocking of sewage), as well as of sanitary (odour) nature. It also causes problems during the purification process in waste water treatment plants itself where it adversely influences the sedimentation ability of sludge, resulting in a decrease of efficiency and worsened drainage parameters. Grease separators allow precipitation and retainment of grease that flows out within waste water from kitchens, food processing plants or meet processing plants, providing thus pro-tection to sewage systems and to other components of sewage networks against blocking or gumming.

ASIO, spol. s r.o., uses many types of these devices. The selection of an optimal device depends on the kind of grease, its volume, waste water flow volume, etc. For lower flow volumes, for example, the devices can be simpler, while usually these provide a lower efficiency, and in the opposite way, for higher flow rates, higher-efficiency devices are planned which in turn means also more sophisticated technology and design. The separators are designed to conform to the standard ČSN EN 1825-1; used materials include polypropylene, polyethylene, and stainless steel. These are marked with "CE" for conformity.

### Types and versions of grease separators:

- AS-FAKU ER/R rectangular, intended to be entrenched into ground.
- AS-FAKU FR rectangular, intended to be installed as a separate unit in a room.
- AS-FAKU EO/PB circular, double-casing version, intended for entrenchment into ground.
- AS-FAKU EO/PB/SV circular, double-casing version, intended for entrenchment into ground under subsoil water level.
- AS-FAKU FOZ/MANUAL separator with a mechanical system for grease disposal with subsequent rinsing and equipped with manual controls. This separator is intended for installation as a separate unit in a room.
- AS-FAKU/AUTO variant of the previous type but with operation by fully programmable automatic control unit.

# Based on the number of dishes per day, the following preliminary proposal can be made:

up to 200.....size NS 2 between 200 - 400 .....size NS 4 between 400 - 600 ....size NS 7

















# AS-FAKU ER – rectangular

# for installation into ground

The ER-type grease separators are designed for installation on outside sewage systems, for entrenchment into ground. Their structure allows installation on a concrete sub-plate, and for self-supporting versions also direct enclosure in gravel-sand without a surrounding concrete shell, if the separator is immovable, located within the side strip, and if the subsoil water level is not high.

### AS-FAKU FR - rectangular

#### • for installation as a separate unit in a room

The FR grease separators are designed for installation as separate units on sewage pipes in sub-terrain rooms, cellars, etc.







GREASE SEPARATORS FOR INSTALLATION INTO GROUND											
Type AS-FAKU	Nominal size [NS]	Total dimensions [mm] L x W x H	Number of inlets [pcs]	Inlet height [mm] Hv (DN)	Outlet height [mm] Ho (DN)	Weight [kg]					
1ER	1	1040 x 700 x 1040	1	790 (100)	720 (100)	90					
2ER	2	1360 x 1000 x 1160	2	900 (100)	830 (100)	130					
4ER	4	2660 x 1000 x 1160	2	900 (100)	830 (100)	350					
5ER	5	3160 x 1000 x 1260	2	900 (125)	830 (125)	390					
7ER	7	4160 x 1000 x 1260	2	900 (125)	830 (125)	530					
8ER	8	3160 x 1500 x 1260	2	900 (150)	830 (150)	580					
10ER	10	3660 x 1500 x 1260	2	950 (150)	880 (150)	650					
15ER	15	3660 x 2000 x 1660	2	1170 (200)	1100 (200)	840					
20ER	20	4660 x 2000 x 1660	2	1170 (200)	1100 (200)	950					
25ER	25	5660 x 2000 x 1660	2	1170 (200)	1100 (200)	1100					

#### GREASE SEPARATORS FR FOR INSTALLATION AS SEPARATE UNITS ONTO FLOOR

Type AS-FAKU	Nominal size [NS]	Total dimensions [mm] L x W x H	Number of inlets [pcs]	Inlet height [mm] Hv (DN)	Outlet height [mm] Ho (DN)	Weight [kg]
1FR	1	1040 x 750 x 1040	1	790 (100)	720 (100)	95
2FR	2	1540 x 750 x 1040	1	820 (100)	750 (100)	135
4FR	4	3100 x 750 x 1340	2	970 (100)	900 (100)	300
5FR	5	3300 x 750 x 1340	2	970 (125)	900 (125)	330
7FR	7	3280 x 1600 x 1340	3	1070 (125)	1000 (125)	480
8FR	8	3380 x 1600 x 1340	3	1070 (150)	1000 (150)	530
10FR	10	4000 x 1600 x 1340	3	1070 (150)	1000 (150)	570

AS-FAKU 2FR







#### SEPARATORS AS-FAKU EO/PB

DOUBLE CASING VERSION FOR INSTALLATION INTO GROUND OVER SUBSOIL WATER LEVEL

The double-casing separators are supplied as devices intended to be enclosed in a concrete shell after lowering them into an excavation, while the plastic body shell forms the permanent shuttering for pouring the concrete mixture between the casing walls. After installation (creating the concrete shell), load-bearing capacity of the separator is provided

by the concrete, while the original plastic shell ensures water-tightness. The double-casing tank of the separator includes the necessary concrete reinforcing steel support fixed to the plastic structure and providing for the prescribed thickness of the concrete wearing surface. After installation, the separator is water-tight in accordance with the requirements of ČSN 750905.

# Advantages of the DOUBLE-CASING tank system:

- low equipment weight (transport, installation)
- · concrete works at the installation site without separate shuttering and reinforcing works
- exact position of the reinforcing steel support thanks to its firm attachment to the plastic shell
- 100% protection against concrete oxidation because of subsoil water aggressiveness
- 100% water-tightness of the tank
- static dimension of concrete filler lining according to the requirements at the installation site (as standard, the separators are supplied for static load by soil pressure with 5 m footing bottom depth considering above travel of middle-weight vehicles)

GREASE SEPARATORS EO/PB FOR INSTALLATION OVER SUBSOIL WATER LEVEL											
Type AS-FAKU	Nominal size [NS]	Diameter [mm]		Number of	DN	Height of tank H	Inlet height [mm]	Outlet height [mm]	Weight	Total volume of concrete	
		D / D1	D2 / D3	fanks [pcs]	[mm]	[mm]	Hv (DN)	Ho (DN)	[Kĝ]	[m <sup>3</sup> ]	
1EO/PB	1	950/1254		1	100	1090	790	720	95	0.54	
2EO/PB	2	1200/1524		1	100	1190	790	720	165	0.81	
4EO/PB	4	1600/1932		1	100	1290	890	820	280	1.41	
5EO/PB	5	1800/2132	-	1	125	1290	890	820	390	1.62	
7EO/PB	7	2000/2332	-	1	125	1390	990	920	430	1.97	
8EO/PB	8	2100/2432	-	1	150	1390	990	920	480	2.08	
10EO/PB	10	1200/1532	1904/2236	2	150	1390	990	920	180 + 410	3.02	
15EO/PB	15	1520/1852	2180/2512	2	200	1540	1090	1020	290 + 530	4.1	
20EO/PB	20	1760/2092	2680/3012	2	200	1540	1090	1020	340 + 610	5.2	
25EO/PB	25	1920/2252	2880/3212	2	200	1540	1090	1020	390 + 690	5.7	









#### SEPARATORS AS-FAKU EO/PB/SV

#### DOUBLE CASING VERSION FOR INSTALLATION UNDER SUBSOIL WATER LEVEL

The tank structure of these separators combines the advantages of plastic and concrete. The basic, plastic, double-casing tank makes use of the qualities of the plastic material used – low weight, water-tightness, chemical stability, and at the same time serves as the carrier for the reinforcing steel support of the future concrete filler lining between the casing walls. After completing the concrete inner lining between the casing walls, the tank acquires the characteristics of concrete structures – load-carrying capacity and resistivity against soil pressure (up to 5 m footing bottom depth – as standard) and load applied by above travel of middle-weight vehicles. The plastic walls protect the concrete structure against the aggressiveness of local sewage water, as well as against potential aggressiveness of subsoil water.

## The innovation of the solution consists in the combination of advantages resulting from constructing the tanks from plastic and concrete, and in eliminating the existing disadvantages:

- concrete permeability, with not always reliable water-tightness
- concrete corrosion in aggressive water, and the necessity for additional tank insulation
- limitations in static dimensioning of plastics and their lower load-carrying capacity for deeper installations and higher subsoil water levels

GREASE SEPARATORS EO/SV FOR INSTALLATION UNDER SUBSOIL WATER LEVEL											
Type AS-FAKU	Nominal size [NS]	Diameter [mm]		Number of	DN	Height of tank H	Inlet height [mm]	Outlet height [mm]	Weight	Total volume of concrete	
		D2 / D3	D / D1	tanks [pcs]	funul	[mm]	Hv (DN)	Ho (DN)	[KG]	[m <sup>3</sup> ]	
1EO/PB/SV	1	950/1274	-	1	100	1240	940	870	120	0.73	
2EO/PB/SV	2	1200/1524	-	1	100	1340	940	870	195	1.09	
4EO/PB/SV	4	1600/1932	-	1	100	1440	1040	970	310	1.85	
5EO/PB/SV	5	1800/2132	-	1	125	1440	1040	970	440	2.15	
7EO/PB/SV	7	2000/2332	-	1	125	1540	1140	1070	510	2.61	
8EO/PB/SV	8	2100/2432	-	1	150	1540	1140	1070	570	2.78	
10EO/PB/SV	10	1200/1532	1904/2236	2	150	1540	1140	1070	230 + 490	3.67	
15EO/PB/SV	15	1520/1852	2180/2512	2	200	1690	1240	1170	340 + 600	4.9	
20EO/PB/SV	20	1760/2092	2680/3012	2	200	1690	1240	1170	390 + 700	6.2	
25EO/PB/SV	25	1920/2252	2880/3212	2	200	1690	1240	1170	460 + 780	6.9	





AS-FAKU 4EO/PB/SV



#### **GREASE SEPARATOR – AUTOMATIC UNIT**

#### AUTOMATIC OR SEMI-AUTOMATIC DISPOSAL SYSTEM

Asio group product

One of the devices with permanently growing popularity is the so called **automatic unit**. This is a mechanical grease separator consisting of a plastic or stainless-steel tank with an assembly of scum-boards and barriers supplemented with a system allowing automatic or semi-automatic disposal. The sludge is thus pumped out and the separator cleaned without direct opening.

Everything can work solely based upon establishing a connection between a gully sucker truck and a quickcoupler that is located remotely on the outside facade of the building. That is the reason why this system is used especially at sites where hygienic problems can arise in case of opening the sepa-rator as in restaurants, fast-food places, kitchen establishments, industrial establishments for meat and meat-products processing.

In case of higher requirements on drainage parameters, it is possible to consider using a combination of separators together with biological purification, coagulation, flotation or electro-flotation. In these cases, it must be considered if the effect of separating several additional grams of grease annually will outweigh the pertaining substantial increase in operational cost.

Decreasing the non-polar extractive substances concentration pays off for major producers where the waste water production – together with the final pollution balance – increases heavily. In these cases, it is advisable to use e.g. a new technology, the so called SFT filter.



Automatic grease separator in plastic version

AUTOMATIC GREASE SEPARATOR WITH SLUDGE RETRACTION											
Type AS-FAKU	Nominal size [NS]	Dimensionr Ø / LxW	Height of tank H [mm]	Min. pipe profile DN [mm]	Inlet height [mm] Hv (DN)	Outlet height [mm] Ho (DN)	Weight [kg]	Total volume [m <sup>3</sup> ]			
2FOZ	2	Ø 1200	1500	100	1090	1020	550	1.1			
4FOZ	4	Ø 1600	1600	100	1190	1120	620	2.2			
5FOZ	5	Ø 1800	1600	125	1190	1120	690	2.8			
7FOZ	7	Ø 2000	1700	125	1290	1220	750	3.8			
8FOZ	8	Ø 2100	1700	150	1290	1220	830	4.2			
10FOZ	10	3500 x 1500	1600	150	1250	1180	1450	5.25			
15FOZ	15	3500 x 2000	1820	200	1470	1400	1650	8.7			

### **GREASE SEPARATOR – AUTOMATIC UNIT**

AUTOMATIC OR SEMI-AUTOMATIC DISPOSAL SYSTEM











#### **DIMENSIONAL DIAGRAM**



VIEW Uplift . DN65 Water inlet **DN25** ∰ţ Ventilation INLET OUTLET DN150 DN150 -(0) :AS Switchboard Т ÷ Ч ØD

GROUNDPLAN



06/2016

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