

APPLICATION

The oil tank is component element of each hydraulic system. The tank is mainly intended to contain indispensable hydraulic oil taking into account a variable capacity in the receivers during working cycle.

The tank is also intended to:

a) Cool hydraulic oil

Fixed temperature in the system is not allowed to be over the maximum working temperature (328 K - 55°C) in order not to use separate cooling. Oil temperature in the tank increases up to getting the balance between power losses conveyed and thermal power output.

The heat given up from the receiver depends on:

- tank size (external surface area)
- its filling ratio
- temperature differences: internal and external
- location (air - circulation).

The selection of the tank size is dependent on displacement of mounted pump, expected oil heating, the number of hydraulic elements mounted on the tank and oil capacity in the system.

DESCRIPTION

Pressureless tanks type **UB...** are made of steel sheet by welding and have the following features and elements:

- stiff construction as the basis for mounting motor – pump assembly and elements of hydraulic system;
- side edges are used as the tank for dribbling oil when mounted elements are exchanged;
- revision seal allowing for cleaning the tank (except the tank type **UBEK...**);
- inclination of the tank bottom that makes molecules of dirt settled at the lowest level of the tank and which are not sucked in by the pump

OPTIONAL ACCESSORIES

In case of special order and if agreed, the tanks can be optionally equipped with:

1. Electric oil level indicator **UOSP...** (data card **WK 470 080**), after prior choosing position on the tank where it should be mounted.
2. Filler breather filter type **UOFP...** (data card **WK 470 410**).

PAINTING

Inside and outside surfaces of the tank are painted with oilproof oxide red priming paint. In addition, the inside of the tank is also painted with oilproof topcoat paint.

The tank capacity is assumed to be of threefold up to fivefold displacement of the pump per one minute. In addition, air cushion that comprises 10 -15 % of oil capacity should be included.

b) Air precipitation from hydraulic fluid

There is some air dissolved in the hydraulic oil. Dissolved air must be precipitated as bubbles. To improve this process, it is necessary to achieve the largest oil surface.

c) Contamination deposition

Contamination molecules in the hydraulic oil must have the possibility to be deposited. Suitable inclination of the tank bottom allows to deposit contamination at the lowest level of the tank.

d) The tank is also the supporting structure for electric motor – pump assembly, and for the board or for the block with hydraulic elements as well as with the accessories.

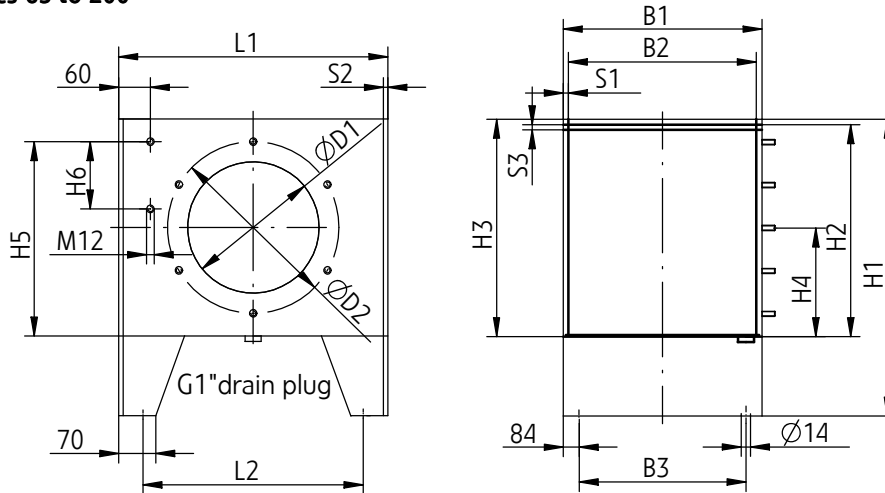
- drain plug of dirty oil is located at the lowest level of the tank;
- clearance above the ground allowing for good air – circulation (appropriate cooling for the bottom tank), as well as the transport of the tank using level indicator;
- optical oil level indicator allowing to read minimum and maximum level of oil in the tank;
- filler breather filter type **WW2** manufactured by W.F. Sędziszów Młp or type **UOFP...**
- magnetic filter (except the tanks type **UBEK...**).

3. The thermometer connected with the oil level indicator or itself.
4. Electric jacket heaters type **GP...** of supply voltage 230V (except the tank sizes: 12, 25, 40 and 50 dm³). Heater power and the number of heaters as agreed.

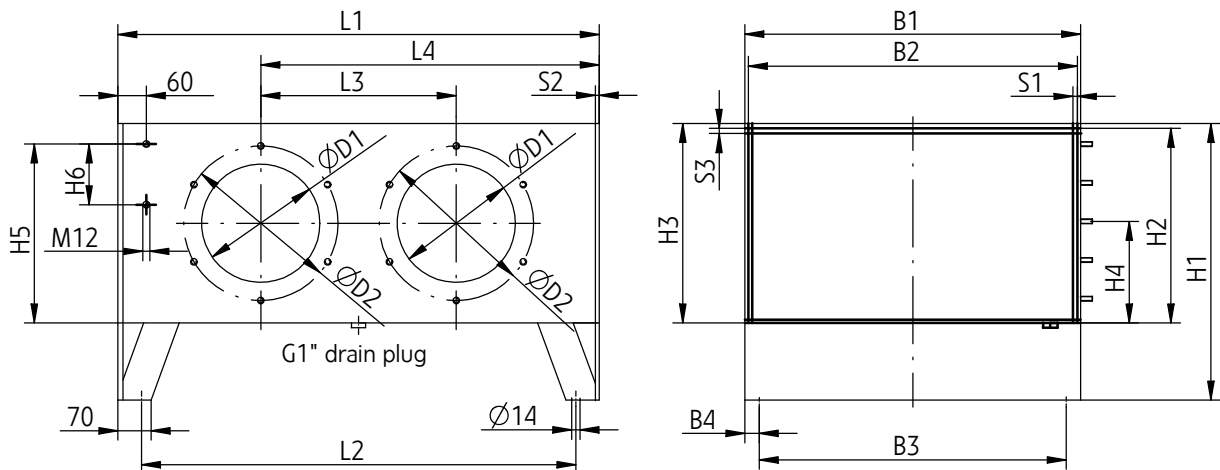
In standard, the tanks are painted in blue (RAL 5010). Upon customer's request, outside surfaces can be painted in any colour.

OVERALL AND CONNECTION DIMENSIONS of the tank type UBSK...

Overall and connection dimensions
sizes 63 to 200



Overall and connection dimensions
sizes 250 to 630

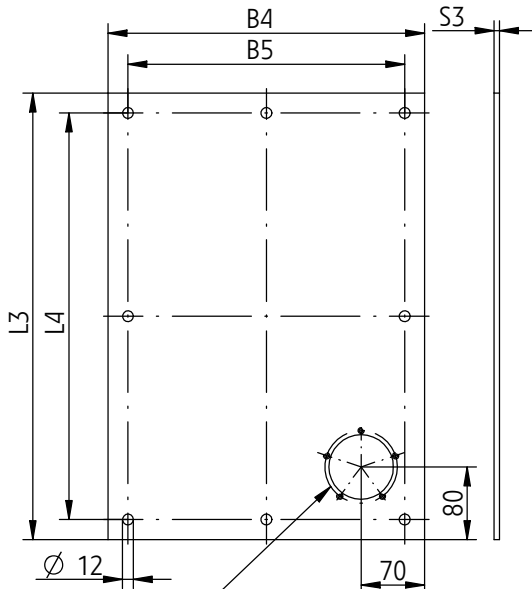


Overall and connection dimensions of the tank type UBSK (table1)

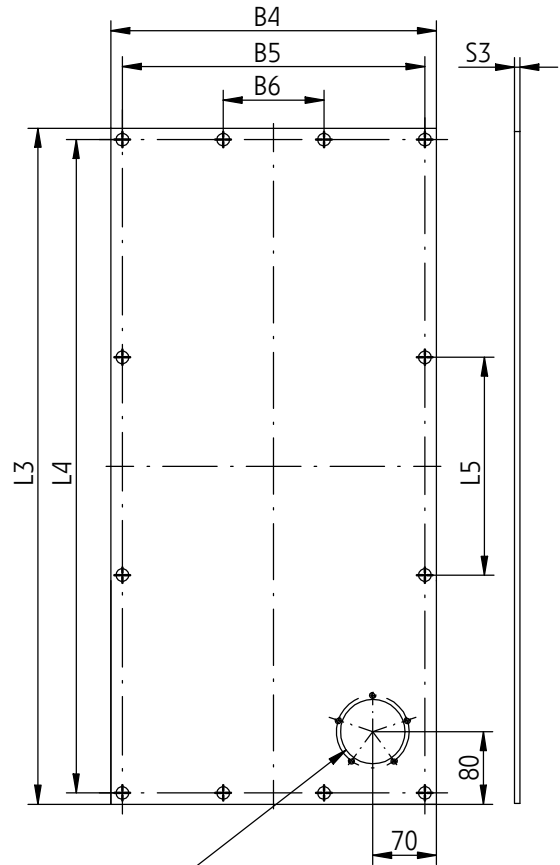
Tank type	Max oil level in the tank	Overall and connection dimensions															Weight	Number of revision seals				
		Designation	Liter	L1	L2	L3	L4	B1	B2	B3	B4	H1	H2	H3	H4	H5			H6	D1	D2	S1
UBSK 63	59	508	428	-	-	375	365	315	30	560	410	403	205	360	127	248	324	3	3	6	38	1
UBSK 100	91	633	553	-	-	474	460	414	30	560	407	399	205	357	127	248	324	4	4	6	63	1
UBSK 160	152	810	730	-	-	604	590	544	30	560	410	400	205	360	127	248	324	4	4	6	88	1
UBSK 200	184	900	820	-	-	654	640	594	30	560	410	399	205	360	127	248	324	4	4	6	101	1
UBSK 250	235	1010	930	410	710	704	690	644	30	580	430	418	215	380	127	248	324	4	4	7	123	2
UBSK 300	272	1208	1128	410	809	714	700	654	30	580	412	400	206	362	127	248	324	4	4	7	141	2
UBSK 400	375	1514	1434	750	1132	749	735	689	30	580	430	417	215	380	127	248	324	4	7	7	201	2
UBSK 630	595	1514	1274	750	1132	959	945	845	57	770	520	504	265	470	120	383	449	4	7	10	366	2

OVERALL AND CONNECTION DIMENSIONS of the tank plate type UBSK...

Overall and connection dimensions
of the tank plate sizes 63 to 300

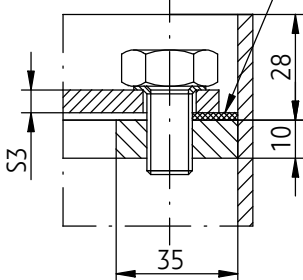


Overall and connection dimensions
of the tank plate sizes 400 to 630



Version "E"

Sealing: oilproof rubber



Connection dimensions
for the filter UOFP-32
(for UBSK63, UBSK 100)
for the filter UOFP-50
(from UBSK 160)

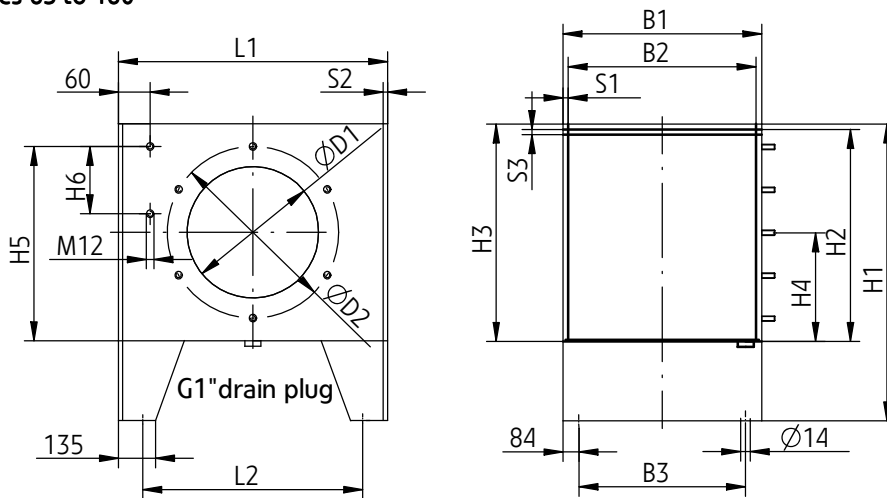
Connection dimensions
for the filter UOFP-50

Overall and connection dimensions of the tank cover type "E" (table2)

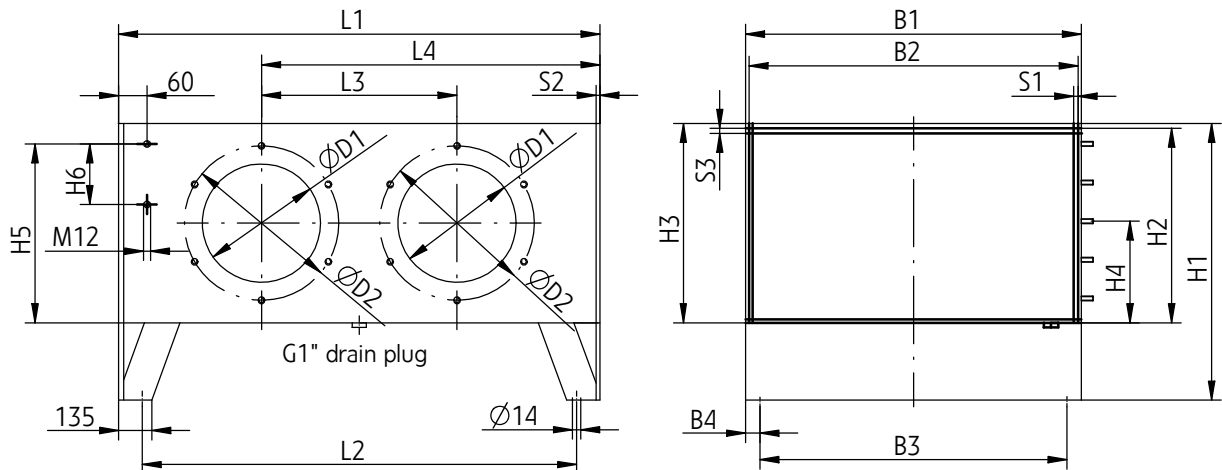
Size NS	Dimension							Number of mounting holes	Diameter of mounting holes
	L3	L4	L5	B4	B5	B6			
63	492	448	-	349	305	-	8	12	
100	615	571	-	442	398	-	8	12	
160	792	748	-	572	528	-	8	12	
200	882	838	-	622	578	-	8	12	
250	992	948	-	672	628	-	8	12	
300	1190	1146	-	682	638	-	8	12	
400	1490	1440	480	717	667	222	12	14	
630	1490	1440	480	927	877	292	12	14	

OVERALL AND CONNECTION DIMENSIONS of the tank type UBNK...

Overall and connection dimensions
sizes 63 to 160



Overall and connection dimensions
sizes 250 to 1250

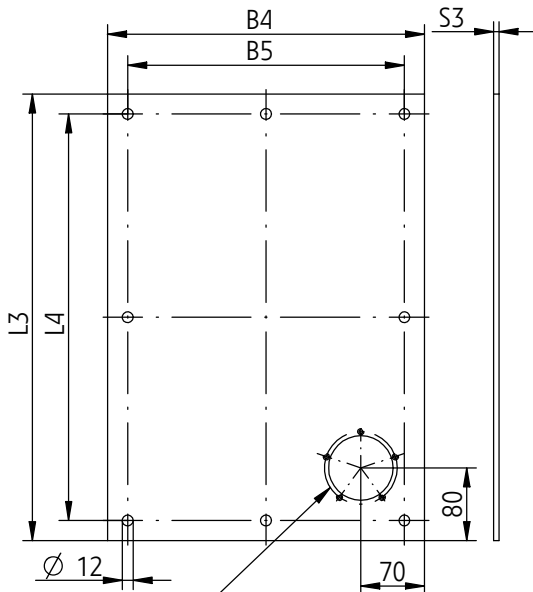


Overall and connection dimensions of the tank type UBNK (table 3)

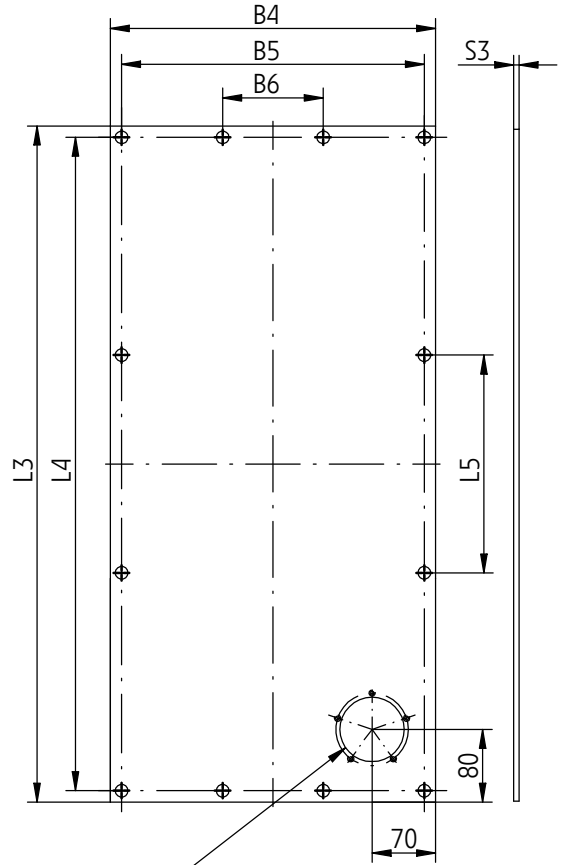
Tank type	Max oil level in the tank	Overall and connection dimensions																	Weight	Number of revision seals		
		L1	L2	L3	L4	B1	B2	B3	B4	H1	H2	H3	H4	H5	H6	D1	D2	S1			S2	S3
UBNK 63	59	508	308	-	-	375	365	285	45	660	410	403	205	360	127	248	324	3	3	10	50	1
UBNK 100	91	633	393	-	-	474	460	360	57	660	407	399	205	360	127	248	324	4	4	10	76	1
UBNK 160	152	810	570	-	-	604	590	490	57	660	410	400	205	360	127	248	324	4	4	10	112	1
UBNK 250	235	1010	770	410	710	704	690	590	57	680	430	418	215	380	127	248	324	4	4	10	140	2
UBNK 400	375	1514	1274	750	1132	749	735	635	57	680	430	417	215	380	127	248	324	4	7	10	245	2
UBNK 630	595	1514	1274	750	1132	959	945	845	57	770	520	504	265	470	127	383	449	4	7	10	266	2
UBNK 800	752	2014	1774	1000	1507	914	900	800	57	770	520	504	265	470	127	383	449	5	7	10	450	2
UBNK 1000	945	2014	1774	1000	1507	1079	1065	965	57	800	550	531	285	500	127	383	449	5	7	10	500	2
UBNK 1250	1180	2014	1774	1000	1507	1349	1335	1235	57	800	550	527	285	500	127	383	449	5	7	10	600	2

**OVERALL AND CONNECTION DIMENSIONS
of the tank plate type UBNK...**

Overall and connection dimensions
of the tank plate sizes 63 to 300

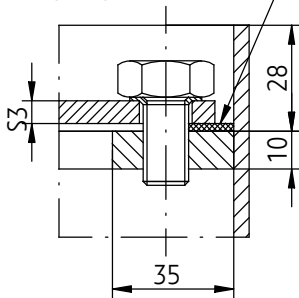


Overall and connection dimensions
of the tank plate sizes 400 to 1250



Version "E"

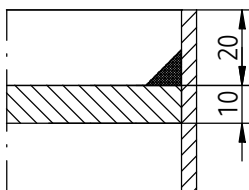
Sealing: oilproof rubber



Connection dimensions
for the filter UOFP-32
(for UBNK63, UBNK 100)
for the filter UOFP-50
(from UBNK 160)

Connection dimensions
for the filter UOFP-32

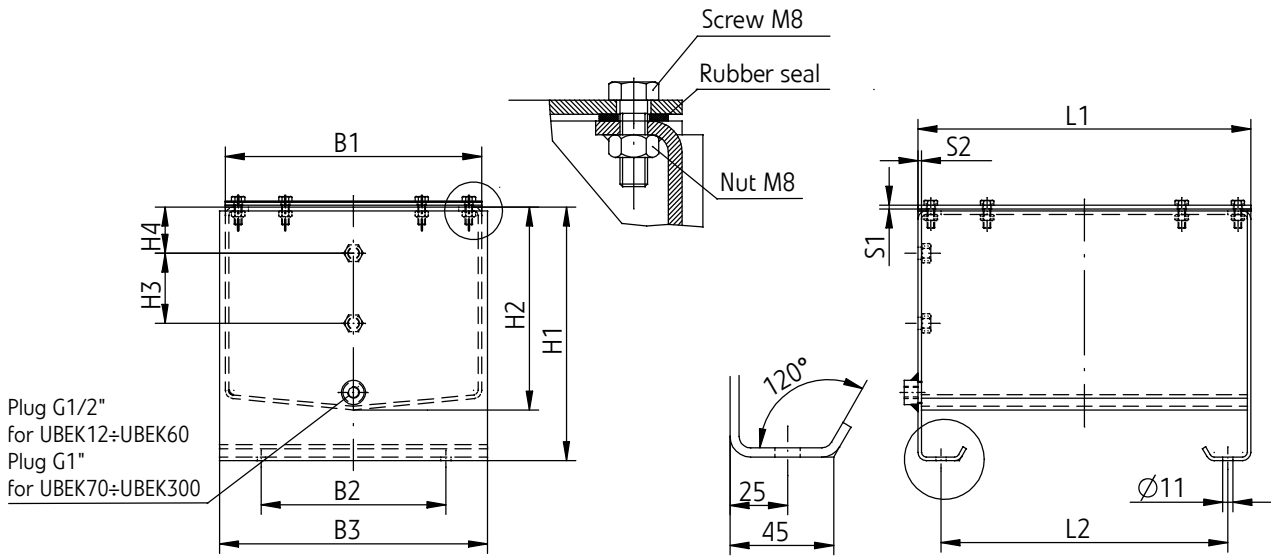
Version "C"



Overall and connection dimensions of the tank cover type "E" (table 4)

Size NS	Dimension						Number of mounting holes	Diameter of mounting holes
	L3	L4	L5	B4	B5	B6		
63	492	448	-	349	305	-	8	12
100	615	571	-	442	398	-	8	12
160	792	748	-	572	528	-	8	12
250	992	948	-	672	628	-	8	12
400	1490	1440	480	717	667	222	12	14
630	1490	1440	480	927	877	292	12	14
800	1990	1940	647	880	830	277	12	14
1000	1990	1940	647	1045	995	332	12	14
1250	1990	1940	647	1315	1265	422	12	14

**OVERALL AND CONNECTION DIMENSIONS
of the tank type UBEK...**

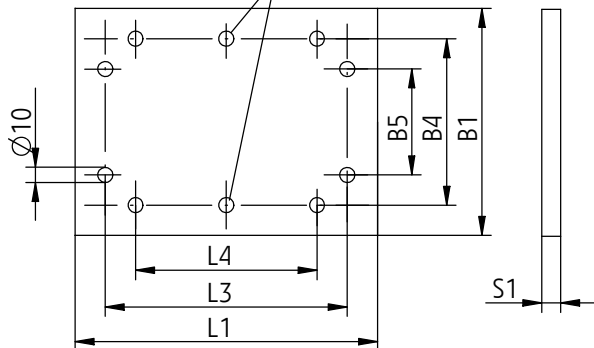


Overall and connection dimensions of the tank type UBEK (table 5)

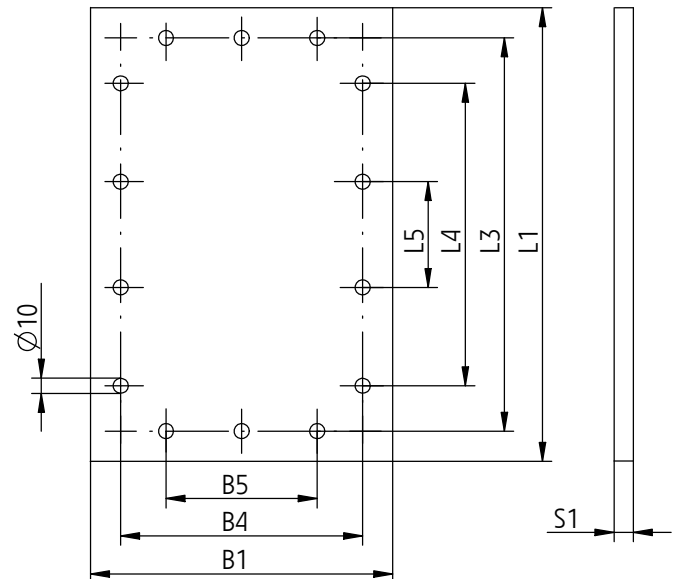
Type of tank	Max oil level in the tank	Overall and connection dimensions of the tank										Weight
		Designation	Liter	L1	L2	B1	B2	B3	H1	H2	H3	
UBEK 12	16	362	312	280	220	294	275	220	76	50	4	17
UBEK 25	24	415	365	388	310	400	325	270	76	50	4	26
UBEK 40	52	550	500	388	310	400	375	320	76	50	4	30
UBEK 50	58	500	450	388	310	400	420	365	76	50	4	39
UBEK 60	69	550	500	388	310	400	445	390	76	50	7	43
UBEK 75	85	550	500	388	310	400	530	475	127	50	4	46
UBEK 100	109	700	650	388	310	400	530	475	127	50	4	57
UBEK 150	175	750	700	488	410	500	620	565	127	80	4	77
UBEK 225	267	900	850	588	510	600	650	595	127	80	4	110
UBEK 300	339	900	850	688	610	700	700	645	127	80	4	127

OVERALL AND CONNECTION DIMENSIONS of the tank plate type UBEK...

Overall and connection dimensions
of the tank cover
sizes 12 to 75
except UBEK12



Overall and connection dimensions
of the tank cover
sizes 100 to 300



Overall and connection dimensions of the tank cover type "E" (table 6)

Size NS	Dimension							
	S1	L1	B1	L3	B4	L4	B5	L5
12	4	362	280	334	270	160	148	-
25	4	415	388	387	360	250	238	-
40	5	550	388	522	360	400	238	-
50	5	500	388	472	360	350	238	-
60	5	550	388	522	360	400	238	-
75	5	550	388	522	360	400	238	-
100	6	700	388	672	360	550	238	184
150	6	750	488	722	460	600	338	200
225	8	900	588	872	560	750	438	250
300	8	900	688	872	660	750	538	250

ADDITIONAL

When selecting power pack to the machine it is necessary to consider its total heat balance by specifying oil temperature in the tank – it should not exceed 55°C (328 K).

If necessary, oil cooler must be used for the hydraulic system. Thermal power output of the power pack tank to the environment can be estimated using below formula or diagram.

$$N_{\text{output}} = k \times A \times \Delta T$$

- N_{output} [W] - thermal power output of the tank
 A [m²] - active surface area of the tank for the power pack tank
 k [W/m² × K] - heat exchange factor
- $k = 5$ W/m² × K - when poor air circulation, unfavourable location,
 - $k = 10$ W/m² × K - normal air circulation from all directions,
 - $k = 20$ W/m² × K - when intensive air circulation (unnaturally forced),
- ΔT [K] - temperature difference between the tank (oil) and the environment

HOW TO ORDER

Any order should be addressed to the manufacturer according to the below coding.

	/	+	+	+	+	+	+	*
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Type of tank

for UBSK	= UBSK
for UBNK	= UBNK
for UBEK	= UBEK

Nominal size

UBSK	- according to the table 1
UBNK	- according to the table 3
UBEK	- according to the table 5

Tank version

for UBSK	= S
for UBNK	= A
for UBEK	= E

Cover version

screwed cover	= E
welded cover (only for tank type UBNK)	= C

Electric level indicator

without level indicator	= no designation
with level indicator	= EP

Thermometer

without thermometer	= no designation
with thermometer	= T

Oil heaters

without heaters	= no designation
with heater	= G

Filler breather filter

without filler breather filter (also without the hole for the filter)	= no designation
with filter	= F

Further requirements in clear text

(to be agreed with the manufacturer)

Coding example: UBEK 100 /E-E-EP-T-G-F

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