

**Directions for use of
Samson liquid ring pumps
KS500 - KS725 - KS1025 - KS1800
KS510 - KS625 - KS910**



**KS500 - KS510 - KS625 - KS725 - KS910
KS1025 - KS1800**

- Before installing the pump. Please read carefully the installation and operation manual.
- Installation of the pump and any ancillary equipment. Should be carried out in accordance with the prevailing health and safety legislation.
- When building and operating the plant. Please follow the national legal safety regulations, instructions and specifications applying to the machine and plant type in question.
- The liquid ring pump is designed to operate in normal atmosphere as well as most gasses.
- Before starting the pump it must be filled with liquid. It should not be run dry.



SAMSON PUMPS

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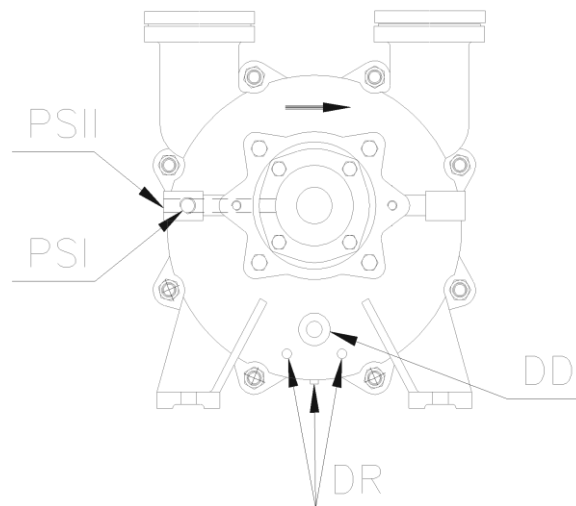
Storage, transportation and handling

Storage conditions of pump

Suction- and pressure branch as well as the operation liquid supply are all closed when the pump is delivered. This is done in order to prevent extraneous matters from getting into the pump. The protective plugs are not to be removed unless new pipes are joined.

When shipped the pump contains antifreeze solution and is thereby protected down to a temperature of -20 C. If the pump is to be stored or transported at temperatures exceeding this, appropriate action should be taken to prevent frost damage.

If the pump is stopped for a longer period the operation liquid needs to be drained off the pump and instead be filled with antifreeze. The antifreeze is to prevent the pump from corrosion and the impeller from seizing.

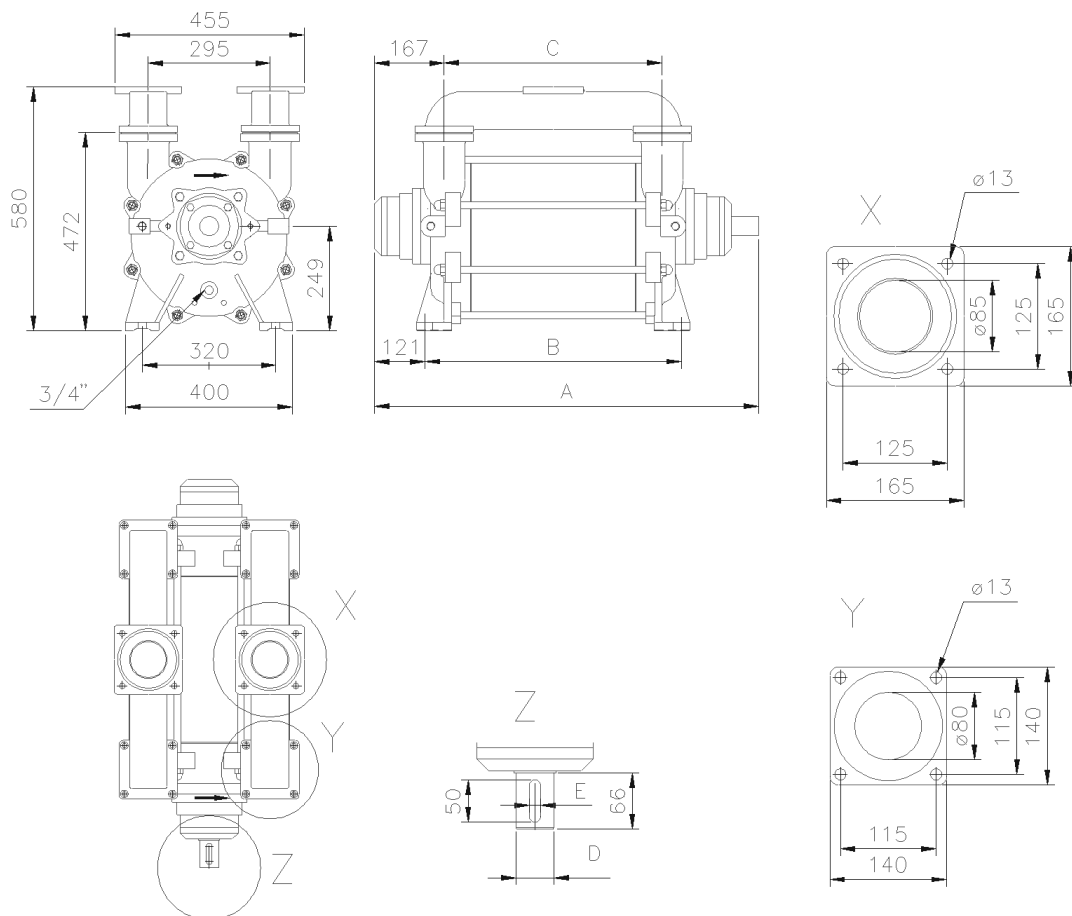


III. 1

When emptying the pump make sure that all chambers are drained.

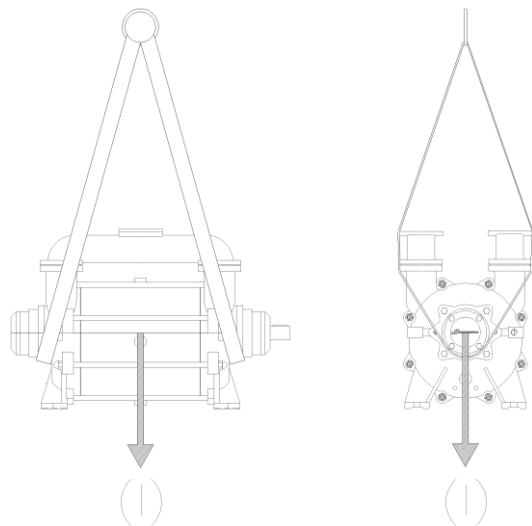
If the pump is to be drained completely the operation liquid supply (DD) and the protective plugs (DR) need to be removed.

Dimensions



Weight [kg]	Dimension [mm]	A	B	C	D	E
190	KS500/KS510	712	405	313	$\phi 35h6$	10
209	KS725/KS625	782	475	383	$\phi 35h6$	10
228	KS1025/KS910	922	615	523	$\phi 45h6$	14
390	KS1800 (Out of production since 2013)	1160	855	763	$\phi 45h6$	14

Lift point



Technical data:

Characteristics	KS500	KS725	KS1025	KS1800 <i>(out of production since 2013)</i>	KS510	KS625	KS910
Suction capacity at 500 mbar abs and:							
1470 rpm [m ³ /h]	525	775	1050	1350	350	500	625
1800 rpm [m ³ /h]	700	1000	1250	2040	475	675	840
Variable speed of the impeller [rpm]	1000-1800	1000-1800	1000-1800	1000-1800	1000-1800	1000-1800	1000-1800
Vacuum / maximum Decompression [mbar abs]	150	150	150	150	55	55	55
Energy consumption at 150 mbar abs vacuum and:							
1470 rpm [kW]	17	25	29	43	17	19	32
1800 rpm [kW]	25	28	36	59	22	27	44
Pressure / maximum compression [bar]	2	2	2	1	4	4	4
Energy consumption at 1 bar pressure and:							
1470 rpm [kW]	20	30	40	62	22	27	35
1800 rpm [kw]	30	40	58	80	29	36	48
Mean consumption of operation liquid at operation <u>without</u> liquid separator. Consumption varies dependent on operation [l / h]	1000	1500	2000	3000	1000	1500	2000
Consumption of operation liquid at normal operation <u>with</u> liquid separator [l / h]	0,5	1,0	1,5	2,5	0,5	1,0	1,5
Operation liquid temperature at above-mentioned output [C°]	20	20	20	20	20	20	20
Noise level at 1475 Min ⁻¹ [dBA]	78-80	78-80	80	80-82	78	78	80
Weight [kg]	190	209	228	390	190	209	228
Pump housing and shell, type:	G.G.25	G.G.25	G.G.25	G.G.25	G.G.25	G.G.25	G.G.25
Bearing casing and guide discs made of cast iron, type:	G.G.20	G.G.20	G.G.20	G.G.20	G.G.20	G.G.20	G.G.20
Shaft and impeller made of stainless steel, type:	yes	yes	yes	yes	yes	yes	yes
Shaft seals (stainless steel), mechanical carbon slide ring sealing:	yes	yes	yes	yes	yes	yes	yes
Lubricated axle bearings:	yes	yes	yes	yes	yes	yes	yes

Samson reserves the right to technical modifications without giving further notice.

Installation of the pump

Siting the liquid ring pump

The liquid ring pump should be installed horizontally on a suitably rigid base and fixed with all four mounting bolts. The pump should not be subjected to distortion when bolting down, or subjected to torsion forces during operation.

The national security demands concerning shielding are of course to be fulfilled.

Mounting conditions

Suction- and pressure branches are supposed to be vertical with a limit of $\pm 5^\circ$.

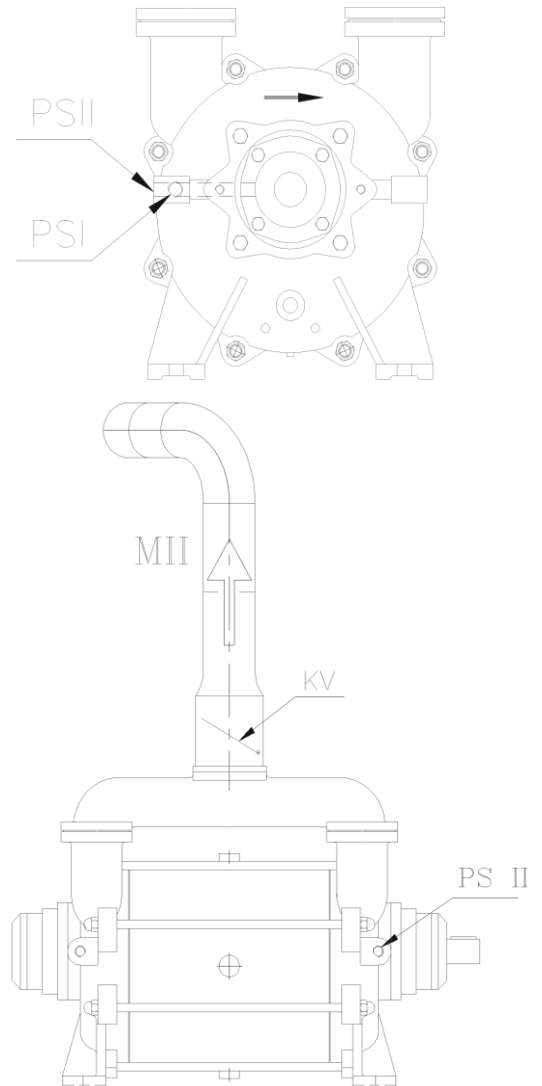
The indicator which marks the pump house (III. No. 2) shows the rotation direction of the pump. When connecting the pump and its drive make sure that they operate in the same rotation direction.

The rotation direction of the pump can be determined by where the plugs (PSI / PSII) are situated on the pump house. The plugs (PSI / PSII) are situated on the pressure side of the pump (where the propeller blades move in upward direction).

Connections to the suction and pressure sides of the pump as well as the operation liquid should be kept as short as possible. The pipe work diameters should be the same size as those on the pump. However where longer connections are unavoidable, larger diameter pipe-work should be employed. Please consult Samson.

The suction- or pressure pipe should contain a non return valve (KV) (III. No. 3) so that the pressure or the vacuum is maintained.

If the pressure pipe is situated in vertical position, it should not be more than 1,5 meters above the pump.



Connection/Installation of power supply

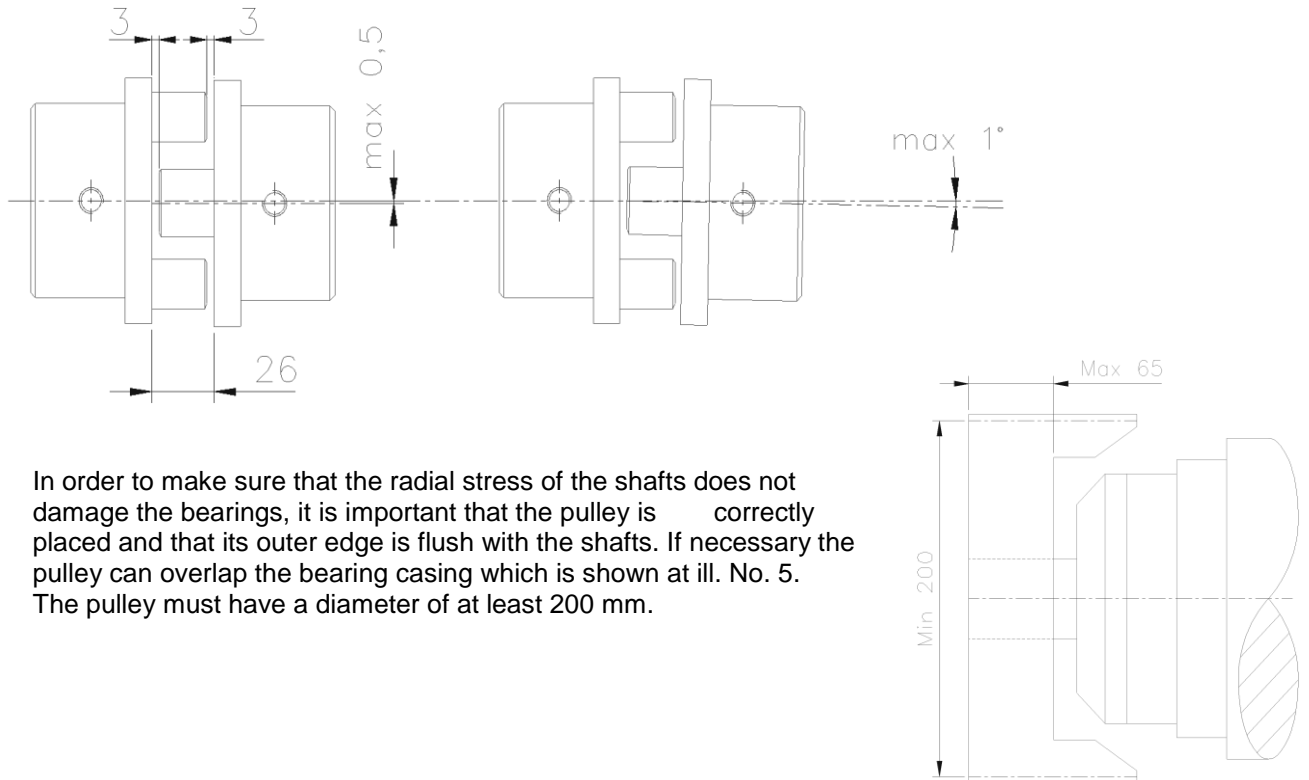
When the pump is filled with water, make sure to check up on the rotation direction and the rotative speed by starting the pump for a shorter period.

When the connection between the drive and the pump is accomplished the shaft ends must be centered and these ends should be capable of rotating.

The mounting of couplings on shaft ends must not be performed with a hammer.

The distance between the two coupling halves (Ill. No. 4) must correspond with the prescribed direction of the coupling supplier.

Below, the Rotex 42/55.



In order to make sure that the radial stress of the shafts does not damage the bearings, it is important that the pulley is correctly placed and that its outer edge is flush with the shafts. If necessary the pulley can overlap the bearing casing which is shown at ill. No. 5. The pulley must have a diameter of at least 200 mm.

Space requirements when operating and maintaining the pump

The maintenance of the pump requires that inspection is possible (for further information look up the chapter concerning maintenance of the pump) so that actions in the sense of cleaning, lubrication and renewing the operation liquid easily can take place.

Environmental operating matters

The pump is capable of operating in wet and dry environments. If dust is present then a suitable inlet filter should be installed.

Changing and removing the operation liquid

The operation liquid might contain hazardous materials so when changing or removing it make sure to take precautionary measures into consideration.

Information concerning the pump

Mode of operation/working principles

The Samson liquid ring pump operates as cellular wheel pump. The shaft and the impeller are the only movable parts on the pump. They are not in contact with any of the stationary parts of the pump, two ball or roller bearings are placed in the ends of the shaft and fitted with bearing seals. The shaft seals are of the gliding ring type.

When the pump is turned on the operation liquid is thrown towards the impeller chamber, when this happens the operation liquid will automatically form in the shape of a ring and hereby follow the circulation of the impeller. When the rotation takes place a cushion of air will appear between the liquid ring and the impeller hub.

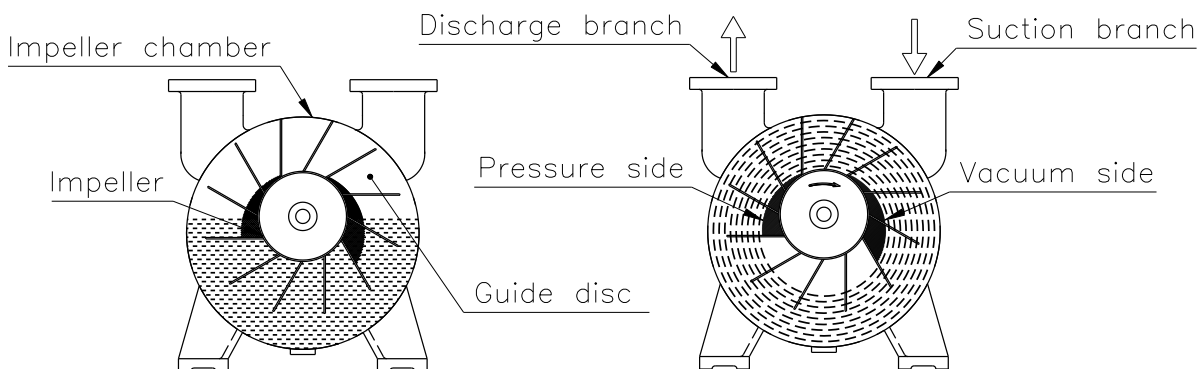
The impeller is situated eccentrically above the center of the pump, thus the cushion of air will only appear under- and next to the hub. Above the hub the operation liquid makes very close contact to the hub. (This of course requires a very precise level of serliquid.)

The cushion of air will be divided by the impeller blades and thereby form into several small cushions of air. During this rotation the cushions of air will continuously be forced into different volume concentrations. Every single cushion of air will appear immediately after the blades of the impeller have passed the top point of the rotation and thereby be increased with every half rotation the impeller achieves. This causes a vacuum which results in air entering the impeller chamber from the suction branch.

The suction air is compressed when the impeller reaches yet another half round. Hereby a positive pressure arises and the air will be forced out through the impeller chamber to the discharge branch.

The purpose of the guide discs is to shut off the impeller chamber and lead the air in and out.

Each of the two discs is provided with two air passages, one for suction of air and one for blow out steam. The openings of the guide discs, which are meant for air passage, are slot shaped.



When the pump is operating it must be supplied with operation liquid, which usually is water, in order to prevent an overload of heat, which might arise with the rotation of the liquid ring and the air compression. While this takes place the amount of liquid which is present in the shape of drops due to evaporative loss.

Field of application/Operation range

The Samson liquid ring pump is able to handle gasses which do not react with H₂O or other operating liquids.

When operating with water at a temperature of 15°C and a pressure which consists of 1013 mbar on the pressure side it should theoretically be possible to achieve a suction pressure of at least approximately 120 mbar for KS500, KS725, KS1025 og KS1800 and approximately 55 mbar for KS510, KS625 and KS910.

The efficiency of the pump decreases if the temperature of the operation liquid rises, therefore a low working temperature is recommended.

If the temperature of the water is at 40°C the efficiency will decrease by 10%, at 50°C ca. 25%.

The absolute permissible temperature for suction air/gas is at 100°C and 80°C for the operation liquid.

Cavitation

Cavitation is a condition where the pressure in the system has fallen to under the steam pressure for the individual operation liquid. By this the liquid boils and steam bubbles arise in the operation liquid. A crackling sound is heard and the suction capacity is at the current temperature of the intake air and of the operation liquid exceeded. Continuous operation in this condition will cause great mechanical damage.

At operational modes where cavitation may occur the pump should be secured against cavitation by application of a vacuum limiter valve (Fig.8), which is to be adjusted as follows:

- 1) A closing possibility is made on the suction side of the pump.
- 2) Between this and the pump a vacuum gauge is placed.
- 3) Maximum vacuum is adjusted with the adjusting screw and the adjustment is maintained by the locknut.
- 4) At a temperature of 20°C on the intake air and 15-20°C on the operation liquid the setting value is 80% vacuum (200 mbar absolute).

As cavitation has to do with steam bubbles the pressure at which the cavitation occurs will therefore be dependent on the temperature in the liquid ring.

Noise level

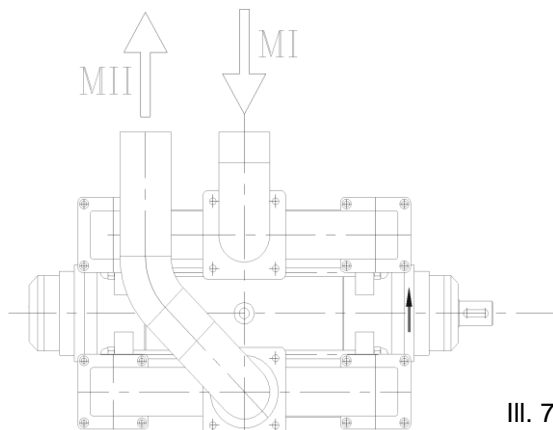
The level of sound pressure at a distance of one meter from the pump and 1,6 m above ground level is set to 2006/42/EC.

The level of sound pressure is specified as a L_{eq}-value (meaning the average level of sound pressure on a working day of 8 hours - for further information look through the technical data.)

Operating the pump

Limitation in field of application

The liquid ring pump is exclusively constructed for operating in conditions of atmospheric air and most gases. The pump should not be used for suction of liquids or other matters through the air intake (MI).



Manual operations

If a closing valve is situated in the suction line and the pump must operate when the valve is shut off, air must be supplied to the suction side of the pump through the Vacuum Limiter Valve (Fig. 8).

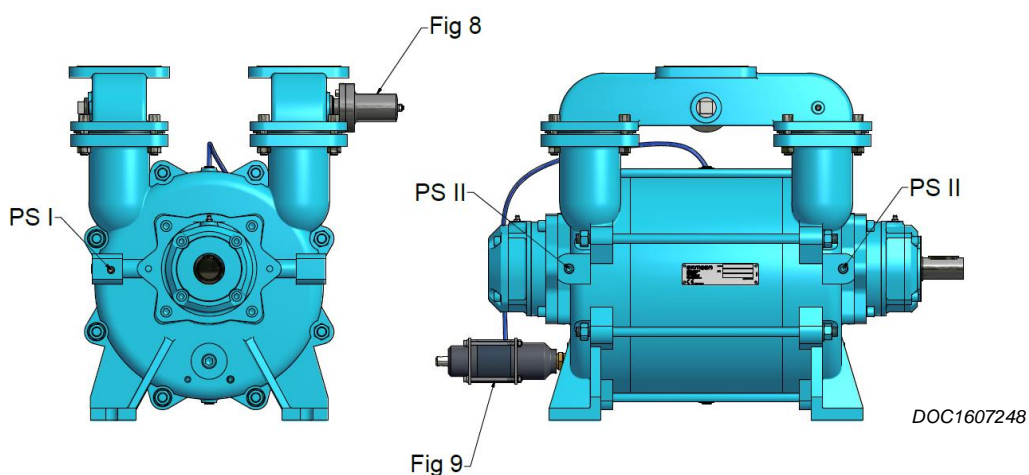
Liquid ring pumps, that are incorporated with a liquid separator, usually contain a Service Liquid Valve (Fig. 9). The purpose is to control the amount of operation liquid.



Fig. 8 DOC1634089_5



Fig. 9 DOC1634265_4



Starting the pump

When starting the pump make sure that liquid is supplied. It is important that the shaft seals do not operate in dry conditions.

The level of operation liquid is not supposed to exceed the level of the shafts. This could be controlled with an installation of a tap which is fitted to one of the two borings PSI and PSII.

If the pump is overfilled with operation liquid the surplus amount of liquid should be drained before starting the pump. This should be done in order to prevent the coupling and the drive from overload.

If the operation liquid does not meet the level that is required for operating, the pump will not be able to produce a vacuum and the pump will need a refill.

Make sure that the rotation direction is correct.

When starting the pump the valves situated on pressure- and suction side should not be mechanical blocked.

It is possible to start the pump in conditions of vacuum and a 1 bar pressure. There should be no resistance at the inlet.

Adjustments

In order to have the pump operate at its maximum it is important that the operation liquid supply consists of a proper dimension.

Different installations require different adjustments. They are all interdependent of the pumps mounting and the way the operation liquid supply is adjusted. (For further information look up the chapter concerning "Various types of incorporation").

Change between vacuum and pressure.

A change between the pressure- and the vacuum function should not be initiated until a pressure of $\pm 0,1$ bar is reached. A precaution as such is made in order to maintain the stability of the liquid ring pump and it prevents the pump from getting overload.

If large changes are performed concerning the pressure of the pump it might result in the liquid ring getting damaged. If this happens parts of the liquid ring will loosen and be forced out through the discharge branch of the pump.

Stopping the pump

Before stopping the pump it should be brought into neutral position. Then the power supply of the drive can be shut off. If using a manual closing valve with the operation liquid supply it should also be shut off just before stopping the pump.

Maintaining the pump

Examining the pump and frequency

From the impeller chamber of the pump and to the pump house, scavenging channels are situated in order to lead the warm operation liquid from the impeller chamber to the pump house. When reaching the pump house new cool operation liquid is added.

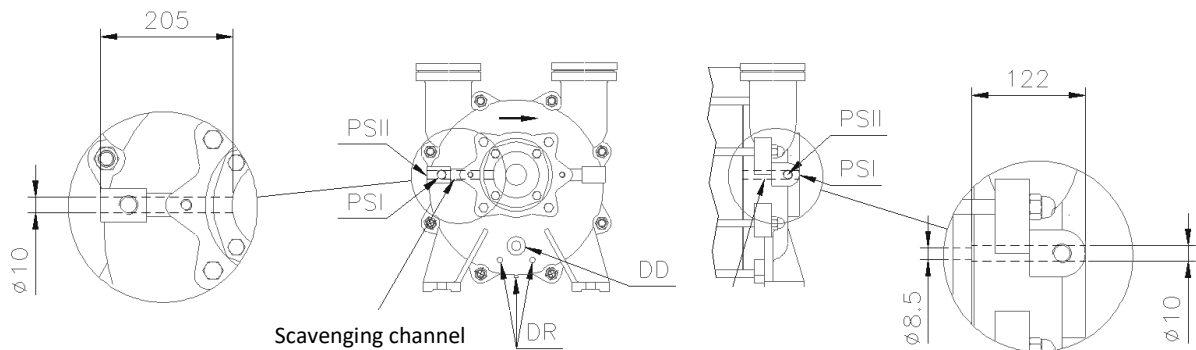
The circulating operation liquid acts as lubrication to the shaft seals.

The scavenging channels are situated in the pressure side of the pump and are closed with the two plugs PSI and PSII. (Both ends of the pump are closed).

In order to have the pump operate at its maximum all scavenging channels as well as pump houses and impeller chambers must be cleaned.

Warning!

The scavenging channels of the pump cannot be cleaned when the pump is operating. The pump must be stopped and the power supply of the pump must be shut off.



When cleaning the scavenging channels the dimmer plugs PSI and PSII should be dismantled in both ends of the pump. After doing this impurities and other deposits can be removed with a drill for instance. The drill must be 210 mm as a minimum and meet a maximum at $\varnothing 10$.

Operations that require a drill are only to be performed manually. Notice that in axial direction the opening through the follower plate is only $\varnothing 8,5$ mm.

When cleaning the pump house and the impeller chamber the operation liquid supplies (DD), the drain plugs (DR) (both ends) and the bottom drain plug (DR) should be removed.

After this impurities and other deposits should be cleaned throughout the openings (DD) and (DR).

Round irons and other tools may be used. Drain plugs require a tool that has a maximum of $\varnothing 6$ mm.

After having loosened impurities and other deposits the pump should be washed down with water. This should be done until the outlet of the pump is totally clean.

The pipe from the operation liquid, the plugs and other accessories may be reinstalled so that the pump once again can be supplied with operation liquid to its required level.

Lubrication of the pump

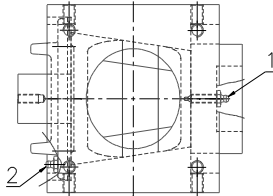
The shaft seals of the pump are constantly being lubricated by the operation liquid therefore they need no further maintenance.

If operating without operation liquid the shaft seals will be damaged.

The shaft bearings should be lubricated after every 1500 hours of operation.

The recommended amount of lubricant required is at 15 grams at each bearing.

If the pump is mounted with a Samson four-way-valve it should be lubricated after the following specifications:



- Nipple No. 1: 1 thrust once a day (2 g).

- Nipple No. 2: 3 thrusts 3-4 times a year (6-8 g).

Note: When lubricating No. 2, subsequent lubrication of No. 1 is necessary (2 g).

Recommended lubricant:

We recommend using SKF grease LGWA2. If you have Shell Gadus S5 T460 1.5 (previously recommended) in stock, you can easily use the remaining, before you begin using LGWA2. Mixing of these two greases have no ill effect on the bearings.

Operations of maintenance

The customer should make sure that the liquid level of the pump house is correct and make sure to lubricate the bearings.

The customer should also check up on the suction piping, the transmission, the amount of operation liquid supply and make sure that all bolts are secure.

Repairing the pump

If the pump needs to be repaired it should be done by a person that is highly qualified in such operations.

Changing the seals and the bearings requires special-purpose tools.

Warning!!

Incorrect changing of seals and bearings can result in severe damage to the pump.

Dismounting and removing the pump

The Samson liquid ring pump is produced so that the main part of the pump is recyclable. Therefore SAMSON PUMPS offers the consumer the option of being able to return those pumps, which are worn out and the pumps can either be renovated or scrapped.

For those who do not wish to make use of this offer the pump should be dismantled as follows:

Operation liquid
Packaging
Seals
Sealing rings

The disposal of these should meet the national regulations.

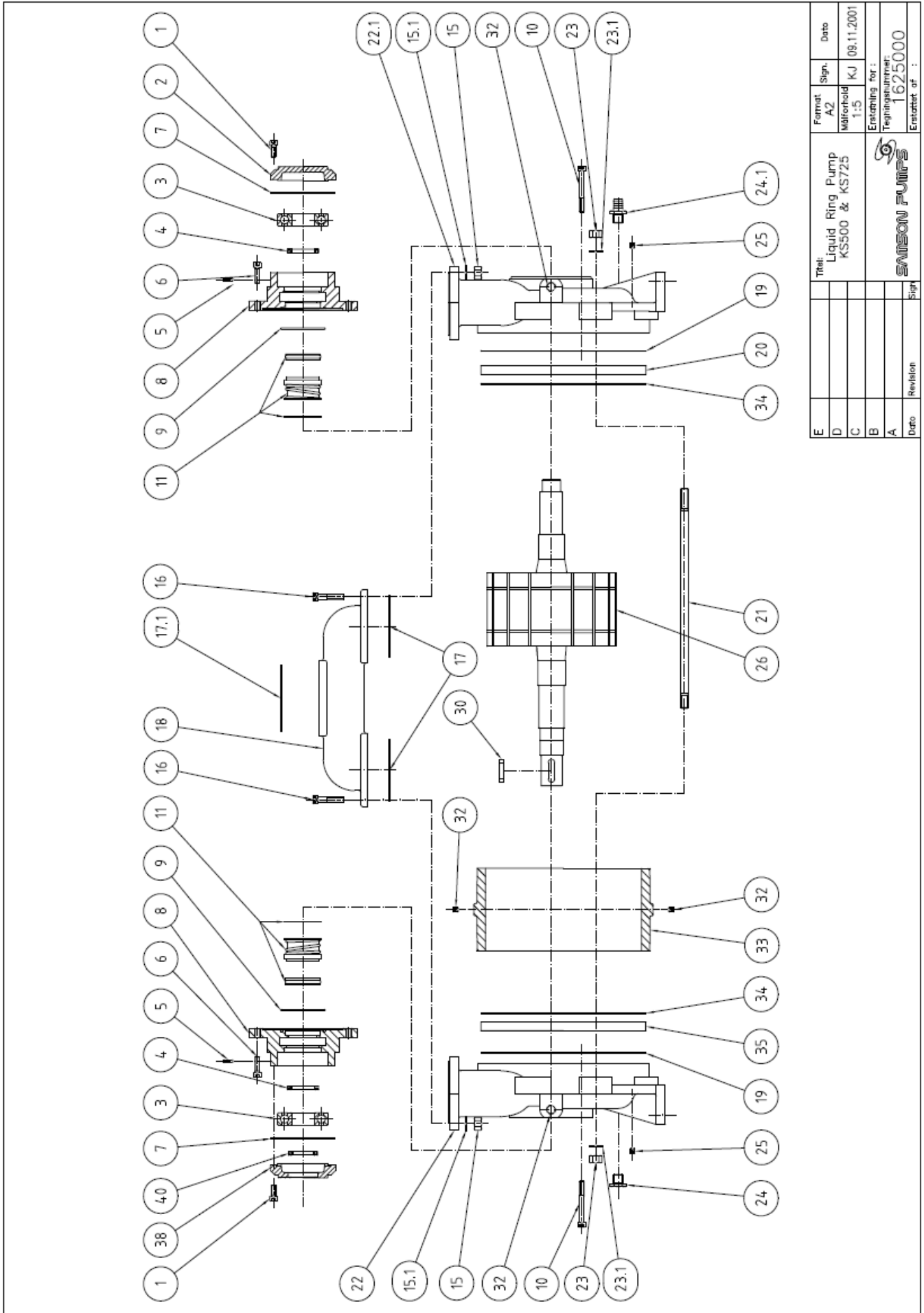
Remaining parts which consist of metal can be remelted.

SPARE PARTS FOR LIQUID RING PUMP KS500 and KS725
W/SHAFT Ø35 K6

Model: KS500 and KS725

Drawing no.: 1625000

POS.	DESCRIPTION	QTY	DIMENSIONS
1	Allen screw	8	M10x25
2	Bearing cap	1	
3	Bearing	2	Ø40/110x27 mm
4	Sealing ring	2	50x80x10 mm
5	Lubricator nipple	2	M8
6	Bolt	8	M12x35
7	Gasket	2	0,4 mm
8	Bearing housing	2	
9	O-ring	2	88,49x3,53 mm
10	Allen screw	4	M10x90
11	Mechanical shaft seal Ø50	2	
15	Nut	16	M12
15.1	Lock washer	16	Ø12 mm
16	Allen screw	16	M12x55
17	Rubber gasket	4	Ø150/79x2 mm
17.1	O-ring	2	Ø134,30x5,70 mm
18	Branch pipe KS500	1	
18	Branch pipe KS725	1	
19	Gasket	2	Ø359x0,4 mm
20	Flow plate - cast iron	1	
20	Flow plate - bronze	1	
21	Staybolt KS500	8	M16x360
21	Staybolt KS725	8	M16x430
22	Pump housing, Drive end	1	
22.1	Pump housing, Non drive end	1	
23	Nut	16	M16
23.1	Lock washer	16	Ø17 mm
24	Plug	1	3/4"
24.1	Hose nipple	1	3/4"
25	Plug	6	1/4"
26	Rotor w/shaft KS500 right	1	
26	Rotor w/shaft KS725 right	1	
26	Rotor w/shaft KS500 left	1	
26	Rotor w/shaft KS725 left	1	
30	Key	1	10x8x50 mm
32	Plug	4	3/8"
33	Shell KS500, cast iron	1	
33	Shell KS500, stainless steel	1	
33	Shell KS725, cast iron	1	
33	Shell KS725, stainless steel	1	
34	Gasket	2	Ø360/346x0,4 mm
35	Flow plate - cast iron	1	
35	Flow plate - bronze	1	
38	Bearing cap	1	
40	Sealing ring	1	40x65x10 mm
*	Set of seals	1	(=POS. 4,7,9,19,34,40)
*	Grease, 400g	1	(Use: 150g / bearing)
*	Bush for shaft seal assembly	1	(For shaft seal Ø50)



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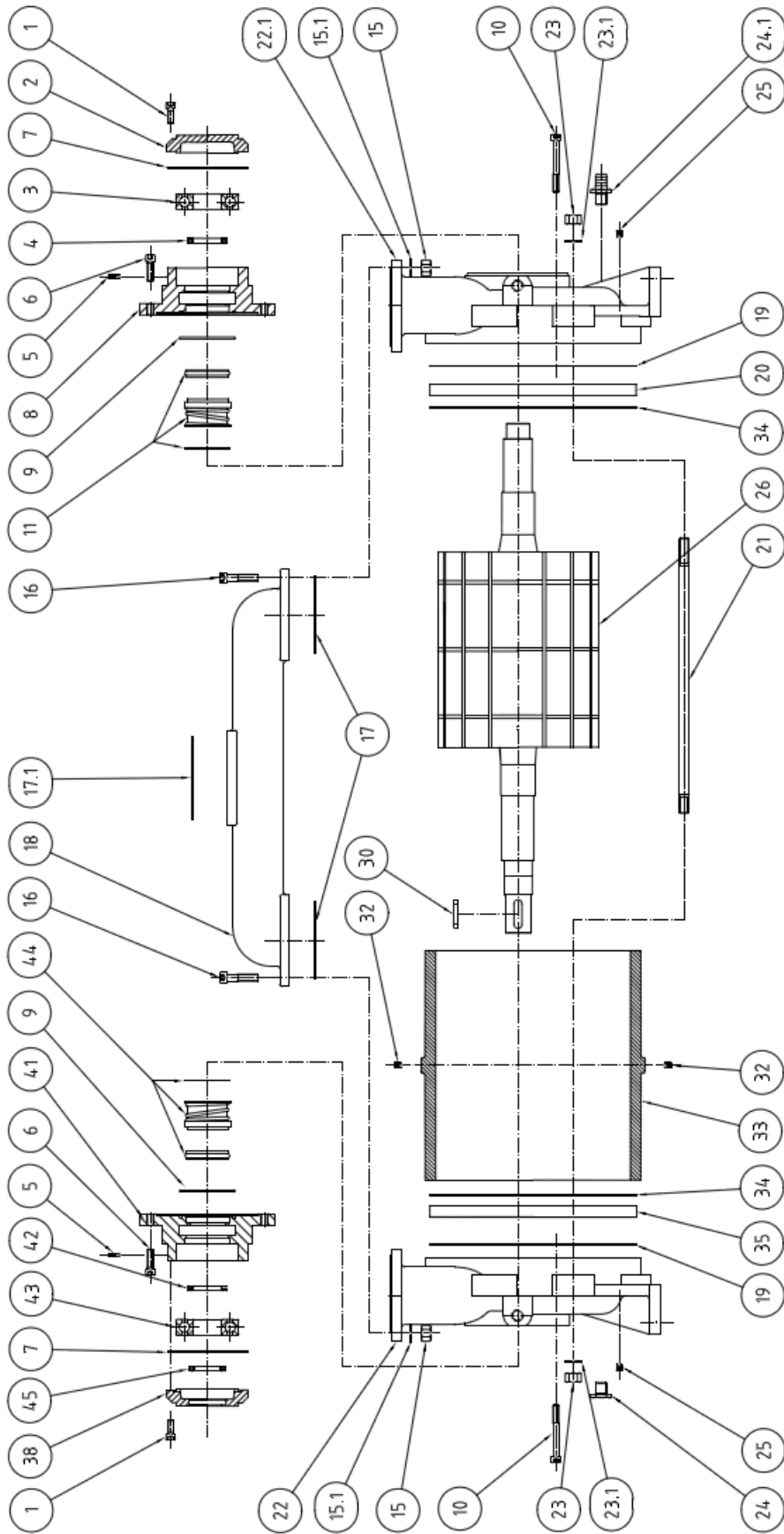


SPARE PARTS FOR LIQUID RING PUMP KS1025
W/SHAFT Ø45 K6

Model: KS1025

Drawing no.: 1625001

POS.	DESCRIPTION	QTY	DIMENSIONS
1	Allen screw	8	M10x25
2	Bearing cap	1	
3	Bearing	1	Ø40/110x27 mm
4	Sealing ring	1	50x80x10 mm
5	Lubricator nipple	2	M8
6	Allen screw	8	M12x35
7	Gasket	2	0,4 mm
8	Bearing housing	1	
9	O-ring	2	88,49x3,53 mm
10	Allen screw	4	M10x90
11	Mechanical shaft seal Ø50	1	
15	Nut	16	M12
15.1	Lock washer	16	Ø12 mm
16	Allen screw	16	M12x55
17	Rubber gasket	4	Ø150/79x2 mm
17.1	O-ring	2	Ø134,30x5,70 mm
18	Branch pipe KS1025 vac./pres.	1	
19	Gasket	2	Ø359x0,4 mm
20	Flow plate - cast iron	1	
20	Flow plate - bronze	1	
21	Staybolt KS1025	8	M16x570
22	Pump house, Drive end	1	
22.1	Pump house, Non drive end	1	
23	Nut	16	M16
23.1	Lock washer	16	Ø17 mm
24	Plug	1	3/4"
24.1	Hose nipple	1	3/4"
25	Plug	6	1/4"
26	Rotor w/shaft KS1025 right	1	
26	Rotor w/shaft KS1025 left	1	
30	Key	1	14x9x50 mm
32	Plug	4	3/8"
33	Shell KS1025, cast iron	1	
33	Shell KS1025, stainless steel	1	
34	Gasket	2	Ø360/346x0,4 mm
35	Flow plate - cast iron	1	
35	Flow plate - bronze	1	
38	Bearing cap Ø45	1	
41	Bearing housing	1	
42	Sealing ring Ø55	1	55x80x8 mm
43	Bearing	1	Ø50/110x27 mm
44	Mechanical shaft seal Ø55	1	
45	Sealing ring	1	50x65x10 mm
*	Set of seals	1	(= POS. 4,7,9,19,34,42,45)
*	Grease, 400g	1	(Use: 150g / bearing)
*	Bush for shaft seal assembly	1	(For shaft seal Ø50)
*	Bush for shaft seal assembly	1	(For shaft seal Ø55)



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A	Ersättning för :		
	Tekniknummret		
	1625001		
	Ersätter av :		

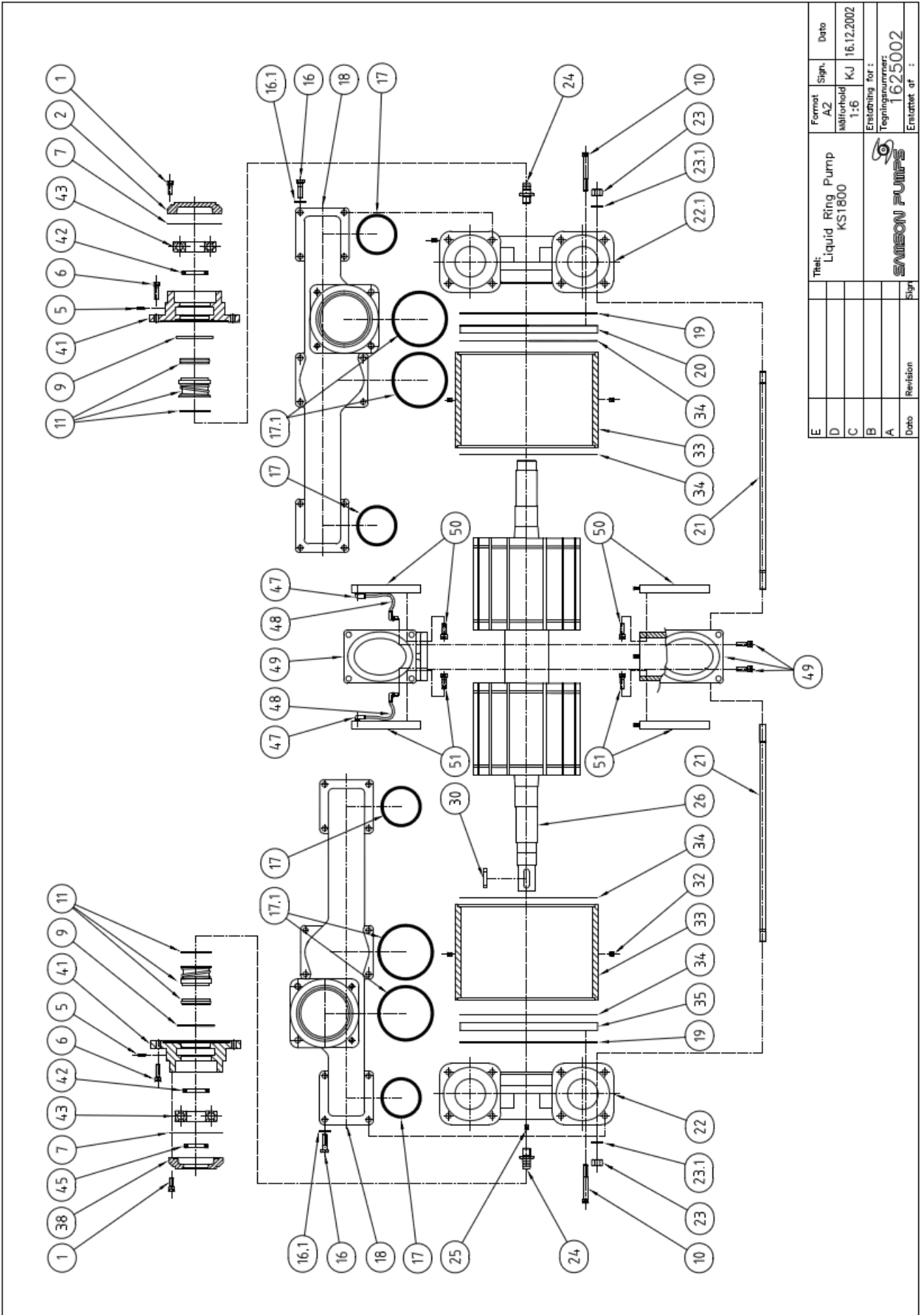
Date	Revision	Sign

SPARE PARTS FOR LIQUID RING PUMP KS1800
W/SHAFT Ø45 K6

Model: KS1800

Drawing No.: 1625002

POS.	DESCRIPTION	QTY	DIMENSIONS
1	Allen screw	8	M10x25
2	Bearing cap	1	
5	Lubricator nipple	2	M8
6	Allen screw	8	M12x35
7	Gasket	2	0,4 mm
9	O-ring	2	88,49x3,53 mm
10	Allen screw	4	M10x90
11	Mechanical shaft seal Ø55	2	
16	Allen screw	24	M12x55
16.1	Lock washer	24	M12
17	O-ring	4	94,20x5,70 mm
17.1	O-ring	4	134,30x5,70 mm
18	Branch pipe vacuum/pressure	2	
19	Gasket	2	Ø359x0,4 mm
20	Flow plate - cast iron	1	
20	Flow plate - bronze	1	
21	Staybolt	16	M16x370
22	Pump housing, Drive end	1	
22.1	Pump housing, Non drive end	1	
23	Nut	16	M16
23.1	Lock washer	16	Ø17 mm
24.1	Hose nipple	2	3/4"
25	Plug	6	1/4"
26	Rotor w/shaft KS1800 right	1	
26	Rotor w/shaft KS1800 left	1	
30	Key	1	14x9x50 mm
32	Plug	6	3/8"
33	Shell, cast iron	2	
33	Shell, stainless steel	2	
34	Gasket	4	Ø360/346x0,4 mm
35	Flow plate - cast iron	1	
35	Flow plate - bronze	1	
38	Bearing cap	1	
41	Bearing housing	2	
42	Sealing ring	2	55x80x8 mm
43	Bearing	2	Ø50/110x27 mm
45	Sealing ring	1	50x65x10 mm
47	Fittings, swivel	4	1/8" x ø6
48	Tecalon tube	2	6x4 mm
49	Intermediate housing	1	
50	Flow plate cpl. - cast iron	1	
50	Flow plate - bronze	1	
51	Flow plate cpl. - cast iron	1	
51	Flow plate - bronze	1	
*	Set of seals	1	(= POS. 7,9,19,34,42,45)
*	Grease, 400g	1	(Use: 150g/bearing)
*	Bush for shaft seal assembly	1	(For shaft seal Ø55)



E	Format	Sign.	Dato
D	A2		16.12.2002
C	Målestokk	KJ	
B	1:6		
A	Etablert for:		
	Tegningnummer: 1625002		
	Etablert af:		

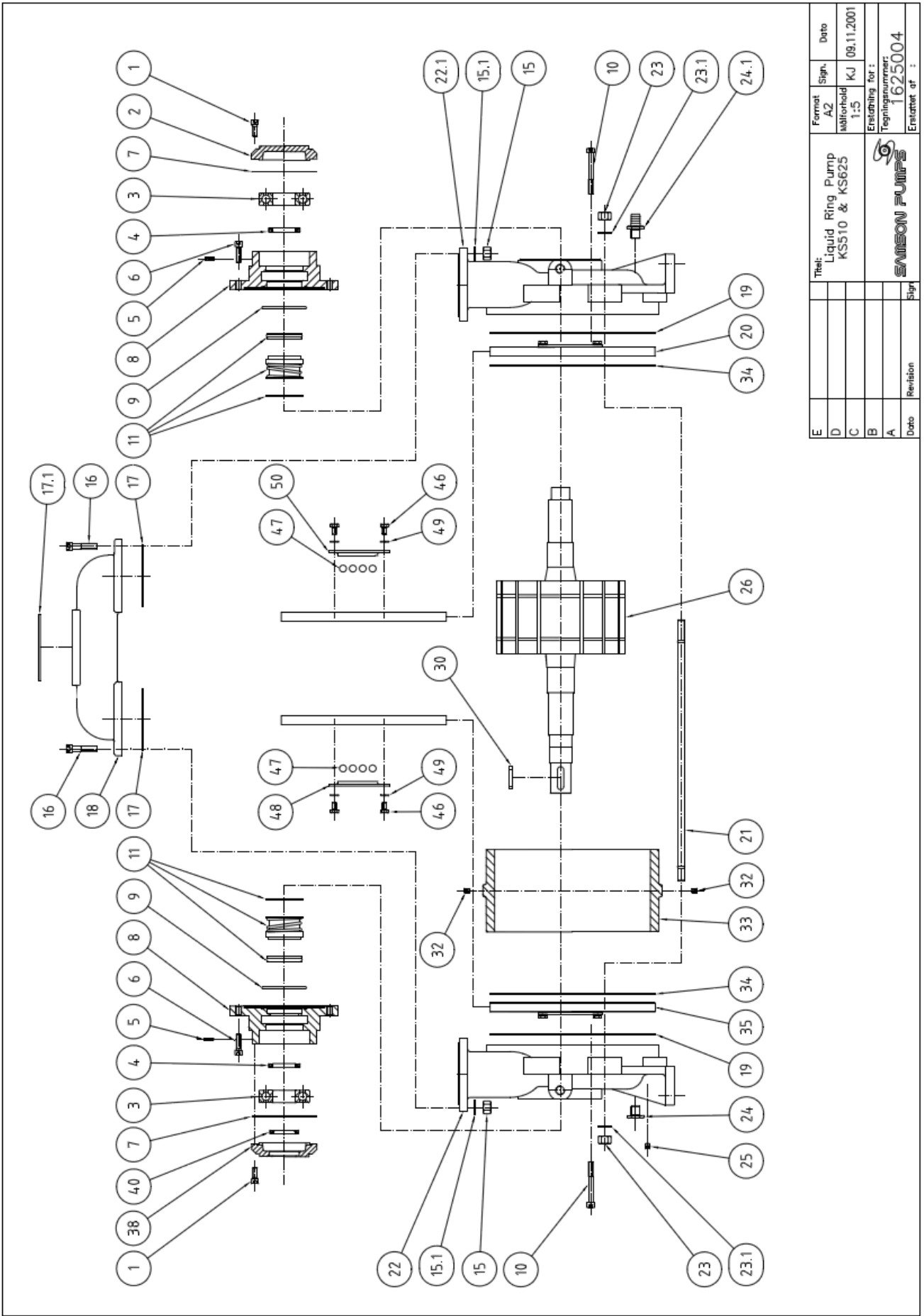
Dato	Revisjon	Sign

SPARE PARTS FOR LIQUID RING PUMP KS500
W/SHAFT Ø35 K6

Model: KS510

Drawing no.: 1625004

POS.	DESCRIPTION	QTY	DIMENSIONS
1	Allen screw	8	M10x25
1.1	Lock washer DIN 6798	8	M10
2	Bearing cap	1	
3	Ball bearing	2	Ø40/110x27 mm
4	Sealing ring	2	50x80x10 mm
5	Grease nipple	2	M8
6	Bolt int. DIN 912	8	M12x35
7	Gasket	2	0,4 mm
8	Bearing housing	2	
9	O-ring	2	88,49x3,53 mm
10	Allen screw	4	M10x90
11	Mechanical shaft seal Ø50	2	
15	Nut	16	M12
15.1	Lock washer	16	Ø12 mm
16	Allen screw	16	M12x55
17	Rubber gasket	4	Ø150/79x2 mm
17.1	O-ring	2	Ø134,30x5,70 mm
18	Branch pipe	1	
19	Gasket	2	Ø359x0,4 mm
20	Flow plate - cast iron	1	
20	Flow plate – bronze	1	
21	Staybolt	8	M16x360
22	Pump housing, Drive end	1	
22.1	Pump housing, Non drive end	1	
23	Nut DIN 934	16	M16
23.1	Washer DIN 125	16	M16
24	Plug	1	3/4"
24.1	Hose nipple	1	3/4"
25	Plug	6	1/4"
26	Rotor w/shaft KS510, right	1	
26	Rotor w/shaft KS510, left	1	
30	Key	1	10x8x50 mm
32	Plug	4	3/8"
33	Shell - cast iron	1	
33	Shell – Stainless steel	1	
34	Gasket	2	Ø360/346x0,4 mm
35	Flow plate - cast iron	1	
35	Flow plate – bronze	1	
38	Bearing cap	1	
40	Sealing ring	1	40x65x10 mm
46	Set screw, stainless	6	M10x16
47	Ball	16	Ø15 mm
48	Ball guide, Drive end	1	
49	Spring washer, stainless	6	M10
50	Ball guide, Non drive end	1	
* Set of seals		1	(= POS. 4,7,9,19,34,40)
* Grease, 400g		1	(Use: 150g / bearing)
* Bush for shaft seal assembly		1	(For shaft seal Ø50)



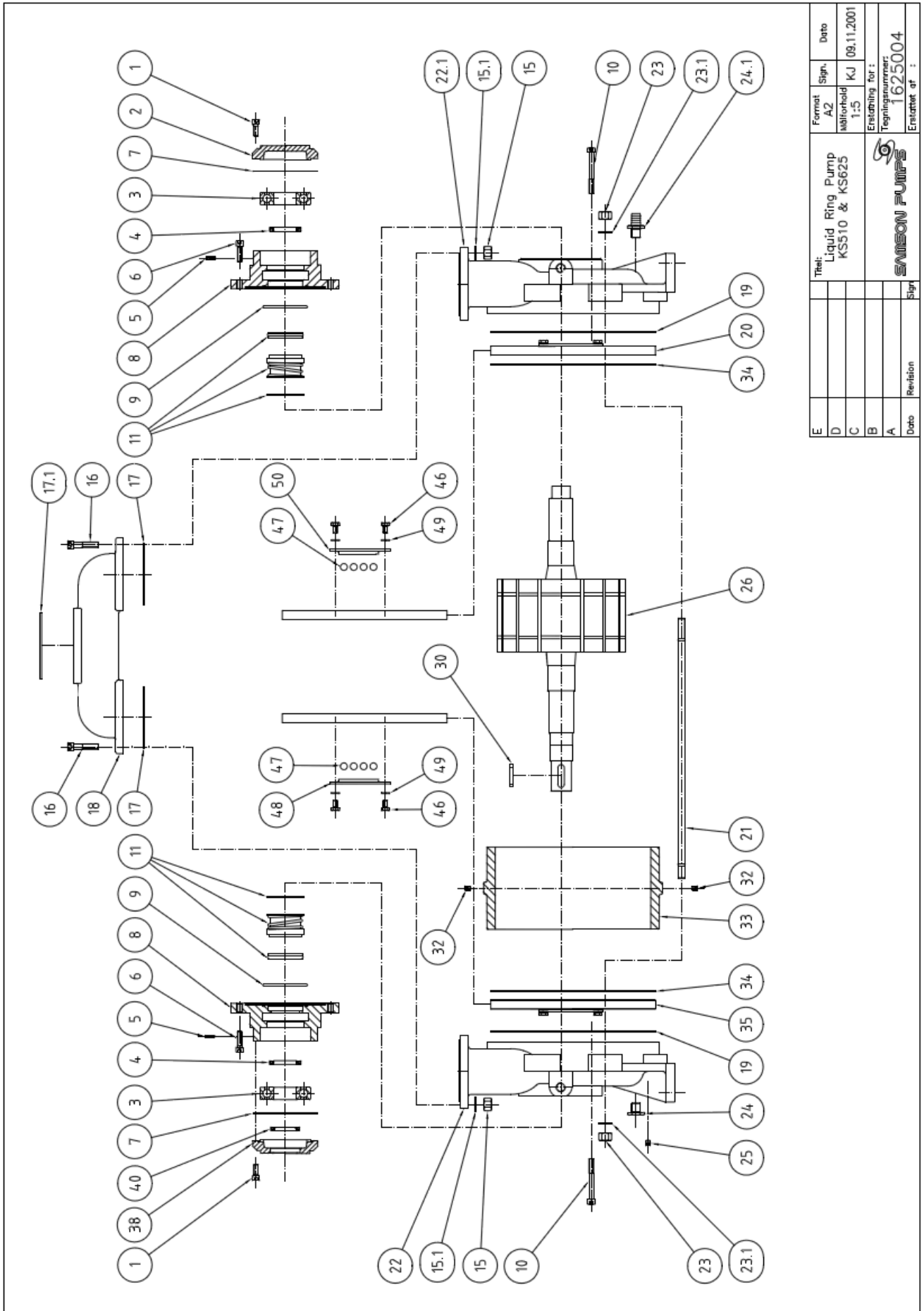
E	D	C	B	A	Date	Revision	Sign
Titel: Liquid Ring Pump KS510 & KS625							
Formst.		Sign.		Date			
A2		KJ		08.11.2001			
Maßstab		Vergrößerung		Entwurf für			
1:5				1625004			
Zeichnungsnummer: 1625004 Entwurf von:							

SPARE PARTS FOR LIQUID RING PUMP KS625
W/SHAFT Ø35 K6

Model: KS625

Drawing no.: 1625004

POS.	DESCRIPTION	QTY	DIMENSIONS
1	Allen screw	8	M10x30
2	Bearing cap	1	
3	Ball bearing	2	Ø40/110x27 mm
4	Sealing ring	2	50x80x10 mm
5	Grease nipple	2	M8
6	Allen screw	8	M12x35
7	Gasket	2	0,4 mm
8	Bearing housing	2	
9	O-ring	2	88,49x3,53 mm
10	Allen screw	4	M10x90
11	Mechanical shaft seal Ø50	2	
15	Nut	16	M12
15.1	Lock washer	16	Ø12 mm
16	Allen screw	16	M12x55
17	Rubber gasket	4	Ø150/79x2 mm
17.1	O-ring	2	Ø134,30x5,70 mm
18	Branch pipe	1	
19	Gasket	2	Ø359x0,4 mm
20	Flow plate - cast iron	1	
20	Flow plate - bronze	1	
21	Staybolt	8	M16x430
22	Pump housing, Drive end	1	
22.1	Pump housing, Non drive end	1	
23	Nut DIN 934	16	M16
23.1	Washer DIN 125	16	M16
24	Plug	1	3/4"
24.1	Hose nipple	1	3/4"
25	Plug	6	1/4"
26	Rotor w/shaft KS625, right	1	
26	Rotor w/shaft KS625, left	1	
30	Key	1	10x8x50 mm
32	Plug	4	3/8"
33	Shell – cast iron	1	
33	Shell – stainless steel	1	
34	Gasket	2	Ø360/346x0,4 mm
35	Flow plate - cast iron	1	
35	Flow plate - bronze	1	
38	Bearing cap	1	
40	Sealing ring	1	40x65x10 mm
46	Set screw, stainless	6	M10x16
47	Ball	16	Ø15 mm
48	Ball guide, Drive end	1	
49	Spring washer, stainless	6	M10
50	Ball guide, Non drive end	1	
*	Set of seals	1	(= POS. 4,7,9,19,34,40
*	Grease, 400g	1	(Use: 150g / bearing)
*	Bush for shaft seal assembly	1	(For shaft seal Ø50)



E	Formst	Sign.	Date
D	A2	KJ	08.11.2001
C	maßstab	1:5	
B	Entwurf für :		
A	Technische Zeichnung		
	1625004		
	Entwerfer :		

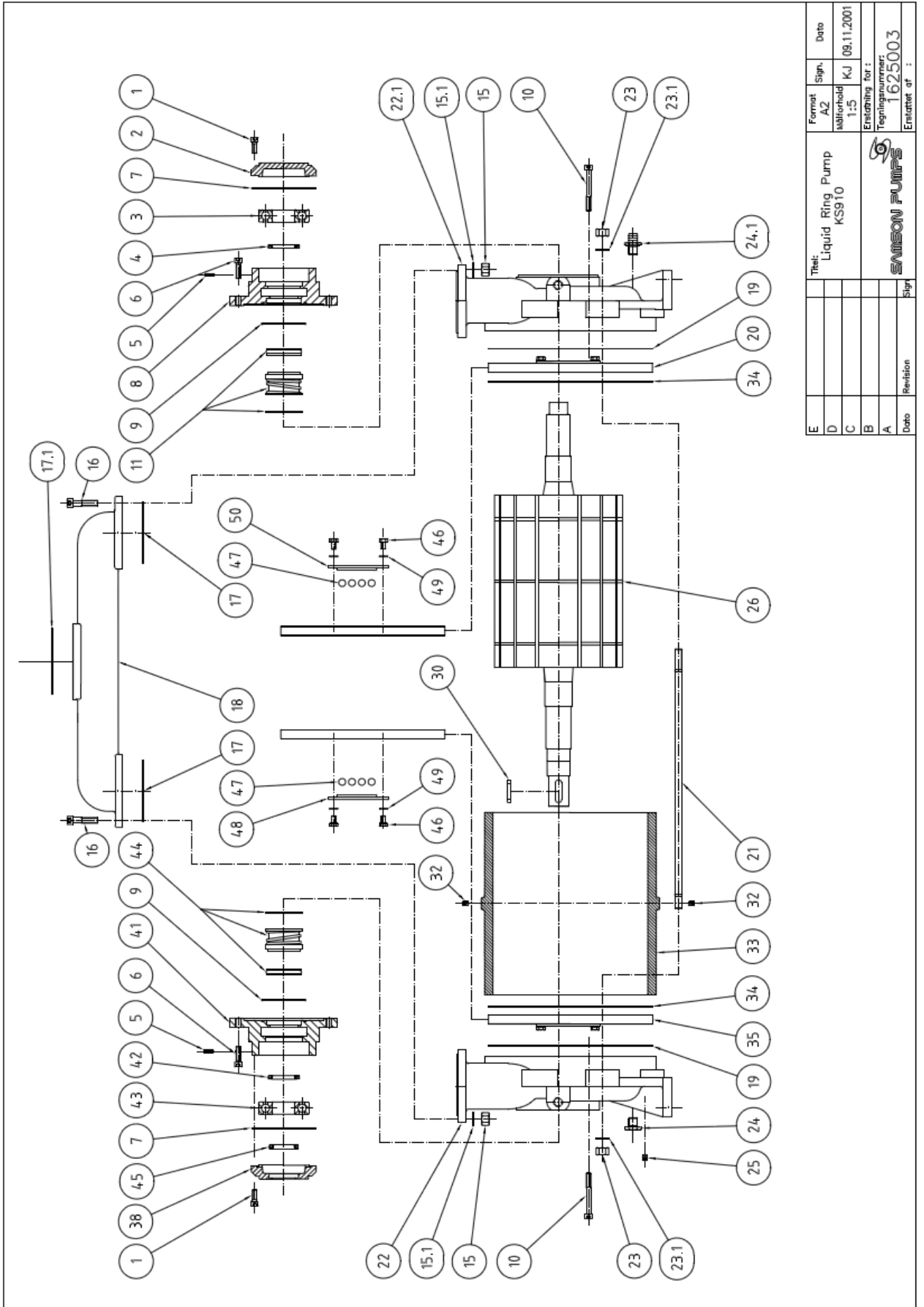
Date	Revision	Sign

SPARE PARTS FOR LIQUID RING PUMP KS910
W/SHAFT Ø45 K6

Model: KS910

Drawing no.: 1625003

POS.	DESCRIPTION	QTY	DIMENSIONS
1	Allen screw	8	M10x25
2	Bearing cap	1	
3	Ball bearing	1	Ø40/110x27
4	Sealing ring	1	50x80x10 mm
5	Grease nipple	2	M8
6	Allen screw	8	M12x35
7	Gasket	2	0,4 mm
8	Bearing housing	1	
9	O-ring	2	88,49x3,53 mm
10	Allen screw	4	M10x90
11	Mechanical shaft seal Ø50	1	
15	Nut	16	M12
15.1	Lock washer	16	Ø12 mm
16	Bolt	16	M12x55
17	Rubber gasket	4	Ø150/79x2 mm
17.1	O-ring	2	Ø134,30x5,70 mm
18	Branch pipe	1	
19	Gasket	2	Ø359x0,4 mm
20	Flow plate - cast iron	1	
20	Flow plate – bronze	1	
21	Staybolt	8	M16x570
22	Pump housing, Non drive end	1	
22.1	Pump housing, Drive end	1	
23	Nut DIN 934	16	M16
23.1	Washer DIN 125	16	M16
24	Plug	1	3/4"
24.1	Hose nipple	1	3/4"
25	Plug	6	1/4"
26	Rotor w/shaft KS910, right	1	
26	Rotor w/shaft KS910, left	1	
30	Key	1	14x9x50 mm
32	Plug	4	3/8"
33	Shell – cast iron	1	
33	Shell – stainless steel	1	
34	Gasket	2	Ø360/346x0,4 mm
35	Flow plate - cast iron	1	
35	Flow plate – bronze	1	
38	Bearing cap	1	
41	Bearing housing f. ø45 shaft	1	
42	Sealing ring	1	55x80x8 mm
43	Bearing	1	Ø50/110x27 mm
44	Mechanical shaft seal Ø55	1	
45	Sealing ring	1	50x65x10 mm
46	Set screw, stainless	6	M10x16
47	Ball	16	Ø15 mm
48	Ball guide, drive end	1	
49	Spring washer, stainless	6	M10
50	Ball guide, rear	1	
*	Set of seals	1	(= POS. 4,7,9,19,34,42,45)
*	Grease, 400g	1	(Use: 150g / bearing)
*	Bush for shaft seal assembly	1	(For shaft seal Ø50)
*	Bush for shaft seal assembly	1	(For shaft seal Ø55)



E	D	C	B	A	Date	Revision	Sign
Title: Liquid Ring Pump KS910 Form: A2 Maßstab: 1:5 Zeichnungsnummer: 1625003 Errechnet von:							
Datum: 09.11.2001 Sign.: KJ Entwurf von:							

Declaration of Conformity

Annex IIA

Samson Pumps A / S

Petersmindevej 21

DK-8800 Viborg

Hereby declares that the following products:

Liquid ring pump
KS500, KS510, KS625, KS725, KS910, KS1025, KS1800

Conforms to the directive:

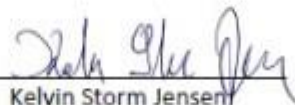
Machinery Directive 2006/42/EC

I hereby declare, that the liquid ring pumps are in conformity with the following harmonized standards:

EN 12100:2011	Safety of machinery - General principles for design - Risk assessment and risk reduction
EN 1012-2 + A1:2009	Compressors and Pumps - Safety requirements - Part 2: Vacuum pumps

The standards above only apply to the extent that it is relevant for the purpose of the pump. The product must not be used before the complete system, which it must be incorporated in, has been conformity assessed and found to comply with all relevant health and safety requirements of 2006/42/EC and other relevant directives. The product must be included in the overall risk assessment.

Viborg, 24.08.2015



Kelvin Storm Jensen
R&D Manager
Samson Pumps A/S



SAMSON PUMPS

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