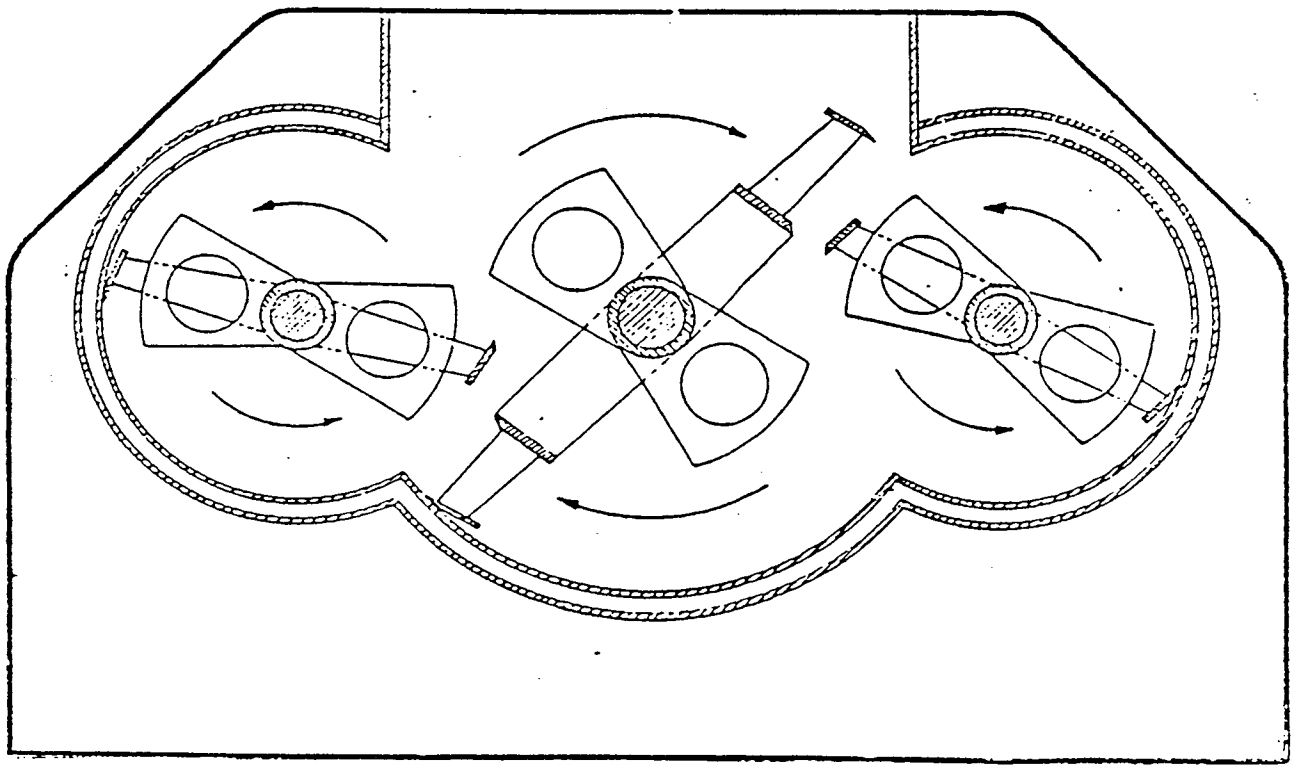
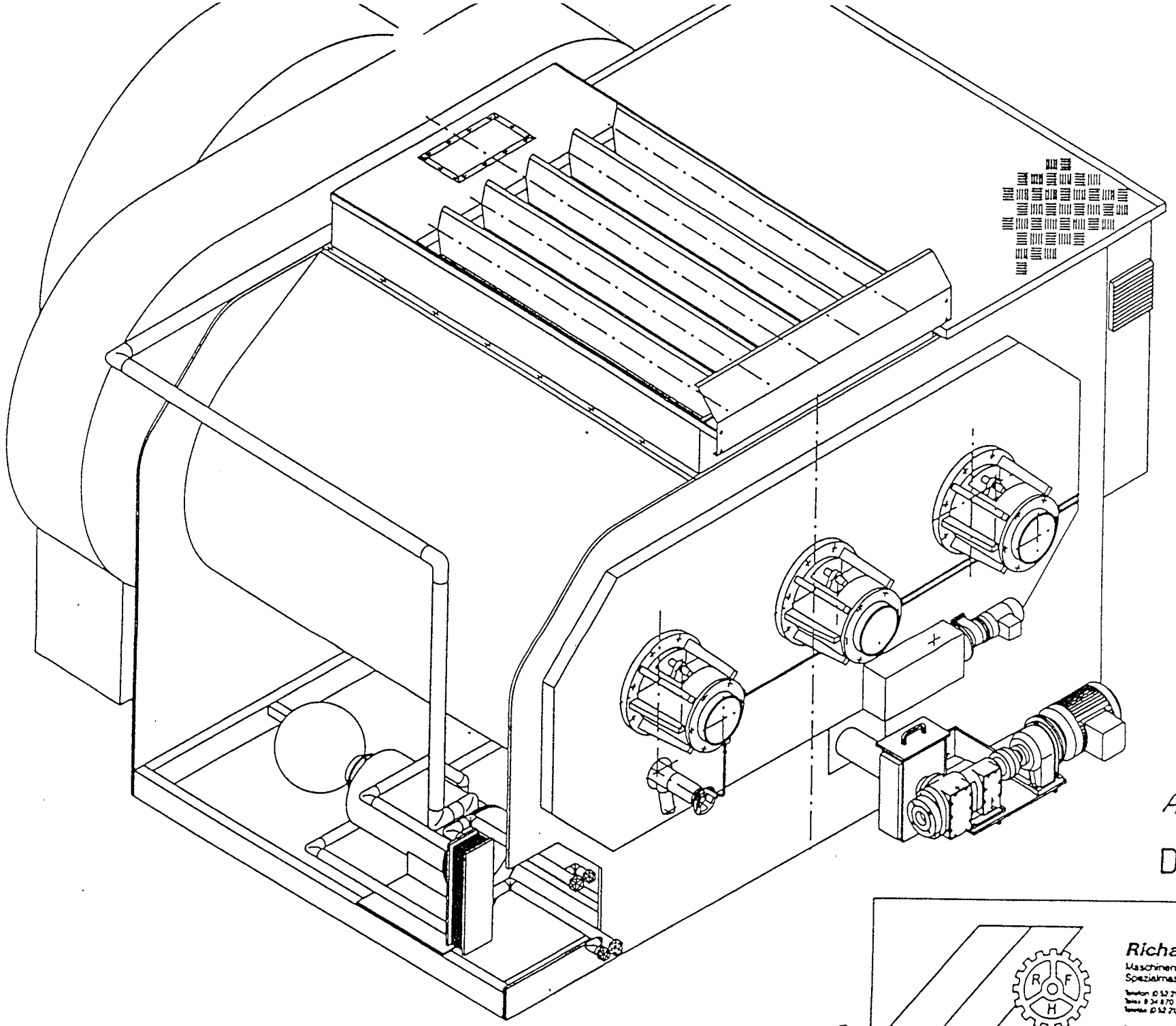
FRISSE CONCHE

CONCHE FRISSE





Ausf. „A"

DÜC 6

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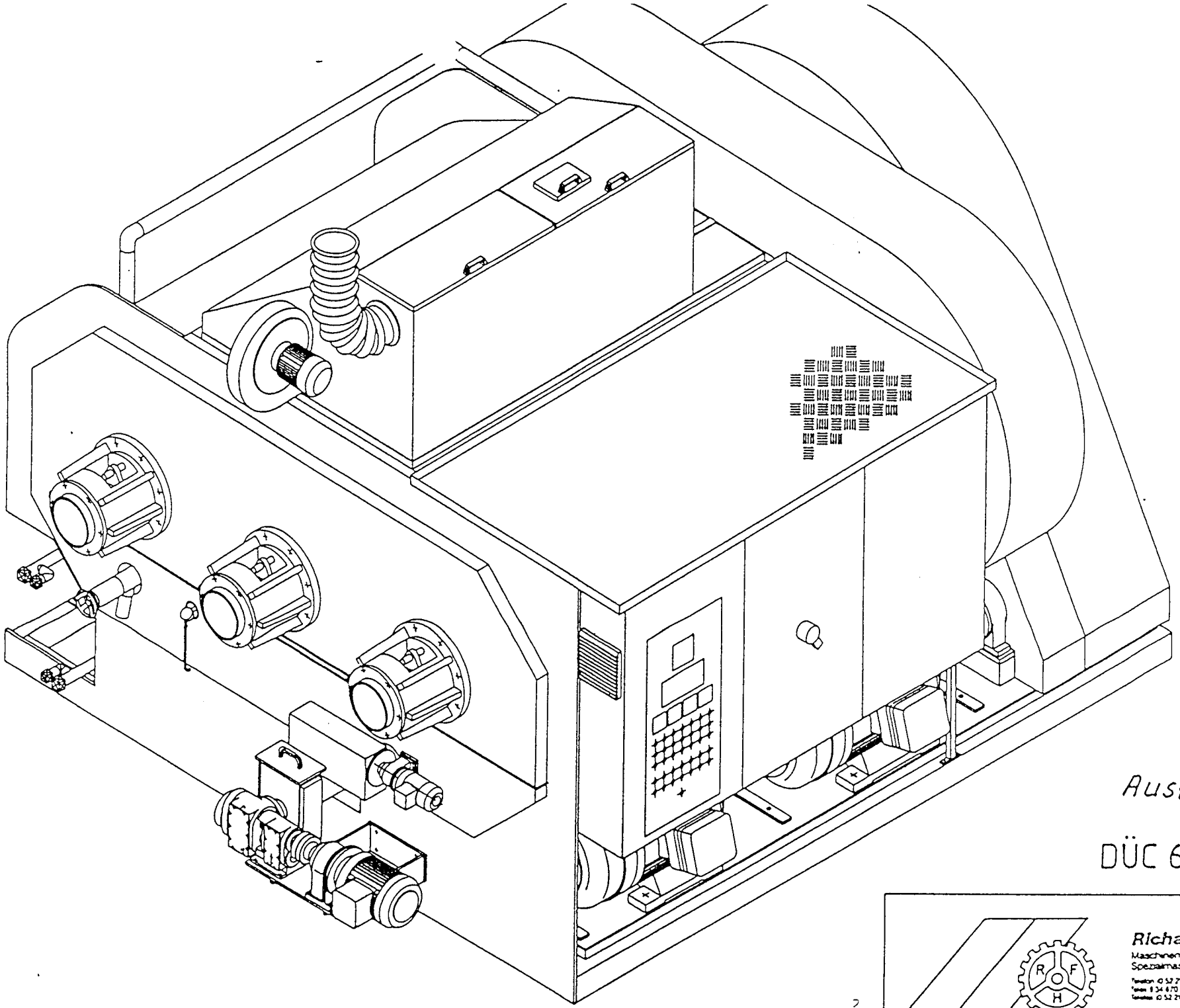

Ausf. „B"

DÜC 6

Richard Frisse GmbH
Maschinenfabrik
Spezialmaschinen für die Süßwarenindustrie

Working Instructions

Double Conche (Overbeating)

DÜC 3/4 drawing DÜC-B 3/4
DÜC 5 drawing DÜC-B 5
DÜC 3 drawing 3L-C-3000-1b
DÜC 4 drawing 3L-C-4000-1b
DÜC 5 drawing 3L-C-5000

Weights:	DÜC 3-ton	DÜC 4-ton	DÜC 5-ton
with motor	11.500 kg	12.350 kg	15.000 kg
without motor	10.600 kg	11.350 kg	13.900 kg
electr. power requirements:	77 kW	105 kW	127 kW
capacity of container:	4600 ltrs.	5800 ltrs.	7390 ltrs.
Working capacity:	3000 kgs	4000 kgs	5000 kgs
steam content:	370 ltrs.	438 ltrs.	518 ltrs.
max. working pressure:	0,5 Atü	0,5 Atü	0,5 Atü
max. masstemperature	85°C	85°C	85°C
floorload machine filled:	1500 kg/m^2	1500 kg/m^2	1600 kg/m^2

Encls.

DÜC-B 3/4 or 5
3L-C-1
greace plan
SK-E 4
working instruction Ortlinghaus
wiring diagram Klöckner-Moeller
3L-C-3000-1,-4000-1-or 5000

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Erection manual for dismantled delivery

component parts:

1) Container part 1-4 with agitator parts

2) Motors with bracket compl. part 5

3) gear set part 11/12/13

4) V-Pulley part 8

5) 6 bearings part 14/15/16/17

6) 1 Oil-bath part 92 fitted with side panels cover and gridcover

7) 3 drive shafts part 67/68

8) 1 drivesprocket part 10

9) parts of outside frame and small parts

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Set up of machine

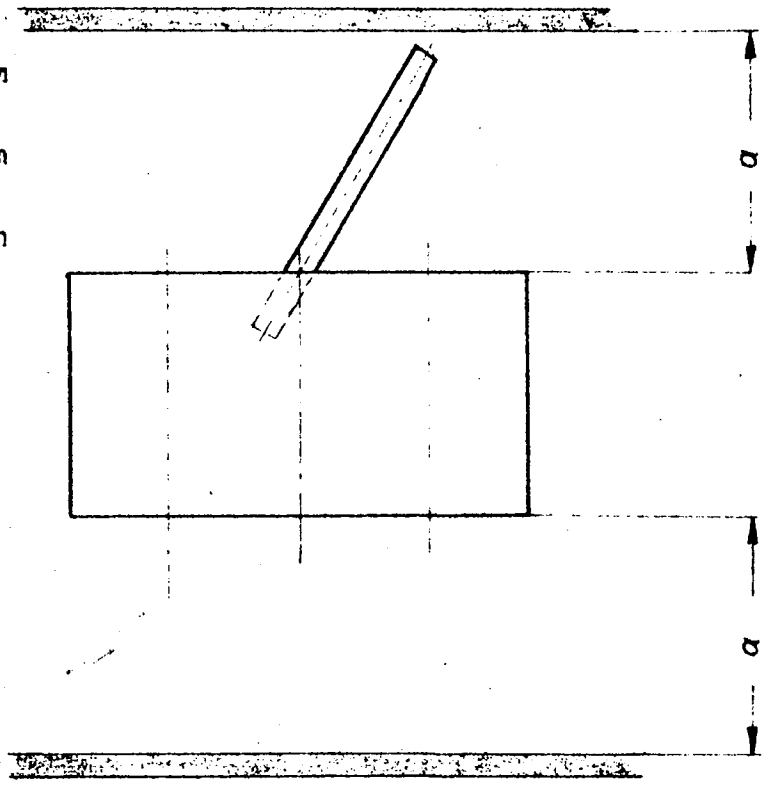
The allotted space for the machine should be straight and level.
The floorload has to be as required on page 1.
If needed, the floor should be strengthened.
This can be done by adding a platform.
The machine can be mounted at its final place, if the required space shown in figure 1 is available behind and in front of the machine.

Usually all shafts have to be mounted from the back.
If this is not possible because of space, this work can also be done from the front. But the way of mounting is not extra explained.

3 to 2600 mm

4 to 3000 mm

5 to 3250 mm



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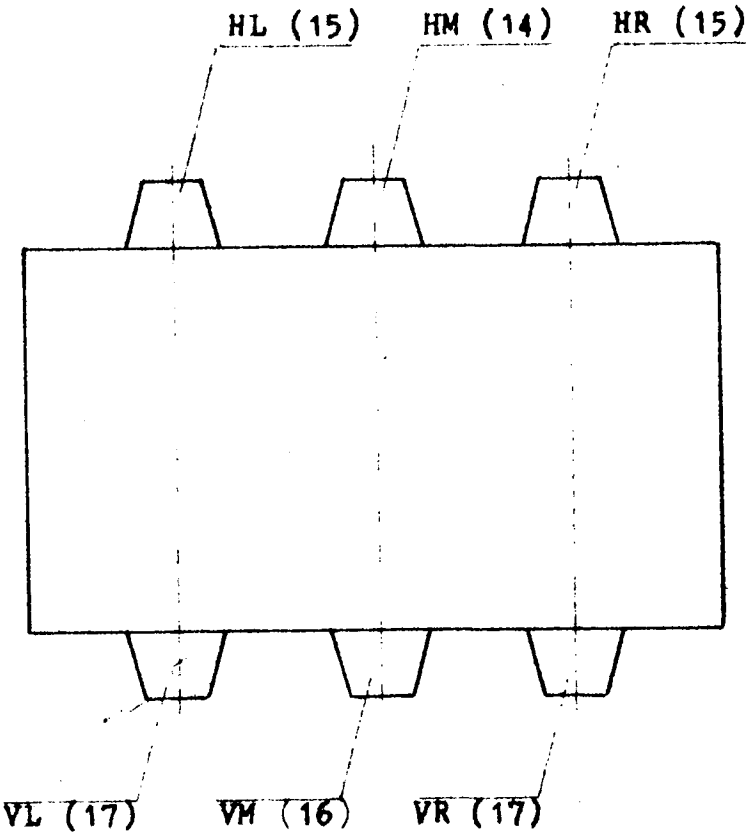
The min. distance behind the machine has to be 700 mm.
If for reasons of space this distance is otherwise needed, the machine must be moved back after all shafts are installed.

The conche container 1 - 4 has to be emptied. The sealing faces of bearings have to be cleaned and sealed with sealing compound. Then the front bearings 16 + 17 can be mounted after putting in the dowel pins.

For placing and mounting of bearings see figure 2.



- figure 2 -

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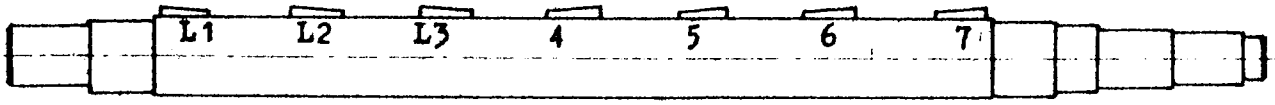
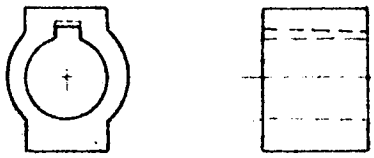
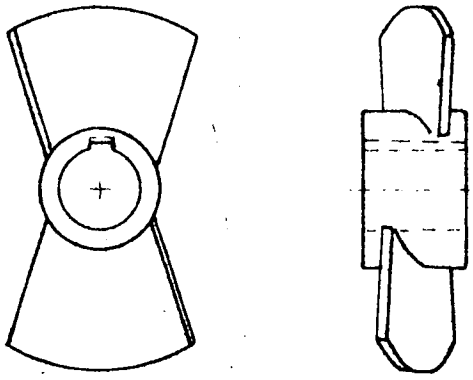
After the shafts have been cleaned, they are mounted from the back, starting from the left-hand side. The side marked with L1 on the keyways has to be pushed into the container-hole, untill keyway 4 reaches into the centre wall 3, after this the holdingblocks and rotators can be mounted, following directions of marks and taper key shown in figure 3 (succession 7-6-5-4-3-2-1)



- figure 3 -



Holdingblocks L1+3



Rotoators L2

Holdingblocks 5+7 as well as rotator 4+6 mounted opposite to the figure.

It is recommended that the keying is completed after all shafts are mounted.
After putting all rotators and holdingblocks on to the left hand shaft the shaft is pushed into the compl. front bearing with sealingring and bearing.
It is further recommended to put a support under the shaft so that it can be pushed together with the shaft after adjustment, into the direction of the bearing.
The back bearing can be mounted now after all faces are sealed with sealing compound.

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The right fit of dowel pins has to be maintained, otherwise the matching of teeth on the drive might not be correct. Before the expanding bearings are tightened, the right hand shaft has to be mounted as already explained, after which follows the centre shaft. The sectional pieces are mounted different. The marking is the same. All 3 shafts have to be adjusted in axialdirection so that the distance from the container wall to the rotators from both sides is even, otherwise the drivegears might not fit exactly. For better control a straight edge should be placed against the faces of drivegears. All 3 gears have to be parallel to the bearing housings. Now all expanding bearings can be tighten after following directions figure 4.
Before mounting it is necessary to clean holes, shafts and expanders from fat and oilfilm with a cleaning rag.

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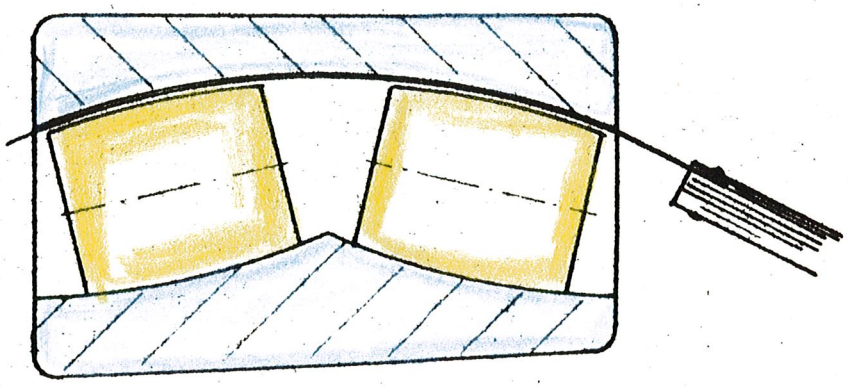
Before tightening bearings the exact starting distance over two rollers has to be taken with an inside feeler gauge see figure 4. Than following the drawing the bearingspace has to be reduced by tightening the expanders.

- figure 4 -



bearing	reducing of bearing space
22232 K	0,075-0,09 mm
22228 K	0,060-0,070 mm
22224 K	0,055-0,065 mm
21317 K	0,040-0,050 mm
22317 K	0,040-0,050 mm
22236 K	0,075-0,090 mm
22319 K	0,050-0,060 mm
22224 K + AHX 3124	0,055 - 0,065 mm
23224 K + AHX 3224	0,055 - 0,065 mm

During tightening process it is necessary that the shafts don't shift.
After tighten the nuts the bearings have to be greased up to 2/3 with roller bearing grease, see grease plan.
It is possible to use different kinds of grease this depends on the brand.
After this the bearing covers in the front and in the back can be mounted. Tighten only the two screwes on the back cover. The other screws will be tightemd together with the oilpan.

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Now all parts according to sectional view DÜC-B 3/4 or DÜC-B 5 can be tightened and secured with setscrews.

All parts are marked. The wallscrapers have to be mounted so, that looking from the front of the machine at the shafts the sharp edges of the knifes point clockwise.

Now the bearinghousing can be packed. The packing is made of teflon silk and astbestospacking rings. The cuts in the rings should be offset. The rings should be mounted with distance ring for grease lubrication as per drawing 3L-C-1 and any gaps must be filled with a vegetable grease (tasteless)

The glandbusches should be tightened more in the early days to prevent any leakage of chocolate.

At this stage it is advisable to check the machine with a spirit level and this is done on the shafting.

Any additional packing pieces carefully placed under the frames fore and aft of the container.

Now the brackets for the driptrays 94 are screwed on.

The pipelines for lubricating must be fitted according to the following instructions looking at the machine from the front.

Pipeline	from	bearing	back right	to the right
"	"	"	centre	to the right
"	"	"	left	to the left

Later the pipes will be connected with the side cover.

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After the maindrive is installed the clutch leavers can be mounted. Please use instructions of Ortlinghaus clutches.

Electrical installation now be undertaken to the prints.
Water and steam supply can be installed.
It is important to ascertain that the outlet of the cooling system is open, because the container is not built for pressure.
If equipped with temperature gauges and water cirulation observe additional instruction.

Mounting of drive gears:

Clean flange of bearingcover and oilpan and seal with sealing compound. Extra supporters have to be mounted to the container.

Gear No. 13 has to be mounted with hubside to wards bearing.
To left and right one gearpipe 11 + 12 according to the marking.

A T T E N T I O N !!!

When mounting the gearpairs it is necessary to keep the pitch see picture SK-E4. Otherwise the rotators might hit against each other and the machine blocked.

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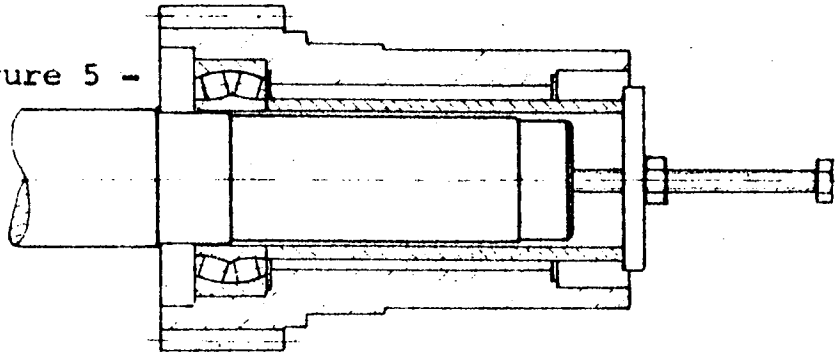
The sprocket 10 has to be mounted with the back bearing 43 by means of a pipe which has to go over the shaft. It has do be tightened with centerscrews. The shaft should be well greased to prevent seizing.

- figure 5 -



Thán bearing 44 should be tightened careful with pressuredisk. and screw. Tighten bearing with end disk 43 and screw 51.

Clean shaftend with pressuredisk 50 and screw 51 compl. Clean oil-container-cover carefully and seal with sealing compound before mounting.

Mount V-pulley 8 and cover 22 with screw 90.

Put on V-belts. Do not use sharp utensils for mounting, because the V-belts might be damaged. Tighten V-belts and check the exact mounting of pulleys.

After checking all erection work the cover as well as the side panels can be mounted. The gridcover can be fitted with the stationary back part.

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Electrical equipment:

The machine is equipped with two motors, one main-motor for dry conching process and a smaller motor for high speed, during the liquid stage.

Both motors can be operated when stationary by two speed reverse switch 99 mounted on the left-hand side into left, right, slow and fast when the machine is not running. "Switch only when the machine is not running".

Usually the following positions are required:

1) dry conching slow speed clockwise if looking from the front.

2) High speed clockwise when mass changes from dry to liquid, looking from the front.

3) High speed counter-clockwise for liquid conching and emptying.

The front hinged lid is interlocked with a safety switch. If opened during operation the machine will be slowed down with a speed regulator which makes the small motor run in reverse and slows the machine down. This is only for safety reasons and should not be used for stopping the machine, because the V-belts might wear out.

The normal machine has a magnetic valve in the cooling water supply which is controlled from mass-contact-thermometer 95 after reaching the required temperature. In special circumstances the water-thermometer can be used for water-circulation-cooling.

Putting into service:

Before the machine is filled, the inside of the container should be carefully cleaned of the preservative compound. Test all wallscrapers, if enough space is given between the containerwall. Test machine at all speeds and directions. Test limit switch on grid-cover-shaft for functioning. The machine should stop by opening the grid-cover. It should be impossible to start the machine with open grid-cover.

Fill container with water. Test contact-thermometer. Water should flow when max. contact is reached and should stop when min. contact is reached. After all functions have been checked, the machine can be filled. It is recommended to fill the machine during operation, or if the filling-time is long the machine should be switched on for short runs. The mass-temperature depends on mass-consistancy and conching time. Usually the machine should be filled when cold and heated by frictionheat. Milkchocolate up to 65°C and dark-chocolate up to 80°C. It is recommended to keep the temperature lower if the mass has a high fat content.

Dry conching at all times with slow speed clockwise. When the mass reaches pasty condition the high speed can be used for a short time by using the same directions. Than keep on conching anti-clockwise. In conditioned rooms with normal humidity it is possible to reach a mass with 0,3 o/o moisture content.
Normal conching time after filling 18-24h. Just before emptying drop temperature to 40-45°C.

When operating the clutch push without hesitation. Otherwise the same might be subjected to great wear.

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MAINTANANCE:

During the first few weeks look for perfect fit of stuffing box. Packings should be tightened frequently. V-belt tention should be checked during the first weeks. Refill Klüber-fat as discribed on page 8. Follow greasing plan. Normally no other maintenance is necessary.

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2060/A AIR/RF

SPARE PART LIST FOR DÜC 3/4 AND 5-TON

1 set of clutchplates for Ortlinghaus Clutch

DÜC 3	Size	55
DÜC 4 + 5	"	63

1 set V Ropes SPB

DÜC 3	12 off length	50 HZ Motors	6700 mm LW
		60 HZ Motors	7100 mm LW
DÜC 4	14 off length	50 HZ Motors	6700 mm LW
		60 HZ Motors	7100 mm LW
DÜC 5	16 off length	50 HZ Motors	7500 mm LW
		60 HZ Motors	7850 mm LW

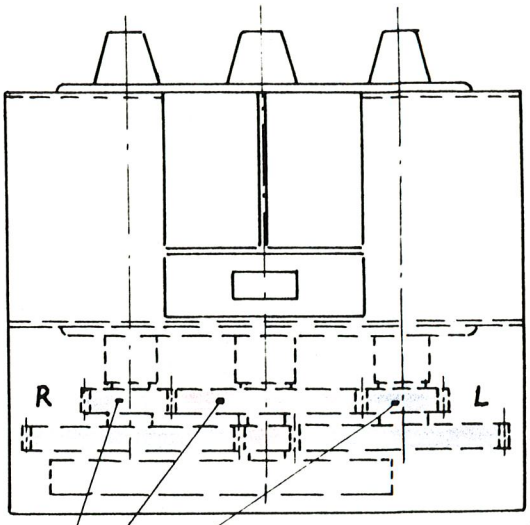
1 Set of Packing DÜC 3 u. 4

6,1	metres	Teflon cord
12,1	"	" asbestos
2,56	"	Tallow packing

1 Set of Packing DÜC 5

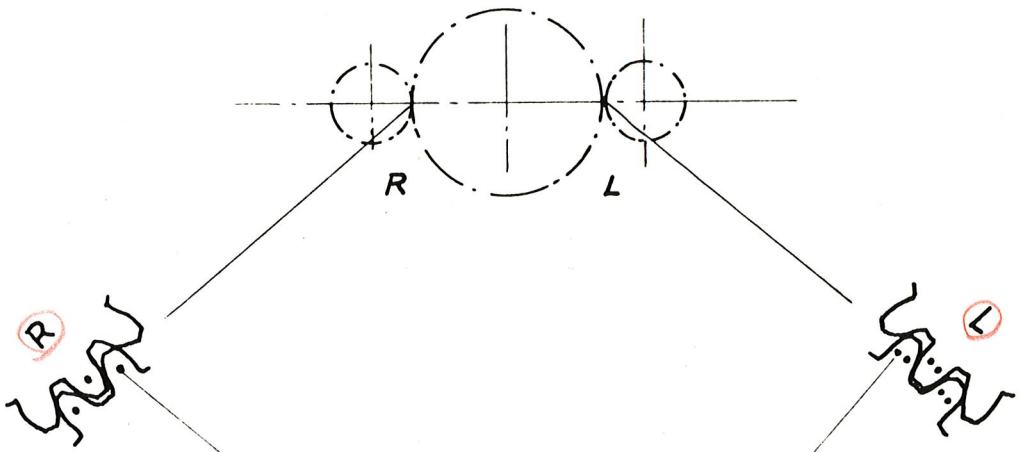
6,8	metres	Teflon cord
13,52	"	" asbestos
2,87	"	Tallow packing

1 Magnetic valve (Herion LP 09504)
1 Pointer Thermometer (as per order)
1 Contact " (")
1 Revolution counter (AEG / AL ni 5)



hinterer Rädersatz

Rear drive set of gears



Körnerschlag

Synchronise Markings

合マーク

* *Markings show correct setting of gears*

			RICHARD FRISSE, HERFORD MASCHINEN-FABRIK	
			*Kennzeichnung der Zahnräder zum richtigen Einbau	Maßstab 1/30
		5.2.71 Sch.	SK - E 4	Stückliste Einbau

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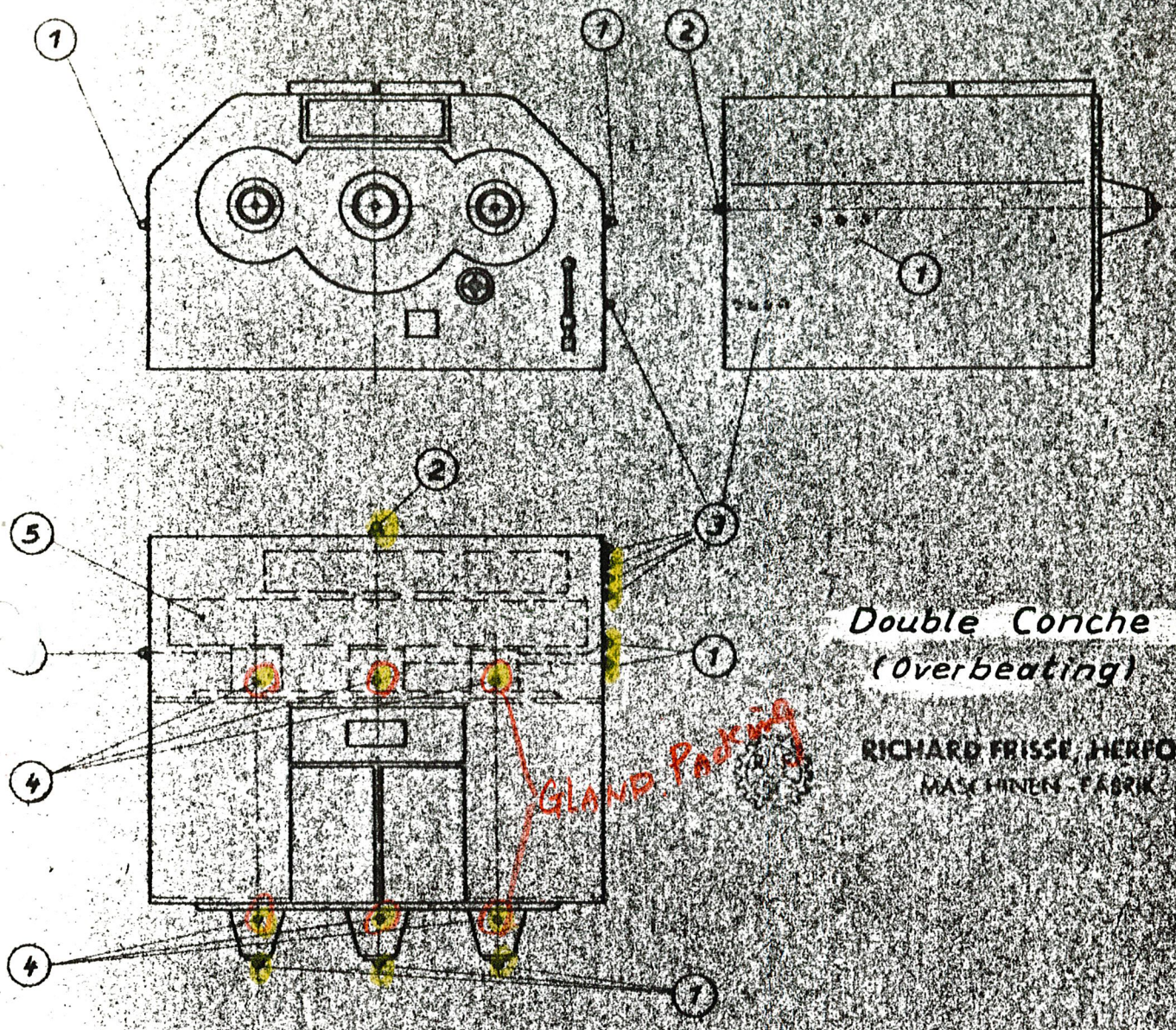


Double Conche
(Overbeating)

RICHARD FRISSE, HERFORD
MASCHINEN-FABRIK

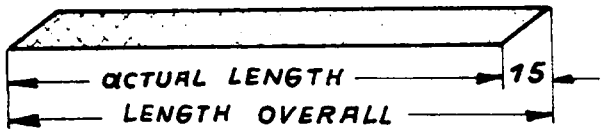
GREASE PLAN

Position of Lubrication	Pos.	Period of greasing	Lubricant
Bearing Housing	1	By continous work once a week	Beacon 3 (Esso Industriefett) or similar fat Mobilux 3 (Mobil-oil)
Bearings for Main gear	2		
Bearings for Main drive	3		
Stuffing gland.	4	approx. every 4 weeks (see drwg. No. 34-C-1)	Klüber-fat UVN-PLB
Oilbath oil content: DÜC 3to. + 4to. ~ 120ltr. DÜC 5to. ~ 150ltr.	5	The Maindrive Oilbath drained after 10.000 working hours	Esso MZU-OEL-EP-3 (Esso Spartan EP 31) Shell Macoma W 71 Mobil Gear-630 Fuchs Renep Compound 110

SUMMARY OF GLANDPACKINGS ON CONCHES

	TEFLON-SILKYARN 12⌀				TEFLON-ASBESTOS 12⌀				TALLOWED HEMPCORD 10⌀			
	BEARING POSITION	NUMBER OF CORDS	LENGTH * OVERALL	TOTAL LENGTH PER MACHINE	BEARING POSITION	NUMBER OF CORDS	LENGTH *OVERALL	TOTAL LENGTH PER MACH.	BEARING POSITION	NUMBER OF CORDS	LENGTH	TOTAL LENGTH PER MACHINE
DÜC 3 + 4to.	FRONT LEFT AND RIGHT	4	465	~ 6,1m	FRONT LEFT + RIGHT	8	465	~ 12,1m	FRONT LEFT + RIGHT	2	380	2,56m
	FRONT-CENTRE-BACK LEFT + RIGHT	6	530		FRONT-CENTRE BACK LEFT + RIGHT	12	530		FRONT-CENTRE BACK LEFT + RIGHT	3	440	
	BACK CENTRE	2	585		BACK CENTRE	4	585		BACK CENTRE	1	480	
DÜC 5to.	FRONT LEFT + RIGHT	4	530	~ 6,8m	FRONT LEFT + RIGHT	8	530	13,52m	FRONT LEFT + RIGHT	2	440	2,87m
	FRONT-CENTRE BACK LEFT + RIGHT	6	585		FRONT-CENTRE + BACK LEFT + RIGHT	12	585		FRONT-CENTRE BACK LEFT + RIGHT	3	480	
	BACK CENTRE	2	650		BACK CENTRE	4	650		BACK CENTRE	1	545	

* THE STATED CORD LENGTH INCLUDES 15 mm FOR DIAGONAL CUT



(THE ENDS OF THE TALLOWED HEMPPACKING ARE ALWAYS CUT STRAIGHT

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