WESTFALIA SEPARATOR

INSTRUCTION MANUAL AND PARTS LIST

No. 8221-9001-050

WESTFALIA

BUTTERMATIC

Model BUC 1500

WESTFALIA SEPARATOR AG./4740 OELDE 1 (W.-GERMANY)

CABLES: WESTFALIA OELDE · PHONE: (02522) 771 · TELEX: 89474

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I M P O R T A N T H I N T S

1) Grease the regulating discs once a week.
(see lubrication chart on page 3/4)

2) Bear in mind that the name plate amperages of the motors for churning cylinders I and II, as stated in the table on page 1/8, must not be exceeded.

3) Prior to each use, the machine must be properly sterilized (see section 5).

Vertical Section of the "Buttermatic" BUC 1500

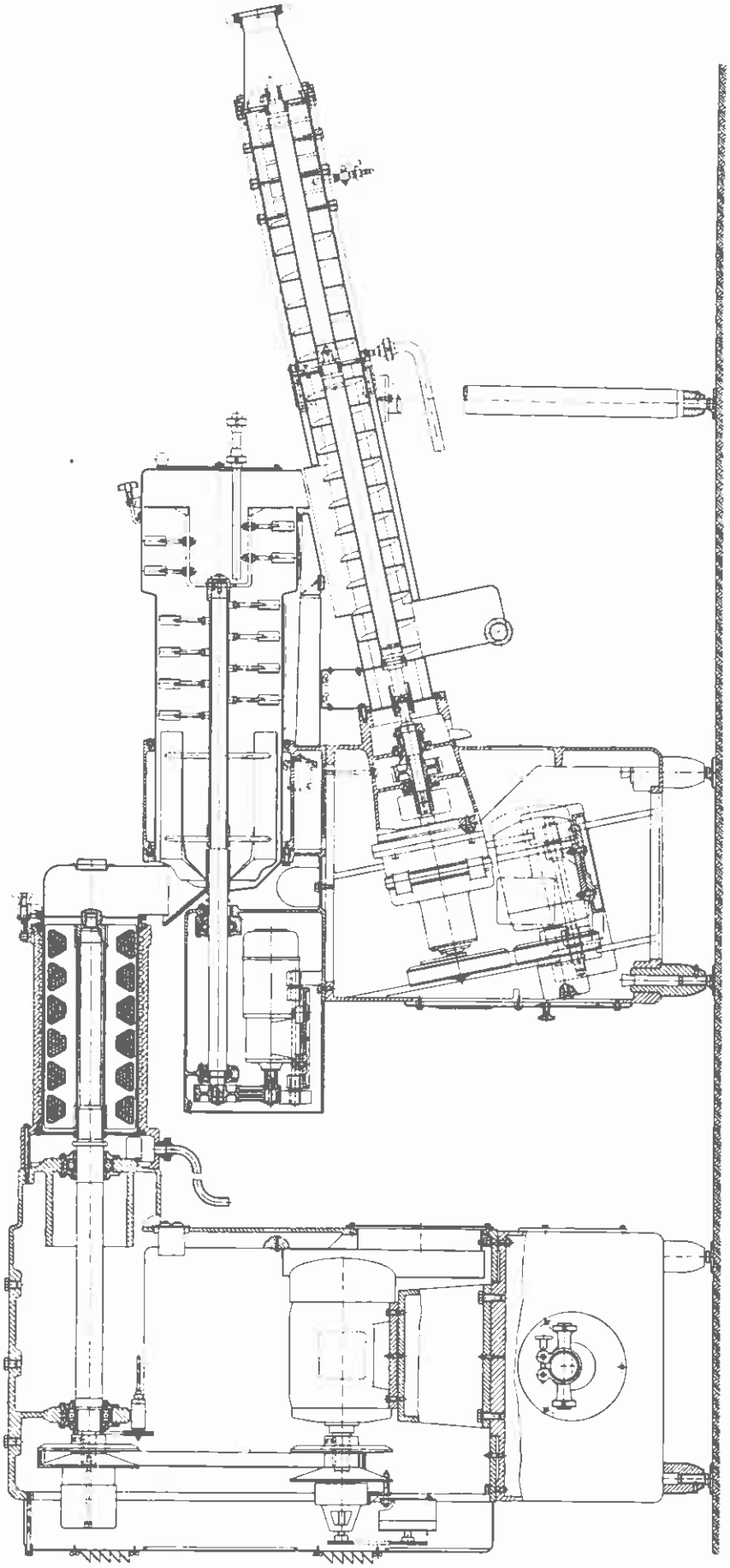


Fig. 1/1

C O N T E N T S

L I S T O F P A R T S

W O R K I N G I N S T R U C T I O N S

1. GENERAL

The efficiency of continuous butter making plants largely depends on the correct performance of each individual operation. Trouble-free and uniform heating, cooling, ripening, and conveying of the cream should, therefore, be ensured. Fluctuations in flow rate, temperature, and rpm must be avoided in order to keep the moisture content of the butter constant. Centrifugal pumps should not be used for conveying the ripened cream, since they would adversely affect the churning process and the fat content of the buttermilk.

2. INSTALLATION

Before installing the Buttermatic BUC 1500, first assemble parts of section I: lower frame part 5, upper frame part 9, motor base 40 (fig. 2/2) and parts of section II: frame 1, upper frame part 77 (fig. 2/14) and texturizer (fig. 2/19).
Place both units as intended and screw threaded bolts in or out to make sure that the churning cylinders (of stainless steel) are absolutely level. Section I must be placed sufficiently high to enable the cylindrical insert to be inserted in churning cylinder I.

Lift the feet consecutively by putting wedges underneath and screw threaded bolts 3 (fig. 2/2) about 10 mm (3/8") deeper into the feet to be able to place the floor mounting plates 1 underneath. The floor and floor mounting plates 1 (fig. 2/2) should be properly de-greased and dried. For gluing the floor mounting plates to the floor, use the adhesive "UHU+" supplied with the machine (follow directions for use). After the adhesive has hardened check once more for level and, if necessary, realign the units. Then tighten the threaded pins 2 (fig. 2/2).

The Buttermatic is furnished with a complete cooling agent distributing line. Ice water or "anticora" brine can be used as a coolant. For cooling down the churning cylinders and the texturizer 8000 - 10000 litres/h of the cooling medium are required. The temperature of the coolant rises by about 2°C while the liquid passes through the system. The back pressure in the cooling system of both sections is approx. 14 psi. The pressure of the cooling water must not exceed 35.5 psi. A shut-off valve should not be fitted in the cooling water return line. If, however, one is fitted for some particular reason, then the hand wheel must be removed. If the cooling water feed and discharge are both closed the heat expansion of the cooling water can cause distortion of the texturizer.

3. MOTOR CONNECTION

3.1. Motor for churning cylinder I

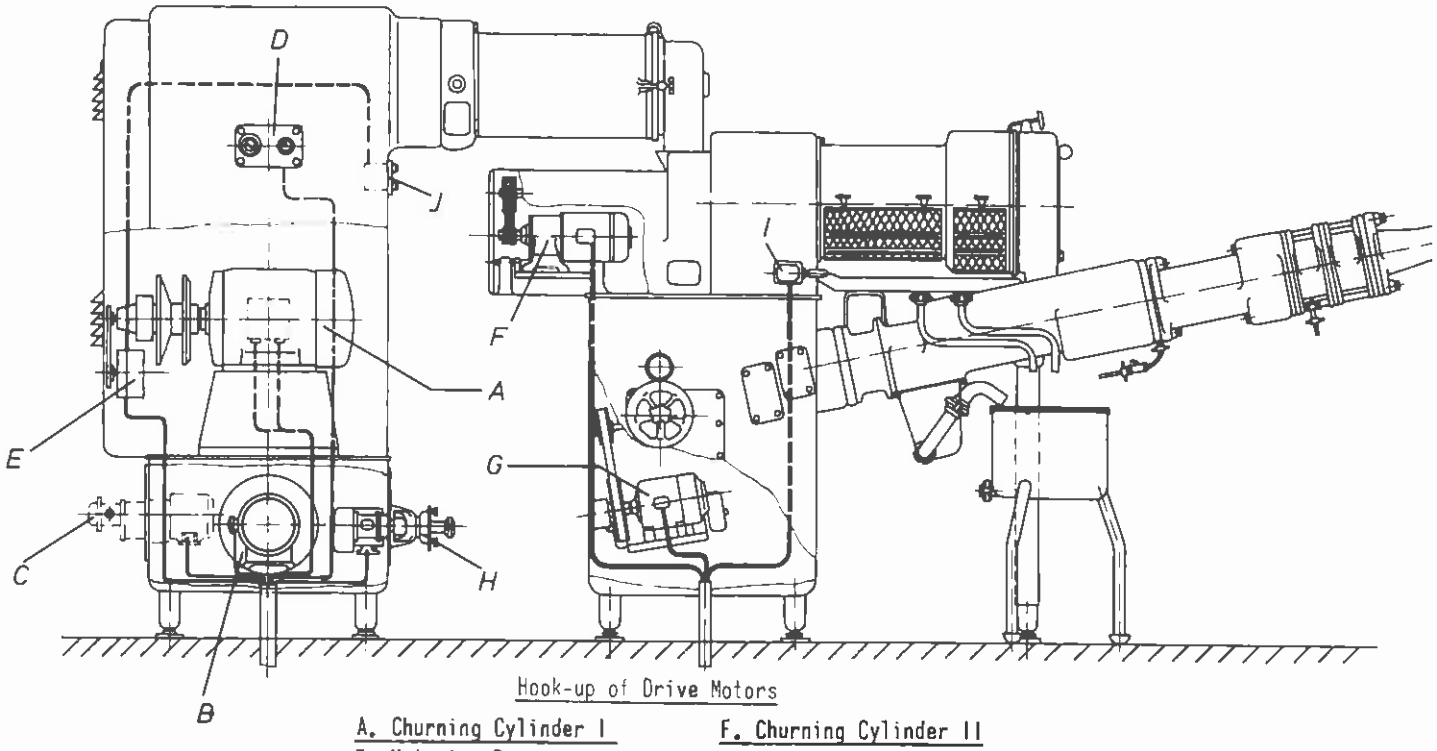
The motor for the churning cylinder I should only be started through a star-delta switch. For connecting the motor a 6-core cable is needed. In addition, a two-core cable must be laid between the main supply line and ammeter, and a three-core cable is required for connecting the control motor (see hook-up and wiring diagram for the drive motors).

3.2. Motors for churning cylinder II, texturizer, cream pump, buttermilk pump and metering pump

These motors can be started across-the-line.
For motor data and sizes of lead-in-wires refer to table, page 1/8.

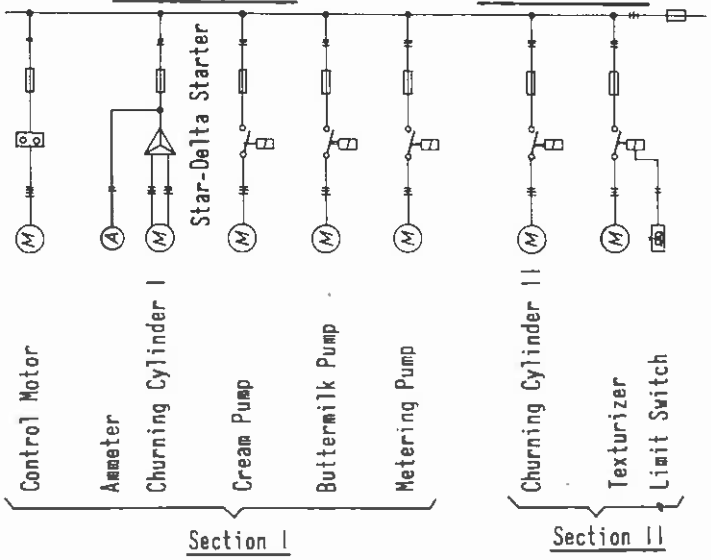
According to local regulations the motor for the texturizer (5.5 kW) can either be started across-the-line or through a star-delta switch.

3.3. Hook-up and wiring diagram for the drive motors - BUC 1500



Hook-up of Drive Motors

A. Churning Cylinder I
B. Metering Pump
C. WESTFALIA Cream Pump
D. Ammeter
E. Control Motor
F. Churning Cylinder II
G. Texturizer
H. Buttermilk Pump
I. Limit Switch
J. Press Button



Wiring Diagram

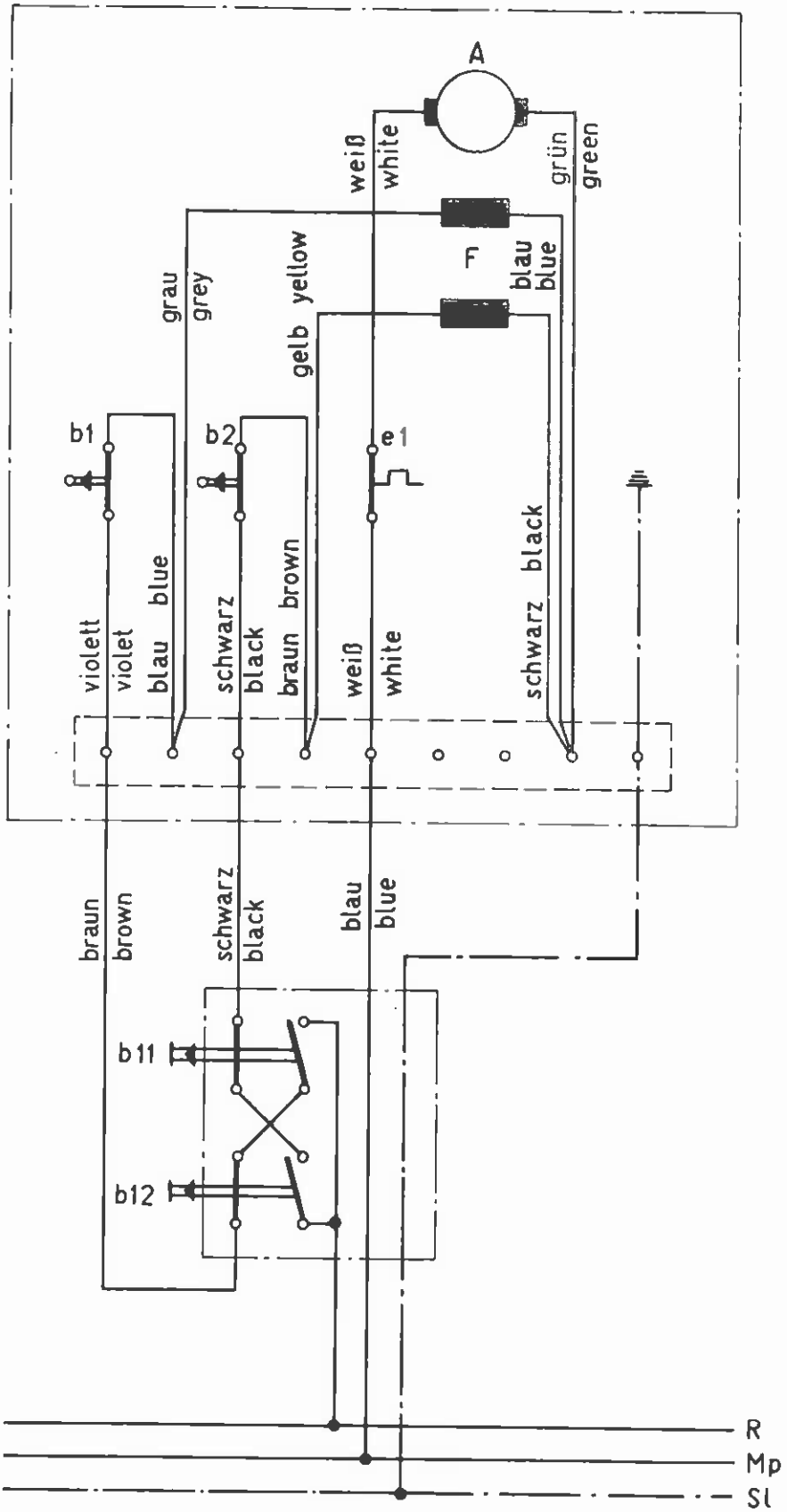
Fig. 1/2

3.4. Motor Data for the "Buttermatic" Model BUC 1500

Designation of Units	Motor Type	RPM n	50 Hz Capacity kW	50 Hz Voltage V	Rated Current Amps.	Number and Minimum Section of Lead-in-Wires		
						Unit	Ammeter	Limit Switch
Churning Cylinder I (with ammeter)	A180LA-4 B5	1445	22.0	220	75.0	$6x10mm^2$	$2x10mm^2$	-
				380	43.0	$6x6mm^2$	$2x6mm^2$	-
Churning Cylinder II	R52VD90-L-4 B3	1400/85	1.5	220	6.10	$3x1.5mm^2$	-	-
				380	3.55			
Texturizer (with limit switch)	A132 SA-4	1410	5.5	220	20.0	$3x2.5mm^2$	-	$2x1.5mm^2$
				380	11.6	$3x1.5mm^2$		
Cream Pump	Gemo3F 14-4,B3	1450/1150	0.65	220	3.1	$3x1.5mm^2$	-	-
				380	1.8			
Buttermilk Pump Type: FP 712 Stamp	DMO2/80L B3	2840	1.1	220	4.8	$3x1.5mm^2$	-	-
				380	3.75			
Metering Pump Dia. of Piston = 16 mm	CB12-4D B3	1400/100	0.18	220	1.14	$3x1.5mm^2$		
				380	0.66			
Control Gear V50	ZNE	12	0.18-0.25	110-125	1.4	$4x1.5mm^2$		
				220-250	0.7			

Schaltbild für Verstellgetriebe V 50

Wiring Diagram for Control Gear V50



A =	Anker	Armature
F =	Feld	Field
b1/b2 =	Endschalter	Limit switch
b11/b12 =	Drucktaster	Push button
e1 =	Überstromrelais	Overload relais

3.6. Directions of rotation of the dasher (churning cylinder I), of the screw conveyor (churning cylinder II), and of the texturizer.

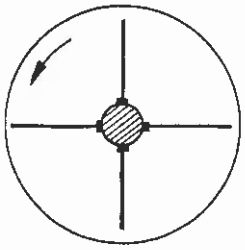


Fig. 1/4

Direction of rotation of the dasher of churning cylinder I

The dasher of the churning cylinder I must turn counter-clockwise when looked at after removing the cover from the churning cylinder.

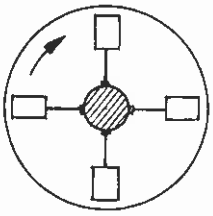


Fig. 1/5

Direction of rotation of the screw conveyor of churning cylinder II

The screw conveyor of the churning cylinder II must turn clockwise when looked at after removing the cover from the churning cylinder II.

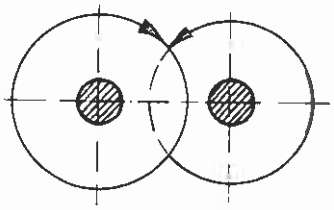


Fig. 1/6

Direction of rotation of the texturizer augers

The augers of the texturizer must be counter-rotating: left auger clockwise, right auger counter-clockwise.

4. STARTING

Prior to the first start, all cream and butter contact parts of the machine must be carefully washed by hand with lye. Special care should be taken in cleaning the parts of the texturizer (cylinders, augers, blending blades, perforated plates and bearing plates), since these parts have been coated with a polishing grease which would lead to a black discoloration of the butter. To clean these parts, it is best to use a wet brush or cloth to which a cleaning powder has been applied (be sure to clean the bores and slots). After cleaning and rinsing all the parts, assemble the machine as described in sections 14, 15 and 16.

5. THE BUTTERMATIC IN OPERATION

Before starting the churning operation, make sure that the machine has been sterilized. Sterilization has to take place, with the machine running, either immediately before or upon termination of the churning operation. This process requires 80 - 100 litres of a 1% cleaning solution at a temperature of 70° - 80°C (158° - 176°F). Detergents approved by the Public Health Department should only be used. The solution must have a high cleaning effect and prevent butter from sticking. The solution is poured into the buttermilk vat and delivered, by the buttermilk pump (centrifugal pump), through the buttermilk line and a connecting line (to be installed prior to cleaning) to the Buttermatic. Thus the circulation cycle includes the buttermilk pump as well as the Buttermatic. It is recommended to exclude the cream pump from the circulation cycle. The sterilizing process should last 10 - 15 minutes. For sterilizing the covers of churning cylinders I and II, use the adjustable sprinkler 13 (fig. 2/28)

The buttermilk discharge pipe should be raised high enough to enable the augers to convey a sufficient amount of cleaning solution into the blending section. The speed of the augers should be 60 rpm.

The cleaning solution warms up all parts which come into contact with cream or butter. Ensure that the mouth piece of the texturizer is also properly warmed up and sterilized.

To prevent excessive cooling of the cleaning solution, the Buttermatic should be pre-heated with warm water, or the solution should be warmed up with steam during sterilization. The metering pump must also be sterilized with hot cleaning solution prior to each churning.

After draining the cleaning solution (through the buttermilk discharge pipe) wait a few minutes until the solution has formed a coating on the metal parts. Then flush with cold water to cool the machine down to approximately the churning temperature. The cold water is supplied via the buttermilk vat. The water discharging from the Buttermatic must be directed into the sewer and not returned to the buttermilk vat.

Cooling down of the machine can be accelerated by starting the cooling system in the churning cylinders and texturizer during flushing. Under no circumstances may the machine be flushed with hot water after sterilization since the hot water would dissolve the protective coating.

Before feeding cream into the machine, open the screwed union at the lowest point of the cream line to drain the water. Then open the cream feed valve at the cream tank and start the cream pump. By means of the regulating valve, adjust the cream flow so that pre-churning in churning cylinder I is advanced to a stage which precedes the formation of buttermilk. This can easily be observed at the discharge of the cover of churning cylinder I. In order to deliver a sufficient amount of cream into the churning cylinder, immediately open the regulating valve located in the feed line a few turns. This is particularly important when using the cylindrical insert supplied with the machine. If too small an amount of cream is fed, buttermilk might be re-combined with the butter granules so that no buttermilk would drain from the cover. The water content of the butter would then be too high.

The bulk of the buttermilk is to discharge through the strainer at the cover of churning cylinder II. The buttermilk should drain all over the length of the strainer; otherwise, the cream feed will have to be re-adjusted. The butter should not discharge in solid lumps from the cover of churning cylinder II into the texturizer. In case of too high a throughput capacity of the Buttermatic, operate press button 38 (fig. 2/2) at section I to reduce the rpm of the dasher in churning cylinder I. At the same time, reduce the rate of cream feed by throttling the regulating valve. If the capacity is too low, increase rpm and rate of cream feed. The capacity can be increased until the ammeter indicates the maximum permissible amperage (see table for motor data, page 1/8).

When shutting down, remove the residual butter from churning cylinder II and put it into the texturizer. Stop the motor as soon as butter ceases to discharge from the mouth piece. Then disassemble the texturizer (see section 14 or 15). The butter left in the mouth piece can be given into the moulding machine. The residual butter should be returned to the texturizer the next day. It should be added from time to time in small pieces, however, not shortly before termination of churning, since it would then constitute again the rest of the day's production. The butter mixed with the rest of the previous day's production should not be stored for a long period.

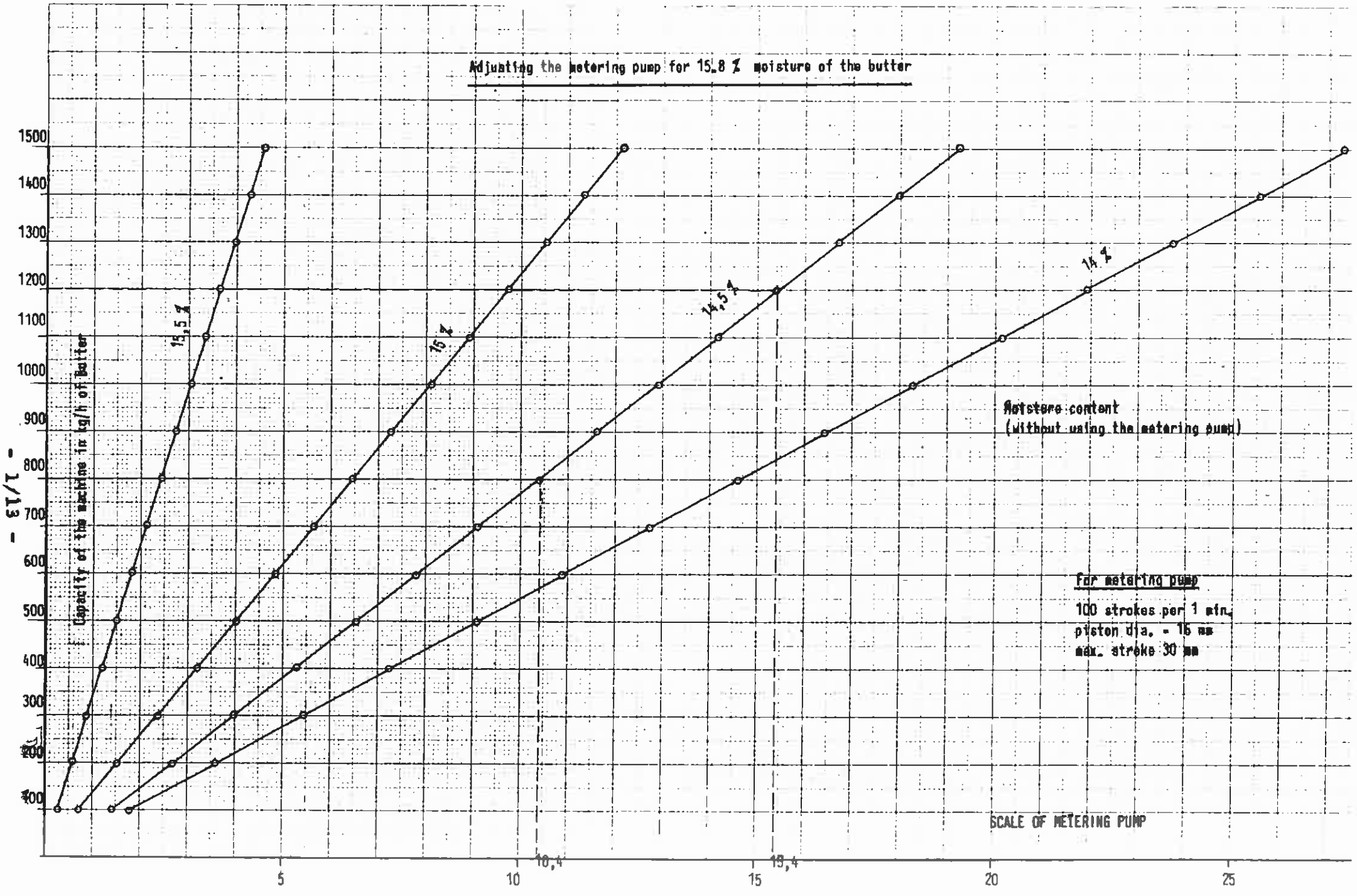
In order to remove the residual cream from the pump, the pipes, and the churning cylinders, cold water must be pumped, by means of the cream pump, through churning cylinders I and II after having stopped the drive motor for the dasher (churning cylinder I). The cleaning solution drains into the buttermilk collecting pan. Then the drive motor for the dasher of churning cylinder I is re-started and a small amount of water is again pumped, by means of the cream pump, through the churning cylinders. Lastly, both churning cylinders are flushed with hot water and, if necessary, the dashers are removed for better cleaning.

6. CONTROLLING THE MOISTURE CONTENT OF THE BUTTER

In order to obtain butter with 15 - 18 % moisture, change either the speed of the augers in the texturizer - set by a handwheel at section II - or the capacity of the metering pump.

With 40 - 50 rpm of the augers the moisture content of the butter, if properly churned, is about 15 %, without using the metering pump. This percentage can be brought up to 15.5 % by increasing the auger speed. A further increase of the moisture content is only possible when using the metering pump which adds water to the butter in the blending section. The capacity of the metering pump is infinitely variable.

The scale of the metering pump does not indicate the output in litres per hour but the adjustment of the stroke in mm. Therefore, refer to the diagram, page 1/13, for adjusting the pump to the desired amount of water.


Adjusting the metering pump for 15.8 % moisture of the butter
Capacity of the machine in kg/h of butter
15,5 %
15 %
14,5 %
14 %
Moisture content
(without using the metering pump)
For metering pump
100 strokes per 1 min.
piston dia. - 16 mm
max. stroke 30 mm
SCALE OF METERING PUMP
10,4
15,4
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
400
5
10
15
20
25

To calculate the correct amount of water to be added per 100 kg proceed according to the following formula

$$W_t = \frac{100\ (W_B - W_b)}{100 - W_B}$$

W_t = amount of water to be added with the metering pump per 100 kgs of butter

W_B = moisture percentage of the butter after addition of water

Wb = moisture percentage before addition of water

Example:

The moisture content of the butter is to be increased from 14.5 % to 15.8 % at a capacity of 1200 kg/h of the Buttermatic.

$$W_t = 12 \cdot 100\ \frac{(15.8 - 14.5)}{100 - 15.8} = \frac{12 \cdot 100 \cdot 1.3}{84.2} = 18.55 \text{ litres/h of water}$$

One scale graduation corresponds to 1 litre of water. If 18.55 litres of water are to be added the following calculation will result:

$$\frac{18.55}{1} = 18.55 \text{ scale graduations}$$

If, for instance the moisture content of the butter is to be increased from 14.5 % to 15.8 % at a capacity of 800 kg/h, the pointer must be set to 12.3 on the scale of the metering pump.

For safety reasons it is, however, recommended to adjust the metering pump to a lower scale graduation (i.e. to add less water) and then to examine the butter.

The amount of water to be added can be checked on a clock gauge and adjusted with a handwheel located on a spindle and containing the clock gauge. Adjustment can be made during operation or during standstill. One of the two pointers of the clock gauge indicates the stroke in whole millimetres, the other one in fractions of millimetres.

Too high a moisture content of the butter with normal conditions of the cream, without using the metering pump, may be caused by improper sterilization.

Sterilization has been properly effected if after opening the texturizer the butter can be perfectly removed from all parts and if no cream-butter-layer sticks to the churning cylinder I. The formation of a cream-butter-layer must under all circumstances be avoided.

7. DISTRIBUTION OF MOISTURE IN THE BUTTER

The keeping quality of continuously made butter primarily depends on the even and fine distribution of the moisture. To ensure efficient mixing of the butter the passage slots of the adjusting slides in the texturizer must be so adjusted that the augers convey the butter out of the texturizer without obstruction.

8. BUTTER WASHING

The storing of butter has shown that the unwashed butter has an excellent keeping quality. Therefore, most dairies do not wash the butter and avoid problems in this direction. However, the BUC 1500 Buttermatic provides means for washing the butter. Slight losses of buttermilk will then have to be accepted.

9. PRODUCTION OF SOUR CREAM BUTTER

High quality sour cream butter can only be obtained from carefully pretreated cream. The cream with a 35 - 40 % fat content is acidified in the usual way after pasteurizing and cooling. The acidity of the ripened cream should be 4.6 - 4.8 pH, or 18 - 20°SH depending on fat content. It is also possible to churn at the same capacity cream with a fat content of 30 - 32 %. In that case the cylindrical insert must be used.

The churning temperature of the cream should be 8° - 12°C (46.4° - 53.6°F), depending on local conditions. The temperature is adjusted correctly if the temperature increase in churning cylinder I (without cooling down the cylinder) does not exceed 2° - 3°C (3.6° - 5.4°F). The cooling system for the churning cylinder should only be used in special cases.

The buttermilk has a fat content of 0.3 - 0.5 %. It is important to pre-churn the cream in churning cylinder I only to such an extent that the buttermilk drains all over the length of the strainer of churning cylinder II. Excessive pre-churning in churning cylinder I increases the fat content of the buttermilk. The buttermilk tastes good, does not form deposits and will not coagulate when being cooked.

The hourly capacity of the BUC 1500 Buttermatic is 800 - 1500 kg.

10. PRODUCTION OF SWEET CREAM BUTTER

The BUC 1500 Buttermatic can also be used, without any conversion, for churning sweet cream with a fat content of 35 - 40 %. After pasteurization, the cream is cooled down to the churning temperature of 8° - 12°C (46.4° - 53.6°F). If possible, the cream should be allowed to stand for 2 - 4 hours before being churned.

The moisture content of the butter can be adjusted (see section 6). The buttermilk has a fat content of 0.5 - 0.8 %. The hourly capacity of the Buttermatic is 800 - 1500 kg.

11. REMOVING THE DASHER FROM CHURNING CYLINDER I (fig. 2/7)

1) Loosen handles 21.
2) Remove cover 22b.
3) Use socket wrench 8 (fig. 2/28) to unscrew hat nut 23 (right-hand thread).
4) Remove dasher 11 from shaft 41a (fig. 2/2).

12. REMOVING THE SCREW CONVEYOR FROM CHURNING CYLINDER II (fig. 2/17)

1) Loosen handles 10d.
2) Turn cover 10f 90^{o} and remove it.
3) Remove strainers 9a and 9b.
4) Remove hex head screw 12 and centering disc 11.
5) Remove screw conveyor 8a-f from shaft 78 (fig. 2/14).

13. RE-ASSEMBLING THE DASHER AND SCREW CONVEYOR

For re-assembly proceed in reverse order of removal (see sect. 11 and 12).

14. DISMANTLING THE TEXTURIZER (ALUMINIUM) (fig. 2/19)

1) Loosen hex head screw 31.
2) Remove clamping pieces 30.
3) Remove mouth piece 21 from bolt 25d.
4) Loosen handle screw 20.
5) Remove blending augers 40 and 47.
6) Remove the following parts:
   a) Adjusting slide assembly 39
   b) Blending augers 38 and 46
   c) Cylindrical screen assembly 19
   d) Blending augers 37 and 45
   e) Perforated plate 18
   f) Blending augers 36 and 44
   g) Cylindrical screen assembly 17
   h) Blending augers 35 and 43
   i) Perforated plate 16

7) Pull shafts 34 and 42 together with blending augers 33 and 41 simultaneously out of blending cylinder 25a.
8) Loosen hex head screws 15.
9) Remove clamping piece 11.
10) Pull blending cylinder 25a off bolts 10f.
11) Pull adjusting slide assembly 32 off bolts 10f.
12) Pull augers with shafts 7a and 7b simultaneously out of the texturizer.

15. DISMANTLING THE TEXTURIZER (STAINLESS STEEL) (fig. 2/22)

1) Loosen hex head screw and remove clamping pieces 20.
2) Remove mouthpiece 21.
3) Loosen locking screws 39.
4) Remove blending blades 37 and 38.
5) Remove the following parts consecutively:
   a) Adjusting slide assembly 19a-f
   b) Blending cylinder III 18
   c) Perforated plate halves 15
   d) Blending cylinder III 17
   e) Perforated plate halves 15
   f) Blending cylinder II 16
   g) Perforated plate halves 15
6) Pull out blending augers 14a-b simultaneously.
7) Loosen hex head screw 10 and remove clamping pieces 11.
8) Remove blending cylinder assembly 13.
9) Remove adjusting slide assembly 12a-g.
10) Pull out augers 9a-b simultaneously.

16. RE-ASSEMBLING THE TEXTURIZER

For re-assembly proceed in reverse order of removal (see sect. 14 or 15)
IMPORTANT:
All texturizer parts are consecutively numbered in the order of assembly.
All moving parts fitted on the right are marked with "R", and all parts fitted on the left are marked with "L" (fig. 2/19 or 2/22).

When assembling, see that the moving parts fit tightly to ensure perfect sealing of the contact surfaces.

If two surfaces do not match properly, check the sequence of the augers and blending blades.

17. REPLACING THE V-BELT FOR THE TEXTURIZER (fig. 2/13)

1) Loosen hex head screws 3.
2) Remove cover 4.
3) Adjust machine for lowest speed and stop motor.
4) Remove limiting piece 47.
5) Adjust motor base plate 24b with motor 23 while machine is at a standstill until the smallest possible distance between regulating disc 8 and V-belt pulley 1 (fig. 2/15) is obtained. Then loosen and pull off V-belt pulley 1(fig. 2/15).
6) Remove V-belt 5 first from V-belt pulley and then from regulating disc.
7) Make sure that the regulating disc and the V-belt pulley are aligned. Check alignment by holding a straightedge against the back of the regulating disc and V-belt pulley.
8) Displace loose pulley of regulating disc radially from fixed pulley so that the regulating disc can be moved apart.
9) Place the new V-belt on the regulating disc and move the regulating disc apart so that the V-belt fits deep into the regulating disc. The right-angled flank of the V-belt must face the motor. Note the directional markers on the V-belt. DO NOT use mounting tools for replacing the V-belt as they might damage the V-belt and regulating disc.
10) Insert the V-belt in the V-belt pulley, and replace and tighten the pulley on the shaft.
11) Adjust the axial distance between the regulating disc and the V-belt pulley so that the surface of the V-belt is about 3 mm below the upper edge of the regulating disc. For adjustment turn regulating disc by hand.
12) Fit limiting piece 47.
13) Tighten cover 4 with hex head screws 3.

18. REPLACING THE V-BELT IN SECTION I (fig. 2/2)

1) Remove frame cover assembly 16a-c.

2) Undo screws 11 and remove mounting plate 10 together with control gear 13 and roller chain 14.

3) By turning the sprocket wheel in clockwise direction bring the pulleys of regulating disc 17 apart as far as possible. (If necessary, re-adjust nuts on spindle).

4) Remove V-belt 21 first from regulating disc 24 and then from regulating disc 17.

5) Fit new V-belt.
Note! The right-angled flank of the V-belt must face the motor.
Do NOT use mounting tools for replacing the V-belt!

6) By turning the sprocket wheel in an anti-clockwise direction bring the pulleys of regulating disc 17 closely together. Continue adjusting the regulating disc until the tight strand and the slack strand of the V-belt are roughly parallel.

7) Bring the switch lever of control gear 13 into the middle of the spindle by pushing the corresponding button on the control panel.

8) Install mounting plate 10 and control gear 13, and fit roller chain 14.

9) Re-adjust limit switches of control gear to maximum and minimum permissible speed. For speeds refer to the installation plan, page 3/2.

10) Let motor idle and check if a layer has settled on the running surfaces of the pulleys. If this is the case, remove the layer with trichlorethylene. Repeat this procedure 2 to 3 times. Finally spray talcum powder onto the flanks of the V-belt.

11) Screw frame cover 16a-c back on.

19. EXCHANGING THE REGULATING DISC K6

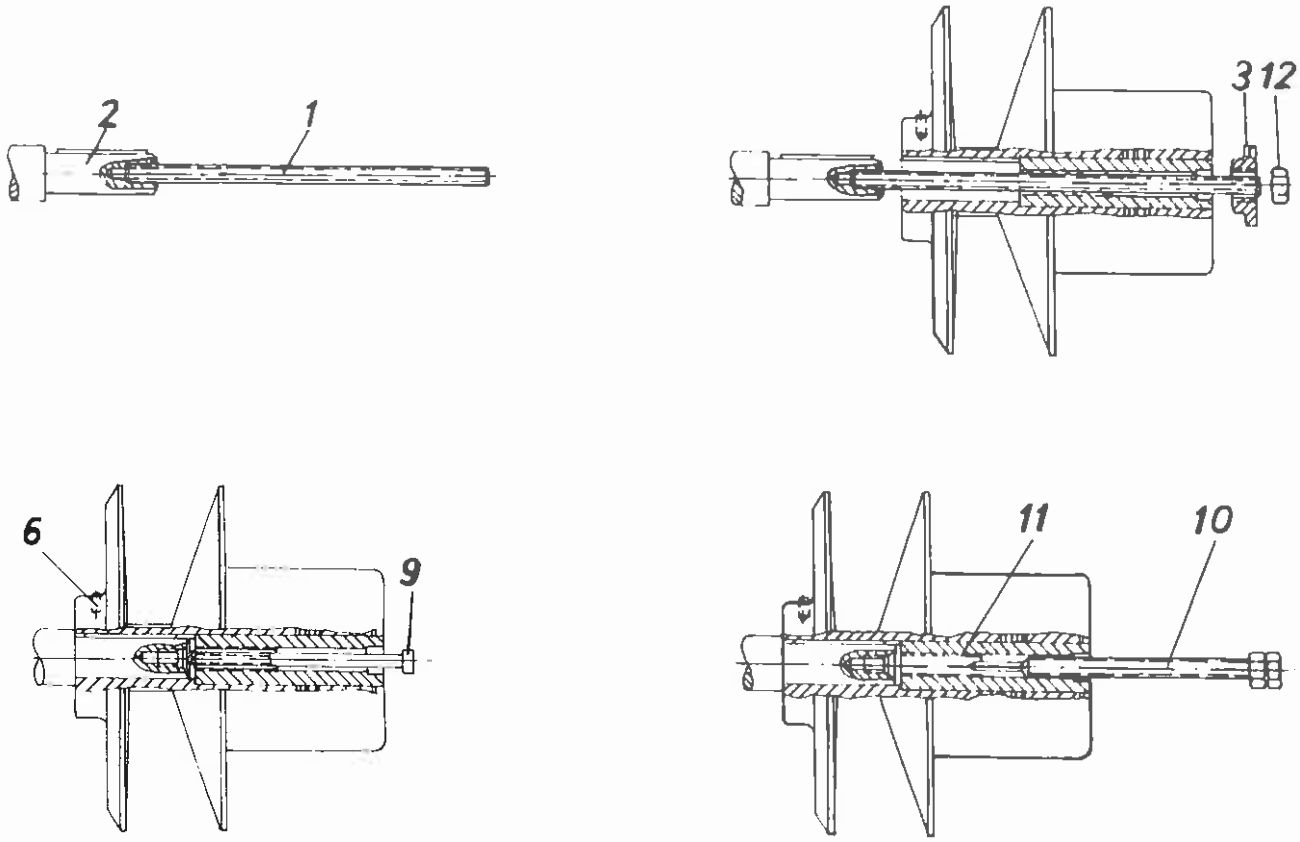


Fig. 1/8

1) Unscrew threaded pin 6 and Allen screw 9.
2) Screw spindle 10 of pulling device into thread 11 of regulating disc and press regulating disc off the shaft end.
3) Clean shaft end 2 and key thoroughly.
4) Thread mounting spindle 1 into center bore of shaft end.
5) Place regulating disc on shaft end.
6) Slide pressure piece 3 on spindle 1.
7) Screw nut 12 on spindle and turn it until regulating disc rests against shaft shoulder.

   Note: Key and key groove must be in line. Regulating disc must NOT be pressed too tightly onto shaft end!
8) Remove mounting spindle and pressure piece.
9) Tighten Allen screw 9 and threaded pin 6.

20. EXCHANGING THE REGULATING DISCS RL6 AND RM5

The regulating discs have to be removed and refitted as complete assemblies. Do NOT use a pulling device or mounting tool.
Before removing the regulating discs, be sure to loosen threaded pins 1c (fig. 2/6) and 1b (fig. 2/5) and on regulating disc RM5 Allen screw 7 (fig. 2/13).
After refitting the regulating discs, be sure to tighten threaded pin or Allen screw.

21. ALIGNING THE SETS OF REGULATING DISCS (fig. 1/12)

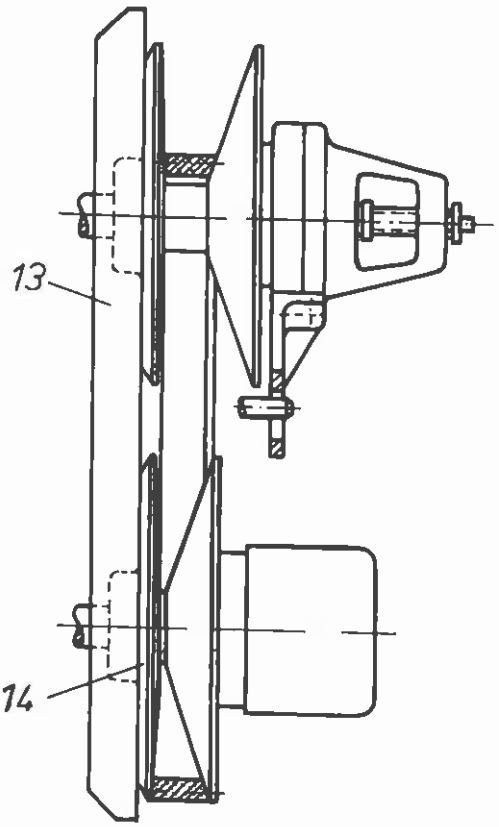


Fig. 1/19

After exchanging the regulating discs, be sure to check them for alignment.

Do this by holding straightedge 13 against the back of one of the regulating discs. By slightly turning the regulating disc, check if the straightedge is flush with the plane back of the counter regulating disc.
Repeat this procedure by placing the straightedge against the back of the counter regulating disc.
If the discs are not aligned, re-adjust the motor.

22. FAILURE, OR EXCHANGE OF CONTROL GEAR

1) Undo coupler link of roller chain 14 (fig. 2/2) and remove chain.
2) If a new control gear is not available, then, using a cleaning rag, adjust the speed by hand on the sprocket wheel of regulating disc 17.
3) Disconnect control gear 13 and unscrew it from mounting plate 10.
4) Fit and connect new control gear.
5) Align the sprocket wheels. If the sprocket wheels do not align, re-bore and pin the sprocket wheel on the control gear.
6) Adjust the speed range to 800 - 2000 rpm.
7) Fit the roller chain and fasten the coupler link.

23. EXCHANGING THE BEARING BUSHES OF ADJUSTING SLIDES AND BEARING PLATES (fig. 1/10)

1) Cut worn bearing bush into two or three pieces by sawing lengthwise, and remove pieces.

   Be sure not to damage bearing plate!
2) Thoroughly clean thread and seat in bearing plate.
3) Clamp bearing bush tightly between mounting piece 9a and disc 9b of mounting device 9a-d (fig. 2/28).
4) Thread bearing bush together with mounting device into bearing plate.

   Apply wrench to screw head and <u>not</u> to nut!

   Note that the bearing plates have right-hand and left-hand threads!
5) Unscrew nut 9c (fig. 2/28) and remove mounting device.

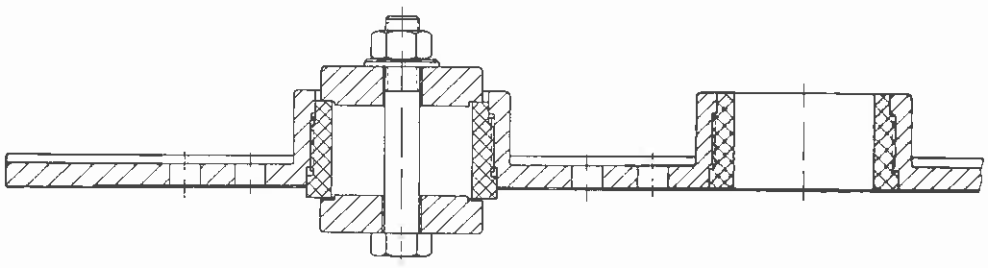


Fig. 1/10

L I S T O F P A R T S

IMPORTANT!

When ordering parts, please state the following:

1) Model
2) Serial - No.

} of the Buttermatic:

Both designations are shown on the name-plate.

3) Description
4) Part-No.

} of the part to be replaced:

For details, see List of Parts.

The Part-No. is also shown on all major parts.

When ordering parts for motors, pumps or gears, be sure to state Serial-No. and Type of these units.

View of Assemblies

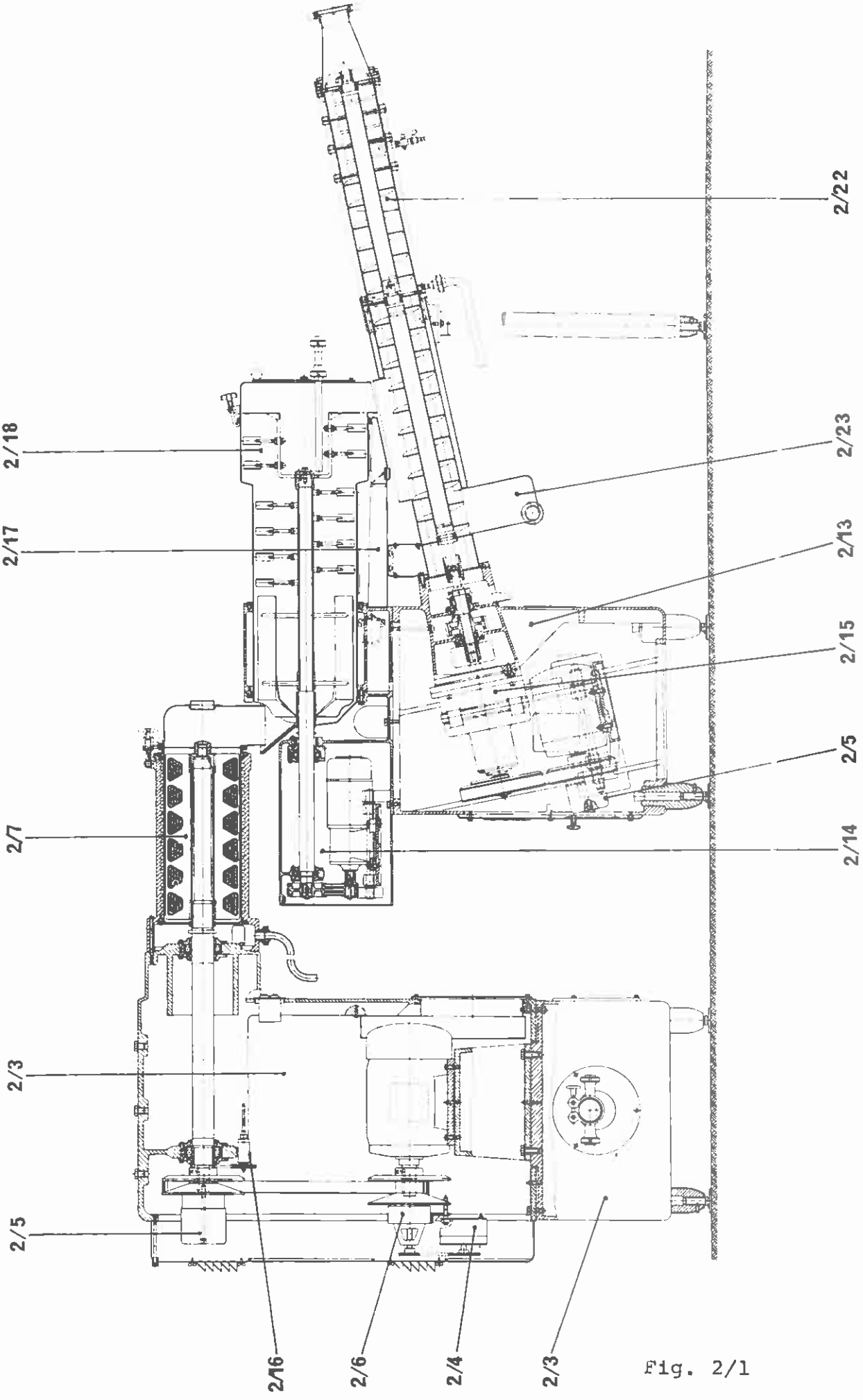


Fig. 2/1

View of Assemblies
= = = = = = = = ==

Fig. 2/1

* Not illustrated.

Frame Section I, BUC 1500

(with Enamel Finish)

List of Parts shown in Fig. 2/2

Item No.	Part - No.	Qty.	Part Description
-	8221-6100-090	1	Frame assembly, Section I
1	8222-1025-000	4	Floor mounting plate
2	0019-6387-400	4	Threaded pin AM 12x28 DIN 915
3	8222-1106-000	4	Threaded bolt
4	8222-1017-010	4	Lining for sanitary foot
5	8221-6006-000	1	Lower part of Section I
6	0026-5884-060	4	Tapered pin 8x70
7	0013-0278-150	4	Hexagon nut M 8 DIN 934
8	0019-7038-150	6	Hex head screw M 16x45 DIN 933
9	8221-6010-080	1	Upper part of Section I
10	8221-1008-010	1	Mounting plate
11	0019-6903-400	12	Hex head screw M 8x20 DIN 933
12	0026-1345-300	18	Washer
13	see page 2/8	1	Control gear V50 (see fog. 2/4)
14	0021-3765-000	1	Roller chain 1x9,52x5,72 DIN 8187, 70 links
15	8221-1070-020	1	Bolt
-	8221-6004-020	1	Frame cover assembly (16a-c)
16a	8221-6002-030	1	Frame cover
16b	8222-1115-070	2	Ventilation grid
16c	0019-3702-640	4	Winged screw M 6x1,5 DIN 316
17	see page 2/10	1	'Becker' Regulating disc RL6 (see fig. 2/6)
18	0021-3610-050	1	Flexible shaft
19	0021-4421-740	1	V-belt 8x5x630
20	see page 2/28	1	Tachometer drive (see fig. 2/16)
21	0021-4435-740	1	V-belt 52x21x2400
22	8221-1028-040	1	V-belt pulley
23	0026-1768-160	2	Key A 14x9x90 DIN 6885
24	see page 2/9	1	'Becker' Regulating disc K6 (see fig. 2/5)
25	0019-0116-050	1	Cylindrical screw M 16x210
26	0026-5682-170	1	Fan-type lock washer 16,5
27	0019-6556-300	11	Hex head screw M 12x190 DIN 931
28	0026-1371-300	11	Washer
29	0019-6937-150	12	Hex head screw M 10x30 DIN 931
30	8221-3375-000	2	Bearing cover
31	0011-6314-000	1	Grooved ball bearing 6314 DIN 625
32	8221-3375-020	2	Bearing cover
33	0004-1964-830	4	Felt ring 85/104 x 8,2
-	8221-6399-020	1	Shaft assembly (34a-c)
34a	8221-6400-020	1	Shaft
34b	0019-5053-400	2	Threaded pin M8x35 DIN 553
34c	0026-1694-300	1	Set collar
35	0019-7170-300	3	Hex head screw M 24x20 DIN 933
36	0026-1893-300	3	Washer
37	0011-6217-000	1	Grooved ball bearing 6217 DIN 625
38	0005-0473-280	1	Twin push button AK 2/en
39	8221-6115-000	1	Ventilation grid
40	depending on order	1	Three-phase AC motor, 22 kW
41	0013-0276-150	2	Hexagon nut M 6 DIN 934
42	0026-5882-060	2	Tapered pin 6x60
43	0019-6536-150	4	Hex head screw M 12x50 DIN 931

List of Parts shown in Fig. 2/2

Item No.	Part - No.	Qty.	Part Description
44	0026-1328-170	4	Spring washer A 12 DIN 127
45	0026-1330-170	12	Lock washer
46	8221-6145-000	1	Motor base
47	8221-1086-000	1	Ventilation grid
48	0019-6908-400	6	Hex head screw M 8x35 DIN 933
49	0019-8016-090	6	Stud M 16x60 DIN 940
50	0013-0282-150	19	Hexagon nut M 16 DIN 934
51	8222-6106-020	3	Flange
52	0026-1348-300	9	Washer
53	0019-6935-400	17	Hex head screw M 10x25 DIN 933
54	0013-0319-150	1	Hexagon nut M 20 DIN 936
55	8222-1073-070	1	Bolt
56	8221-6012-000	2	Frame cover
57	0021-4560-650	2	Grease nipple M 10x1
58	see page 2/7	1	Control panel (see fig. 2/3)
59	see page 2/11	1	Churning cylinder I (see fig. 2/7)
-	0005-0206-630	2	Cable gland Pg 21
-	0005-0207-630	2	Cable gland Pg 29
-	0005-0825-900	13	Spacing clamp 6-19
-	0005-0826-900	8	Spacing clamp 18-25
-	0019-2233-030	21	Cylindrical screw AM 5x12 DIN 84

Frame Section I, BUC 1500

(with stainless steel cladding)

The following parts differ from those of the enamel finish design:

-	8221-6100-100	1	Frame assembly, Section I
5	8221-6006-010	1	Lower part of Section I
9	8221-6010-070	1	Upper part of Section I
-	8221-6004-030	1	Frame cover assembly (16a-c)
16a	8221-6002-040	1	Frame cover
16b	8222-1115-080	2	Ventilation grid
47	8221-1086-010	1	Ventilation grid
51	8222-6106-030	3	Flange
56	8221-6012-010	2	Frame cover

Frame Section 1, BUC 1500

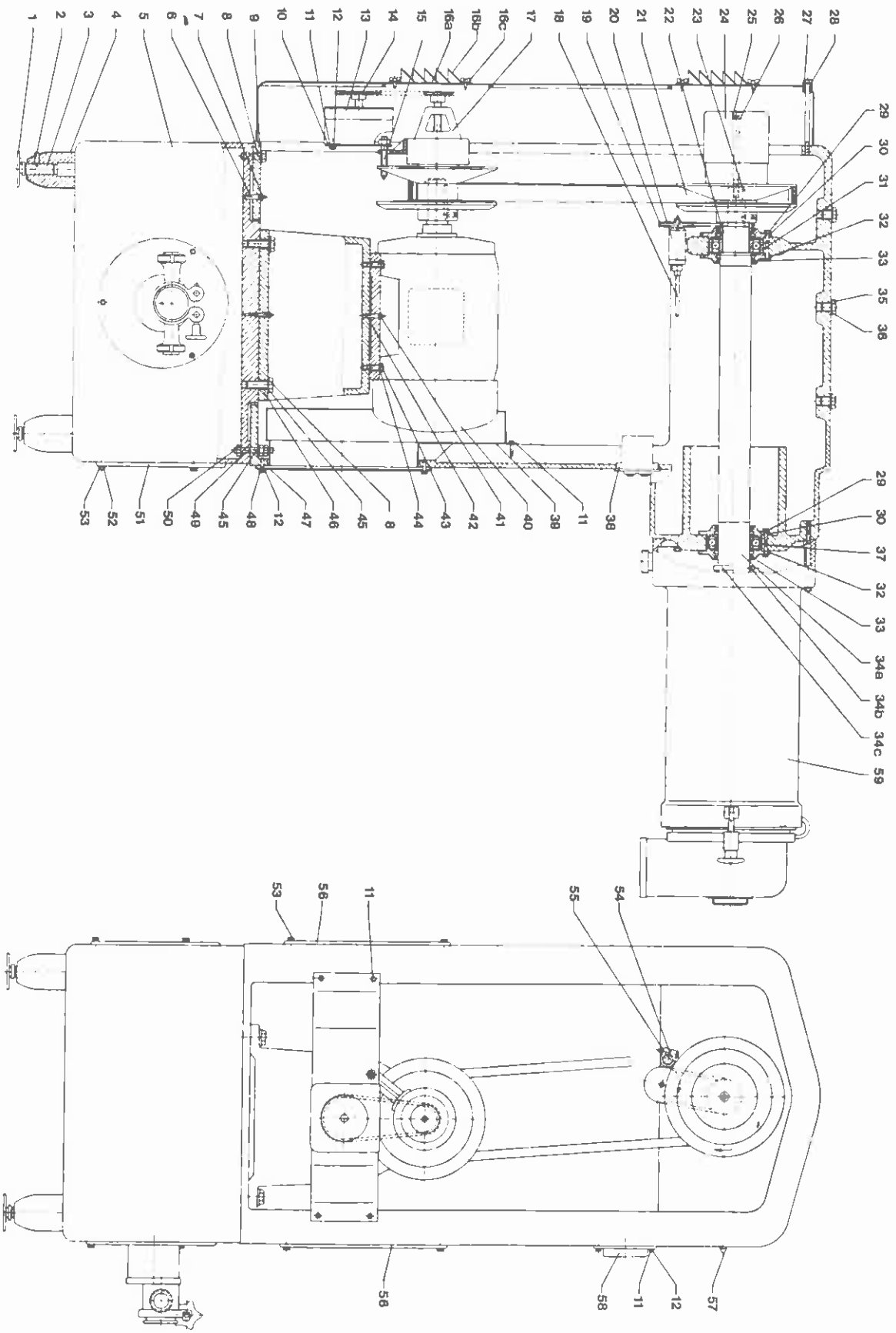


Fig. 2/2

Control Panel BUC 1500

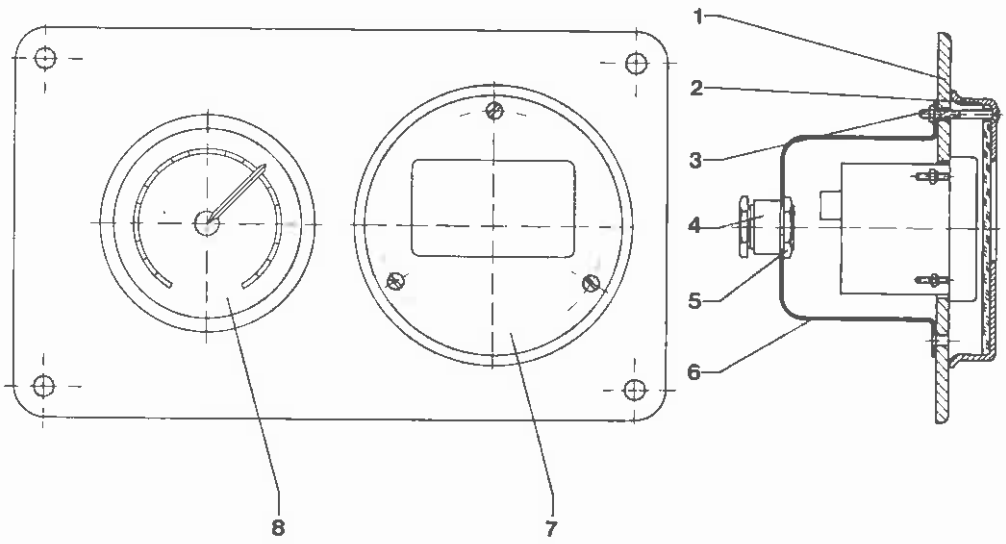


Fig. 2/3

Item No.	Part - No.		Qty	Part Description
		for stainless steel cladded design		
-	8221-1088-000		1	Control panel, complete (1-8)
-	-	8221-1088-020	1	Control panel, complete (1-8) (see also fig. 2/2 No. 58)
1	8221-1087-020	8221-1087-020	1	Mounting plate
2	8221-6494-010	8221-6494-010	1	Cap
3	0019-2077-300	0019-2077-300	3	Countersunk screw AM 4x40 DIN 63
4	0005-0205-630	0005-0205-630	1	Cable gland Pg 16
5	0013-2870-630	0013-2870-630	1	Hexagon nut 16 DIN 46258
6	8221-1085-000	8221-1085-000	1	Protecting cover
7	0005-0314-890	-	1	Ammeter 1-60/120A
7	-	0005-0315-890	1	Ammeter 1-200A
8	0021-3611-040	0021-3611-040	1	Tachometer 0-4000 rpm

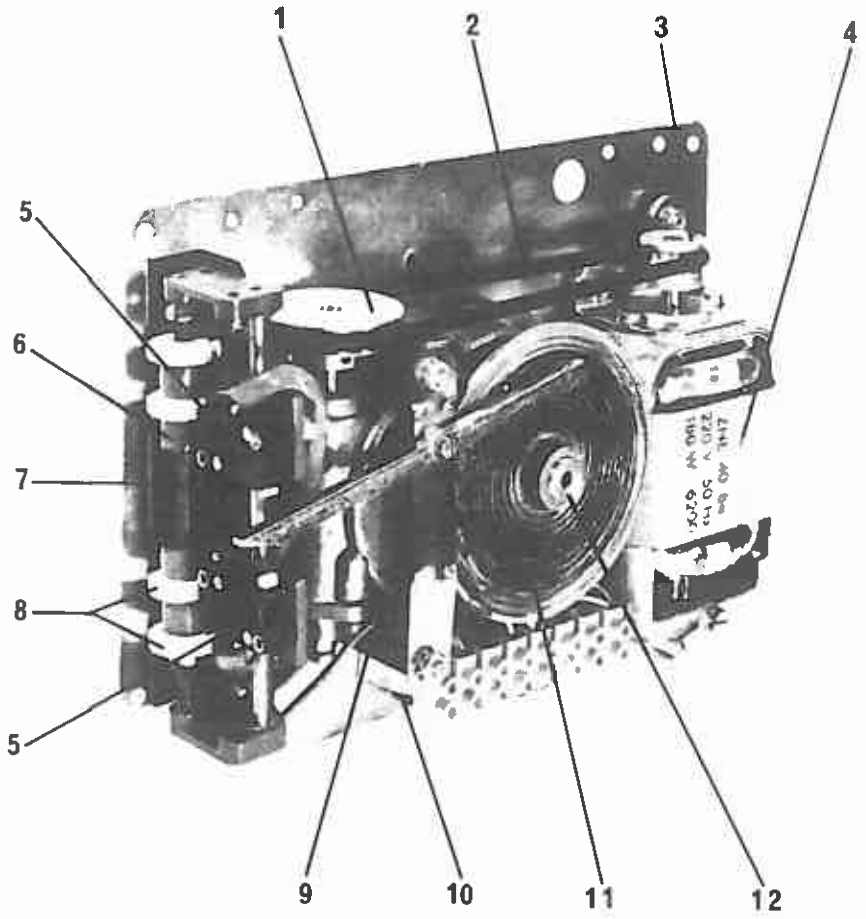
Control Panel BUC 1500

for enamel finish design

The following parts differ from those of the stainless steel cladded design:

-	8221-1088-010	8221-1088-030	1	Control panel, complete (1-8) (see also fig. 2/2 No. 58)
1	8221-1087-030	8221-1087-030	1	Mounting plate

Control Gear V50



Item No.	Part - No.	Qty.	Part Description
-	8220-1080-080	1	Control gear V50 (for 220-250 Volt, 50 - 60 cycles)
-	8220-1080-090	1	Control gear V50 (for 110-125 Volt, 50 - 60 cycles)
1	301.031	1	Belt pulley 52 Ø
2	ATOR 85-5	1	Round belt
3	BZ-06.5	1	Belt pulley 26 Ø
4	ZNE 40-Be	1 *	Universal motor
5	E33-20 A	2	Limit switch, type Marquard
6	AM 60-07.4	2	Slider
7	301.072	1	Spindle
8	AM 60-07.5	4	Rotary knob
9	301.167	1	Gear with shaft
-	8220-1047-020	1	Sprocket wheel, 25 teeth, AM 60-03.6 S (for No. 9)
-	0026-0314-170	1	Split sleeve 6x65 DIN 1481 (for No. 9)
10	2-6500	1 *	Overload relay
11	202.028	1	Control disc
12	301.062-S4	1 **	Shaft

* When ordering these parts, please state also voltage and frequency.

** This part is included in No. 9, but is also available as separate item.

'Becker' Regulating Disc K6/RM5

BUC 1500

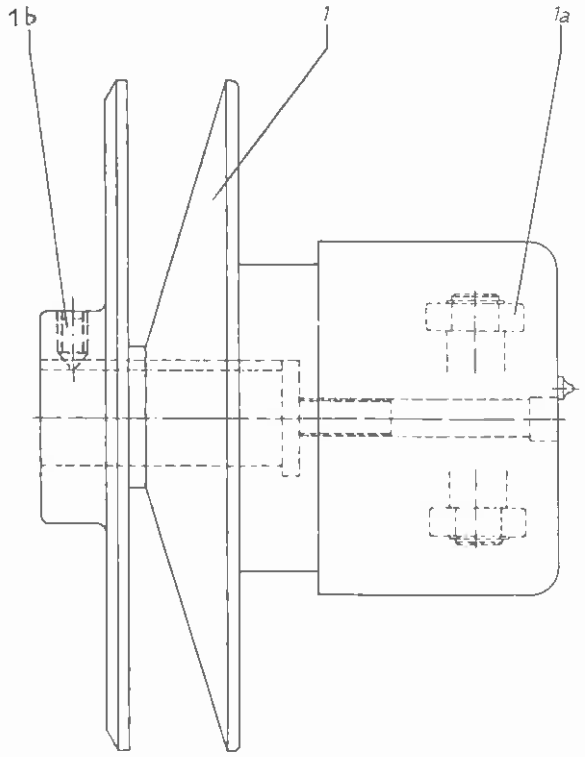


Fig. 2/5

Item No.	Part - No.	Qty.	Part Description
1	8220-1132-000	1	'Becker' Regulating disc K6 (diameter of bore 45 mm) (see also fig.2/2, No.24)
1a	8221-1128-000	2	Cam roller
1b	0019-8984-150	1	Threaded pin M 10x25 DIN 914
1	8221-1132-010	1	'Becker' Regulating disc RM5 (diameter of bore 38mm) (see also fig. 2/13, No.8)
1a	8222-1128-000	1	Cam roller
1b	0019-8984-150	1	Threaded pin M 10x25 DIN 914

'Becker' Regulating Disc RL6,
BUC 1500

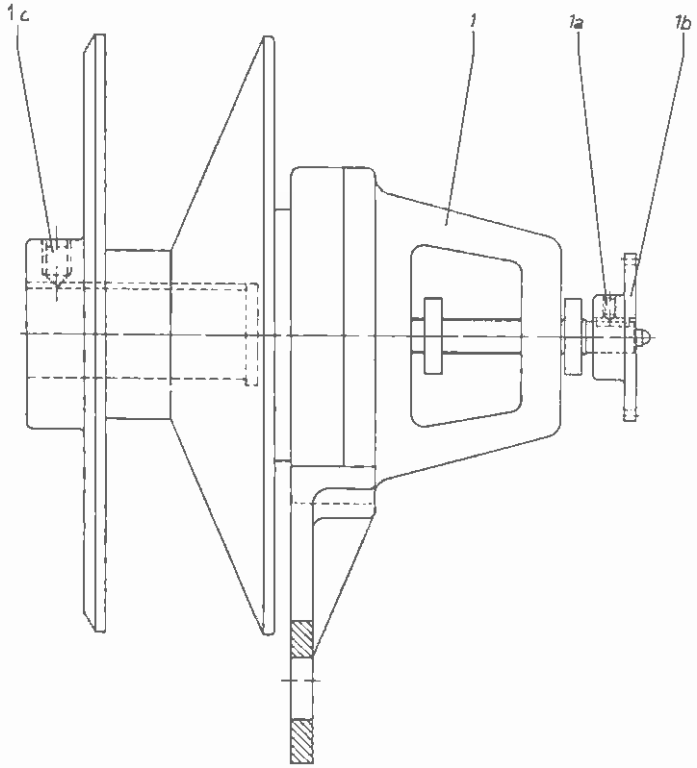


Fig. 2/6

Item No.	Part - No.	Qty.	Part Description
1	8221-1132-020	1	'Becker' Regulating disc RL6 (dia. of bore 48 mm) (see also fig. 2/2, No.1
1a	8220-1047-000	1	Sprocket wheel
1b	0019-8965-150	1	Threaded pin M 6x10 DIN 914
1c	0019-8944-150	1	Threaded pin M 10x25 DIN 914

Churning Cylinder I and Cover, BUC 1500

(with Enamel Finish)

List of Parts shown in Fig. 2/7

Item No.	Part - No.	Qty.	Part Description
-	8221-3450-040	1	Churning cylinder I, complete (1-33)
1	8221-3451-030	1	Housing
2	8221-3403-000	1	Threaded ring
3	8221-3404-000	1	Nut
4	0019-6906-400	8	Hex head screw M 8x25 DIN 931
5	8221-3430-000	2	Ring half
6	0026-1328-170	3	Lock washer
7	0019-6552-300	3	Hex head screw M 12x160 DIN 931
8	0007-2792-750	1	Gasket 306/318 x 6
9	8221-3405-000	1	Housing
10	8221-3457-000	1	Cylindrical insert
11	8221-3441-010	1	Dasher
12	0007-2792-750	1	Gasket 306/318 Ø x 6
13	0019-2265-300	6	Cylindrical screw AM 8x20 DIN 84
14	0004-5280-850	2	Gasket 20/30 Ø x 2
15	8222-1465-060	2	Cam
16	0026-1137-400	2	Cylindrical pin 14h8x40 DIN 7
17	0019-0880-300	2	Hinge screw
18	0007-2572-750	2	Gasket 250/4 Ø
19	8222-1130-000	2	Claw piece
20	0006-4167-500	2	Cylindrical pressure spring
21	0021-3113-640	2	Handle
-	8221-3325-010	1	Cover assembly (22a-c)
22a	0007-2792-750	1	Gasket 306/318 Ø x 6
22b	8221-3323-010	1	Cover
22c	8121-3335-010	1	Cap
-	8121-3328-010	1	Hook
23	0013-0263-300	1	Cap nut M 36x3
24	0004-2440-700	1	Gasket 52/72 Ø x 1
25	0019-6841-400	4	Hex head screw M 6x15 DIN 933
26	0026-1328-170	2	Lock washer
27	0019-6537-400	2	Hex head screw M 12x35 DIN 931
28	0013-2849-300	1	Grooved coupling nut
29	0007-2209-750	1	Gasket G32
30	0018-3938-300	1	Reducing cone connection
31	8121-3463-000	1	Bend
32	8222-3464-000	1	Feed tube
33	0019-6906-400	3	Hex head screw M 8x25 DIN 933

Churning Cylinder I

(with Stainless Steel Cladding)

The following parts differ from those of the enamel-finish design:

-	8221-3450-030	1	Churning cylinder I, complete (1-33)
1	8221-3451-020	1	Housing

Churning Cylinder I and Cover, BUC 1500

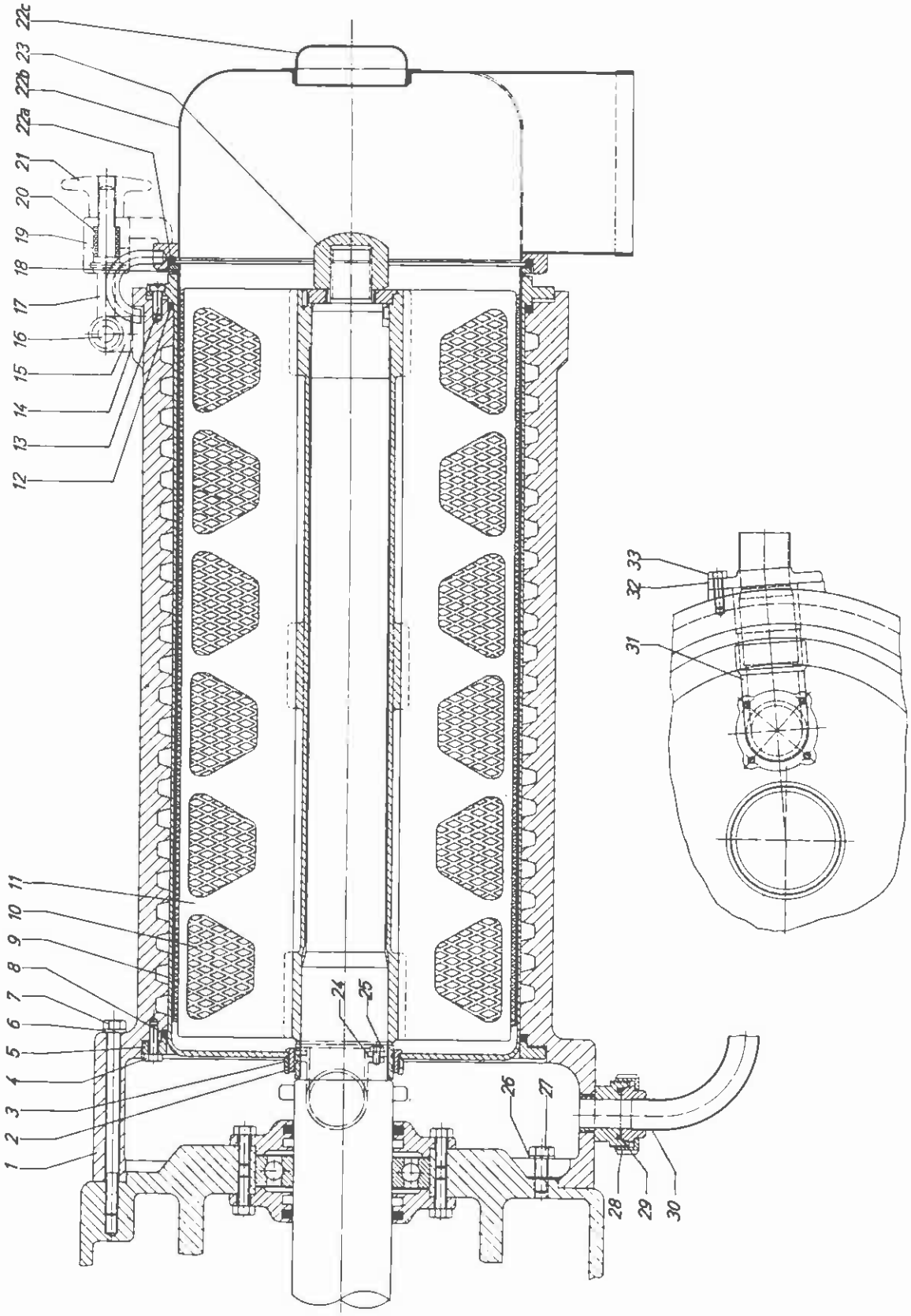


Fig. 2/7

Feed Line, BUC 1500

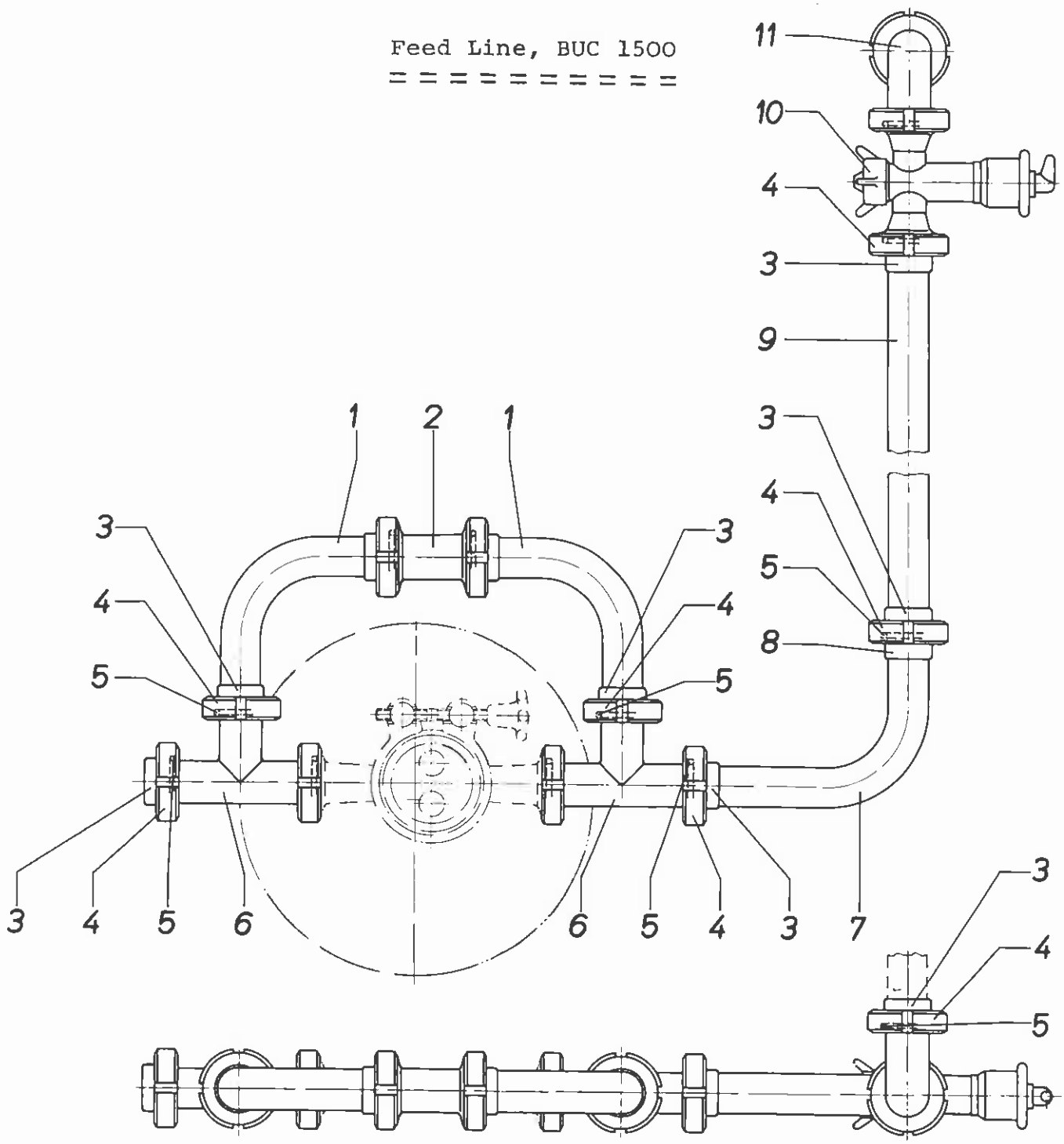


Fig. 2/8

Item No.	Part - No.	Qty.	Part Description
-	8221-2297-000	1	Feed line assembly (1-11)
1	0002-6218-310	2	Bend
2	see page 2/15	1	Throttling valve assembly (see fig. 2/10)
3	0018-3949-300	7	Cone connection
4	0013-2844-300	7	Grooved coupling nut
5	0007-2210-750	6	Gasket 42/52Ø x 5
6	0018-1642-300	2	Tee-piece
7	0002-6340-300	1	Bend
8	0018-4114-300	1	Threaded connection piece
9	0018-0073-300	1	Pipe
10	see page 2/16	1	Valve assembly (see fig. 2/11)
11	0018-1625-300	1	Bend

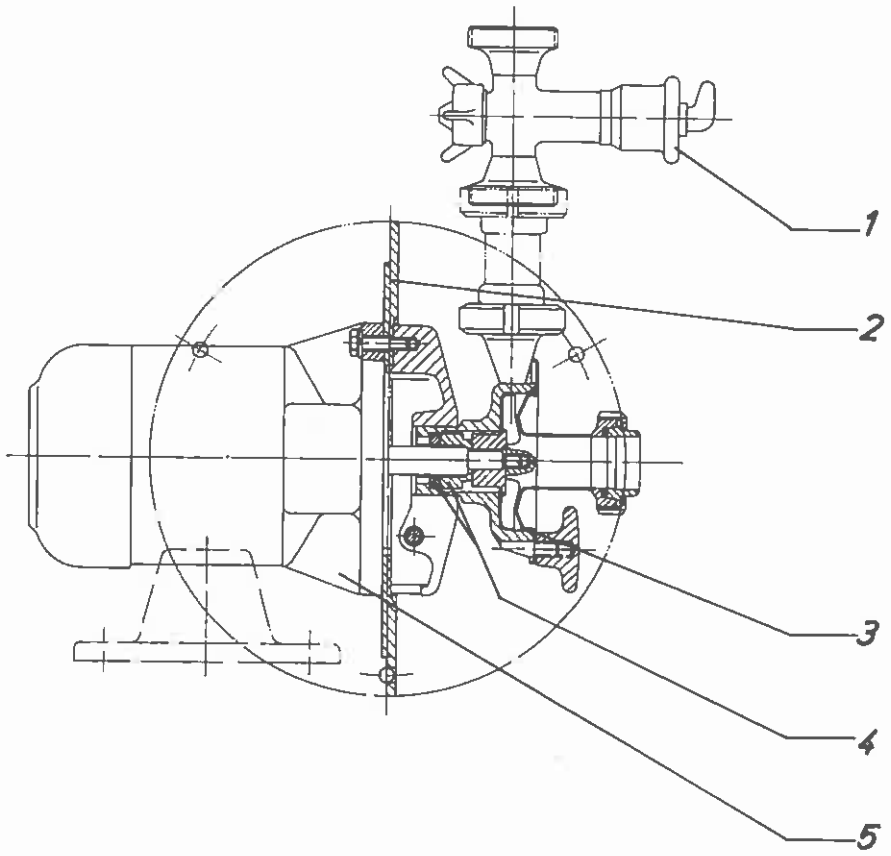


Fig. 2/9

Item No.	Part - No.	Qty.	Part Description
-	8221-2980-030	1	Centrifugal pump, complete (1-5)
1	8121-2225-020	1	Valve, complete
2	8222-6105-080	1	Flange
3	0007-2641-750	1	Gasket 134 x 5
4	0004-2996-750	1	Slide-ring packing 22
5	8221-2980-030	1	Centrifugal pump

Throttling Valve, BUC 1500

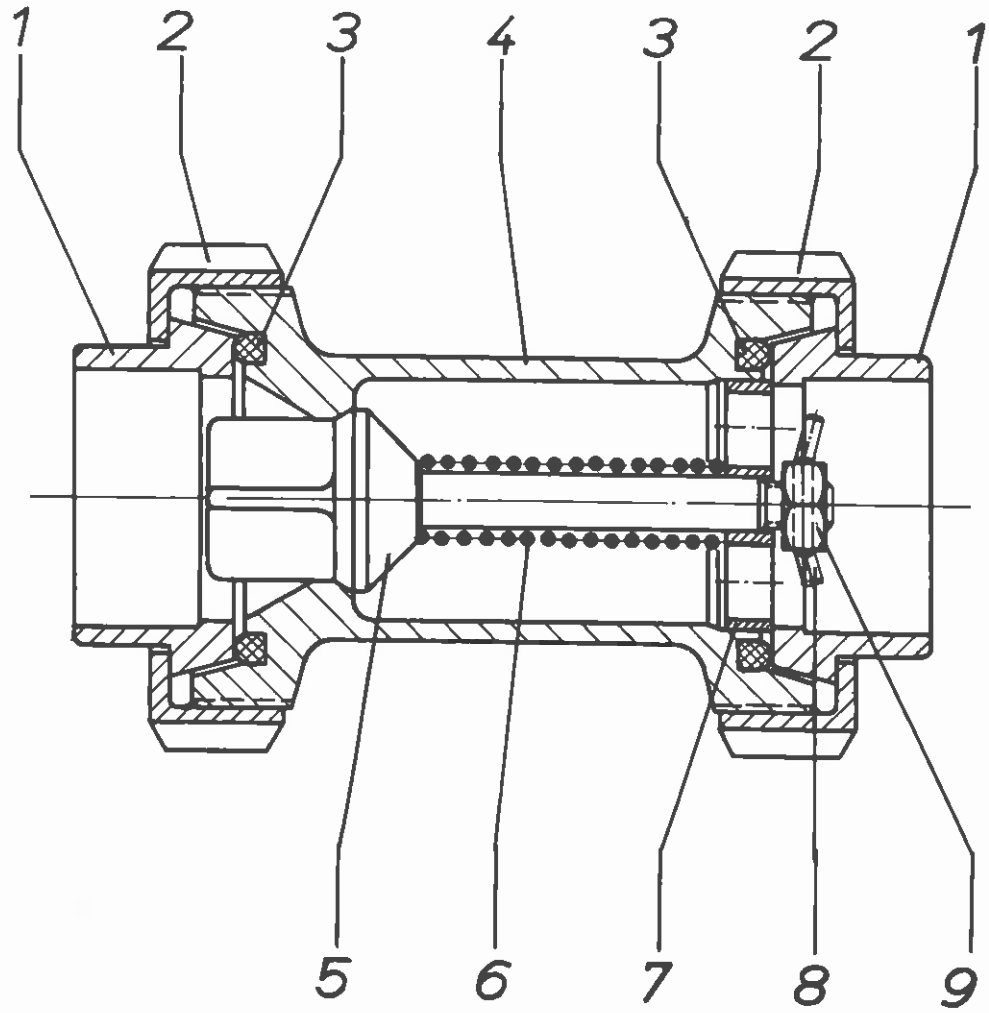


Fig. 2/10

Item No.	Part - No.	Qty.	Part Description
-	0807-2310-080	1	Throttling valve assembly (1-9) (see also fig. 2/8, No. 2)
1	0018-3949-300	2	Cone connection
2	0013-2844-300	2	Grooved coupling nut
3	0007-2210-750	2	Gasket 42/52Ø x 5
4	0807-2311-000	1	Housing
5	0807-2312-010	1	Valve cone
6	0006-4318-300	1	Cylindrical pressure spring
7	0807-2313-000	1	Perforated disc
8	0026-1586-300	1	Cylindrical pin 3h8x26 DIN 7
9	0013-0278-300	1	Hexagon nut M 8 DIN 934

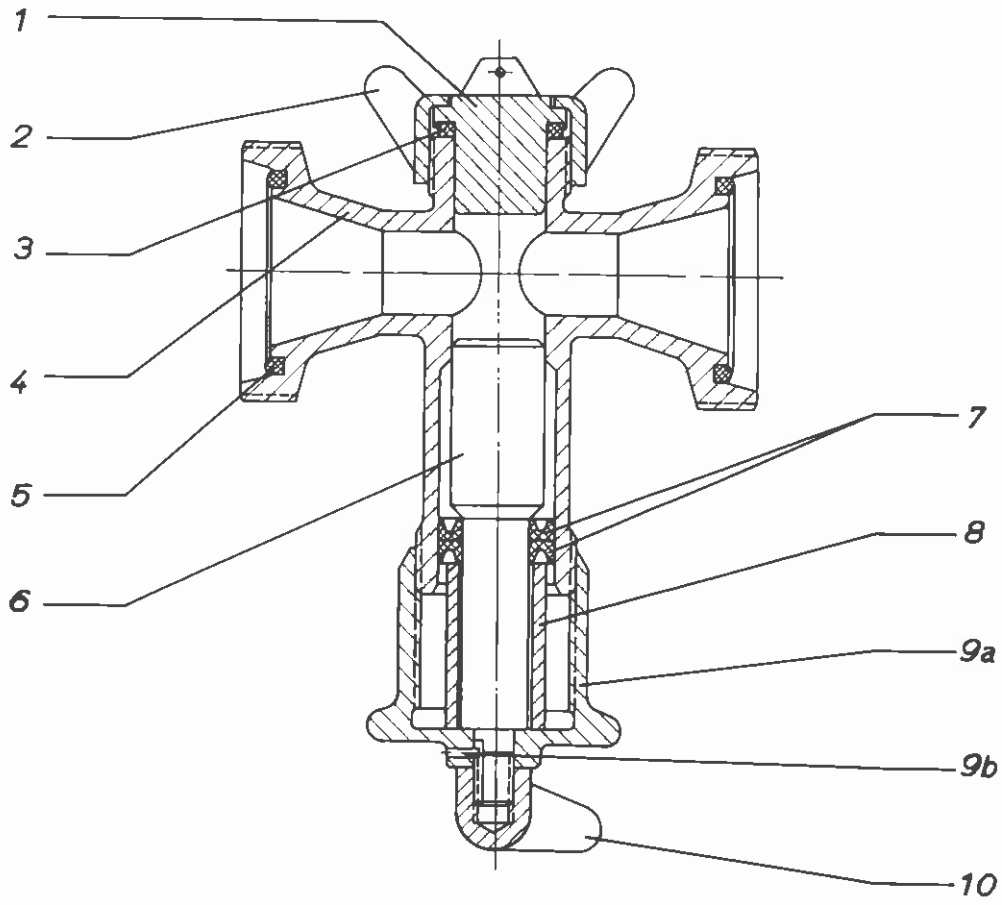


Fig. 2/11

Item No.	Part - No.	Qty.	Part Description
-	8121-2225-020	1	Valve assembly (1-10) (see also fig. 2/8, No. 10)
1	8121-2223-000	1	Plug
2	0013-2834-690	1	Winged coupling nut
3	0007-2218-750	1	Gasket 23/31 Ø x 4
4	8121-2226-000	1	Valve housing
5	0007-2210-700	2	Gasket 42/52 Ø x 5
6	8121-2229-020	1	Slider
7	0004-5718-840	2	Grooved ring 18/30 Ø x 6
8	0026-0517-840	1	Distance sleeve
-	1033-2276-000	1	Adjusting screw assembly (9a-b)
9a	1033-2276-028	1	Adjusting screw
9b	0026-1048-300	1	Pin
10	0013-2852-640	1	Hat nut

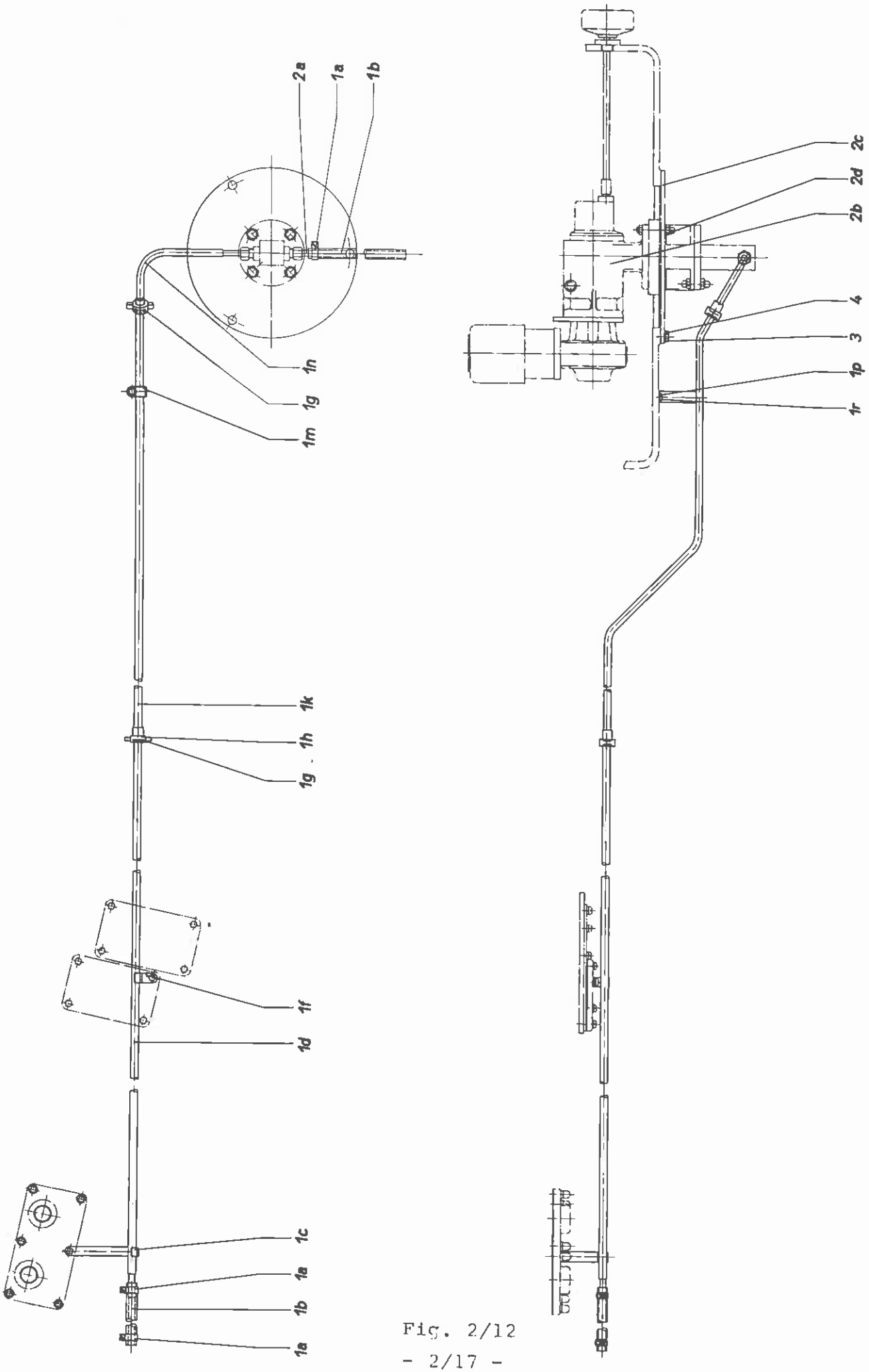


Fig. 2/12

Metering Pump Assembly and Metering Line, BUC 1500

List of Parts shown in Fig. 2/12

Item No.	Part - No.	Qty.	Part Description
-	8221-8265-020	1	Metering line assembly (1a-r)
1a	0575-2869-010	3	Hose clamp
1b	0018-2619-810	2	Hose
1c	8221-8206-000	1	Clamp
1d	8222-8268-000	1	Pipe
1f	8222-8206-020	1	Clamp
1g	0007-2402-750	2	Gasket 17/23 Ø x 3
1h	0013-3282-640	1	Coupling nut
1k	8221-8275-040	1	Bend
1m	8222-8206-030	1	Clamp
1n	8222-8275-050	1	Bend
1p	0026-1345-300	1	Washer
1r	0019-6903-550	1	Hex head screw M 8x20 DIN 933
-	8222-5980-080	1	Metering pump assembly (2a-d)
2a	8222-2805-000	1	Hose liner
2b	8121-5980-080	1	Metering pump
2c	8222-6105-050	1	Intermediate flange
2d	0019-6496-090	4	Stud M 8x50 DIN 931
3	0026-1348-300	3	Washer
4	0019-6935-550	3	Hex head screw M 10x25 DIN 933

Frame Section II, BUC 1500

(5.5 kW AC Motor)

(see also fig. 2/14)

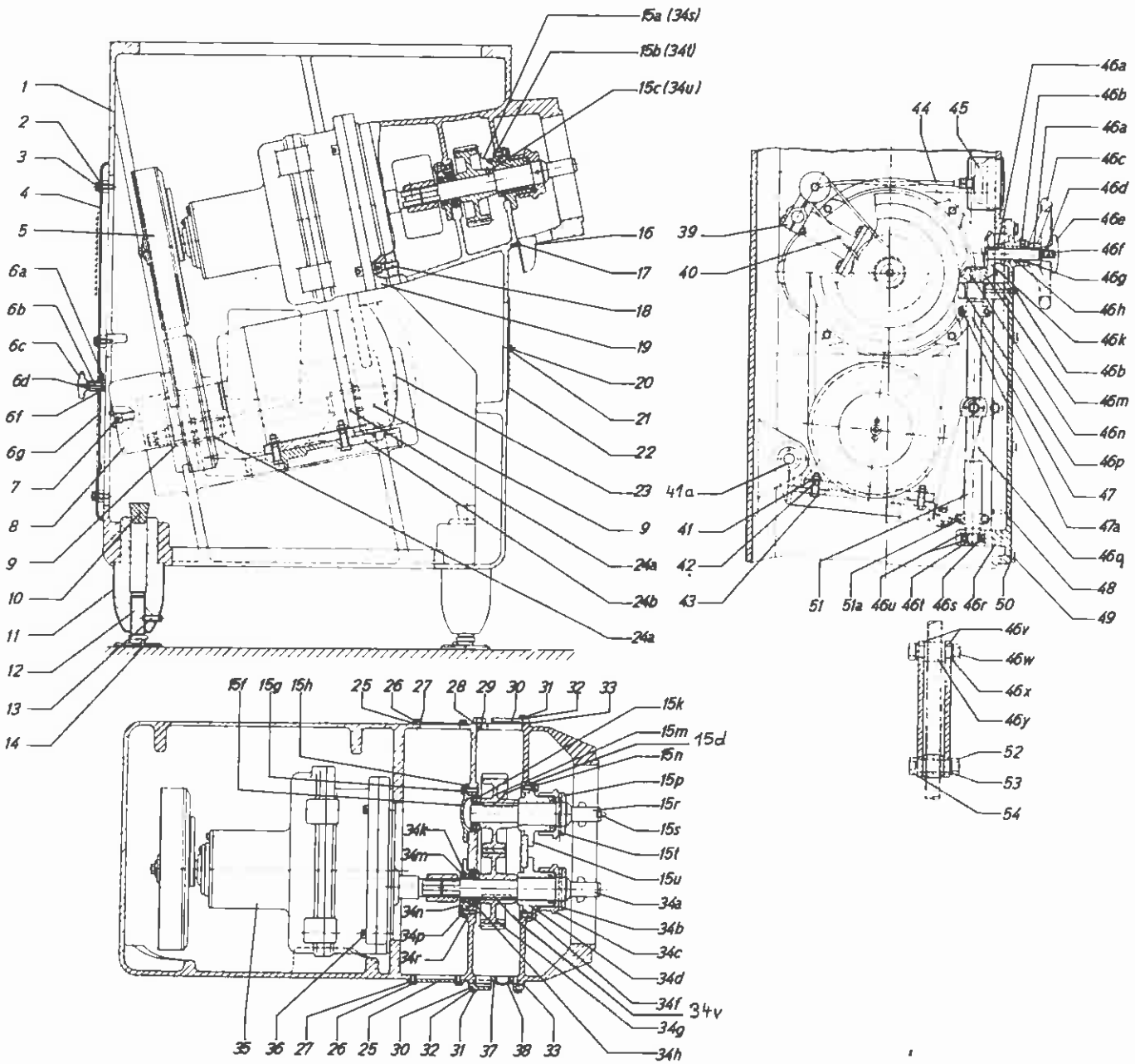


Fig. 2/13

Frame Section II, BUC 1500

(5.5 kW AC Motor)

List of Parts shown in Fig. 2/13, 2/14

Item No.	Part - No.	Qty	Part Description
-	8221-1100-120	1	Frame assembly, Section II (1-102)
1	8221-1006-020	1	Frame
2	0026-1348-300	6	Washer
3	0019-6515-400	6	Hex head screw M 10x55 DIN 931
4	8222-1004-010	1	Cover
5	0021-4430-740	1	V-belt 42x23x1510
-	8222-1138-000	1	Cover assembly (6a-g)
6a	8222-1135-000	1	Crossbar
6b	8222-1136-000	1	Bolt
6c	0021-3106-640	1	Handle
6d	0026-1576-300	2	Cylindrical notched pin
6f	0026-1347-000	1	Washer
6g	8222-1137-000	1	Cover
7	0019-6178-400	1	Cylindrical screw M 12x150 DIN 912
8	8221-1132-010	1	'Becker' Regulating disc RM 5
9	8222-1072-000	2	Bearing bush
10	0003-3627-700	4	Plug
11	8222-1017-000	4	Lining
12	8222-1106-000	4	Threaded bolt
13	0019-6387-400	4	Threaded pin AM 12x28 DIN 915
14	8222-1025-000	4	Floor mounting plate
-	8221-1080-030	1	Drive assembly (15a-34v)
-	8221-1035-010	1	Shaft I with drive parts, complete (15a-u)
15a	8221-1123-000	1	Scraper
15b	0019-2478-030	1	Lens head screw AM 4x8 DIN 85
15c	0019-5053-060	1	Threaded pin M 8x15 DIN 553
15d	0026-1765-160	2	Key A 10x8x70 DIN 6885
15f	8121-1048-000	1	Bearing cover
15g	0019-6510-090	3	Hex head screw M 10x30 DIN 931
15h	0004-5355-700	1	Gasket 72/118 Ø x 1
15k	0011-7207-130	1	Angular contact ball bearing 7207 DIN 628
15m	8221-1046-010	1	Toothed wheel
15n	0019-6510-090	3	Hex head screw M 10x30 DIN 931
-	8122-1036-000	1	Shaft I, complete (15p-t)
15p	8122-1038-000	1	Slinger ring
15r	8122-1037-000	1	Shaft I
15s	0026-1427-300	1	Cylindrical pin 10x23
15t	0026-1108-030	1	Cylindrical pin 8h8x80 DIN 7
15u	8122-1121-000	1	Sleeve bearing
16	8222-1026-000	1	Drip chute
17	0019-2507-300	3	Lens head screw AM 6x10 DIN 85
18	0019-6166-150	5	Cylindrical screw M 12x35 DIN 912
19	8221-1354-000	1	Intermediate flange
20	0019-6839-300	4	Hex head screw m 6x10 DIN 933
21	0026-1343-300	4	Washer
22	8222-1115-000	2	Ventilation grid
23	5990-2145-...	1	'Loher' Motor A132-SA4, 5.5 kW, 50 Hz (according to order)

List of Parts shown in Fig. 2/13, 2/14

Item No.	Part - No.	Qty	Part Description
-	8221-1007-000	1	Motor base plate, complete (24a-b)
24a	8222-1072-000	1	Bearing bush
24b	8221-1008-000	1	Motor base plate
25	8222-1012-010	2	Cover
26	0019-6901-400	8	Hex head screw M 8x15 DIN 933
27	0026-1345-300	8	Washer
28	0004-1872-720	1	Gasket
29	0019-0133-400	1	Hex head screw M 12x15
30	8221-1012-000	2	Cover
31	0019-6490-300	4	Hex head screw M 8x25 DIN 931
32	0026-1345-300	4	Washer
33	0004-2885-740	2	Gasket 112x200x0,5
-	8221-1050-020	1	Shaft II with drive parts, complete (34a-v)
-	8221-1051-010	1	Shaft II, complete (34a-c)
34a	8221-1052-010	1	Shaft
34b	0026-1108-030	1	Cylindrical pin 8h8x80
34c	8122-1038-000	1	Slinger ring
34d	8122-1121-000	1	Sleeve bearing
34f	0019-6510-090	3	Hex head screw M 10x30 DIN 931
34g	8221-1046-010	1	Toothed wheel
34h	0011-7207-130	1	Angular contact ball bearing 7207 B DIN 628
34k	0004-5546-760	1	Sealing ring 35x56x10
34m	0026-5556-500	1	Snap ring
34n	8122-3375-010	1	Bearing cover
34p	0019-6510-090	3	Hex head screw M 10x30 DIN 931
34r	0004-5355-700	1	Gasket 72/118 Ø x 1
34s	8221-1123-000	1	Scraper
34t	0019-2478-030	1	Cylindrical screw AM 4x8 DIN 85
34u	0019-5053-060	1	Threaded pin M 8x15 DIN 553
34v	0026-1765-160	1	Key A 10x8x70 DIN 6885
35	see page 2/25	1	Gearbox assembly (see fig. 2/15)
36	0019-6167-150	5	Cylindrical screw M 12x40 DIN 912
37	0004-5025-760	1	Gasket 30/37x1,5
38	0001-0004-640	1	Sight glass assembly
39	see page 2/28	1	Tachometer drive, complete (see fig.2/16
40	0021-4421-740	1	V-belt 8x5x630 DIN 2215
41	0026-1328-180	4	Lock washer
41a	8222-6070-000	1	Clamping sleeve, complete
42	0013-0280-150	4	Hexagon nut M 12 DIN 934
43	0019-6536-150	4	Hex head screw M 12x50 DIN 931
44	0021-3610-050	1	Flexible shaft
45	0021-3607-040	1	Tachometer 0 - 80 rpm
-	8222-1013-000	1	Speed agjusting device, complete (46a-
46a	0026-1723-160	2	Key
46b	0021-4560-650	2	Oiler
46c	0021-3595-280	1	Hand wheel
46d	0019-3794-300	1	Threaded pin M 6x12 DIN 417
46e	0021-3125-640	1	Handle
46f	8222-1073-040	1	Bolt
46g	0026-1048-400	1	Cylindrical pin 3h8x9
46h	8222-1072-040	1	Sleeve, long
46k	8222-1022-000	1	Bevel wheel (for hand wheel)
46m	8222-1022-010	1	Bevel wheel (for spindle)
46n	0026-1728-160	1	Key

List of Parts shown in Fig. 2/13, 2/14

Item No.	Part - No.	Qty	Part Description
46p	8222-1072-030	1	▲Sleeve (short)
46q	8222-1149-010	1	Spindle
46r	8222-1012-000	1	Cover
46s	0011-6204-050	1	Grooved ball bearing 6204 Z DIN 625
46t	0026-5859-170	1	Securing ring 20x1,2 (for spindle)
46u	0026-5836-170	2	Securing ring 47x1,75 (for bore)
46v	8222-1074-010	2	Joint
46w	0013-0284-030	2	Hexagon nut M 20 DIN 934
46x	0026-1358-000	2	Washer
46y	8222-1075-010	1	Nut
47	8222-1165-000	1	Upper limiting piece, complete
47a	0019-6452-090	2	Hex head screw M 6x20 DIN 931
48	0026-1137-400	2	Cylindrical pin 14h8x40
49	0019-6908-400	8	Hex head screw M 8x35 DIN 931
50	0026-1345-300	8	Washer
51	8222-1165-020	1	Lower limiting piece, complete
51a	0019-6452-090	2	Hex head screw M 6x20 DIN 931
52	0013-0284-150	1	Hexagon nut M 20 DIN 934
53	0026-1358-030	1	Washer
54	0019-0975-060	1	Adjusting screw M 20x86 WSN 19-452/00
55	0026-1345-300	8	Washer
56	0019-6903-400	8	Hex head screw M 8x20
57	8222-1012-060	1	Cover
58	0026-1661-010	1	Centering disc
59	0019-6510-090	1	Hex head screw M 10x30 DIN 931
60	0021-4327-740	3	V-belt 13x8
61	8222-1028-090	1	V-belt pulley (for motor)
62	0026-1661-010	1	Centering disc
63	0019-6517-150	1	Hex head screw M 10x65 DIN 931
64	5990-4042-029	1	Gear motor SEW
65	8222-1072-010	2	Bearing bush
66	8222-1073-010	1	Bolt
-	8222-1007-020	1	Motor base plate assembly (67a-b)
67a	8222-1008-020	1	Motor base plate
67b	8222-1072-010	2	Bearing bush
68	8222-1028-030	1	V-belt pulley (for drive shaft)
69	0026-1719-160	1	Key A 6x6x30 DIN 6885
70	0019-6490-090	6	Hex head screw M 8x25 DIN 931
71	8222-3375-050	1	Bearing cover
72	0004-1954-830	1	Felt ring 45/58 Ø x 5,5
73	0026-5871-170	1	Securing ring 45x1,75 DIN 471
74	0011-6209-010	1	Grooved ball bearing 6209 DIN 625 (drive side)
75	8222-3375-070	1	Bearing cover
76	0004-1960-830	1	Felt ring 60/77 Ø x 7
77	8222-1010-010	1	Upper frame part, Section II
78	8222-1400-010	1	Shaft
79	0004-1960-830	1	Felt ring 60/77 Ø x 7
80	0011-6212-000	1	Grooved ball bearing 6212 DIN 625 (churning side)
81	0019-6903-090	3	Hex head screw M 8x20 DIN 933
82	8222-3375-060	1	Bearing cover
83	8222-3131-000	1	Bearing housing
84	0019-6495-090	3	Hex head screw M 8x45 DIN 931
85	0019-6533-090	4	Hex head screw M 12x35 DIN 931
86	0026-1328-170	4	Lock washer

List of Parts shown in Fig. 2/13, 2/14

Item No.	Part - No.	Qty.	Part Description
87	0019-6534-090	2	Hex head screw M 12x40 DIN 931
88	0026-1371-640	4	Washer
89	0005-0206-630	1	Cable gland Pg 16
90	8222-1115-000	2	Ventilation grid
91	0026-1343-300	4	Washer
92	0019-6839-300	4	Hex head screw AM 6x12 DIN 933
93	0019-5188-030	1	Hex head screw AM 8x20 DIN 561
94	0026-1345-030	2	Washer
95	0019-6492-090	2	Hex head screw M 8x30 DIN 931
96	8222-1032-000	1	Support
97	0013-0282-030	1	Hexagon nut M 16 DIN 934
98	0019-1035-090	1	Threaded bolt
99	0019-6534-090	1	Hex head screw M 12x40 DIN 931
100	0019-6537-550	1	Hex head screw M 12x55 DIN 931
101	0007-2044-750	1	Gasket 56/7 Ø
103	0018-2866-300	1	Pipe piece
104	0004-5556-750	2	Sealing ring A 60x85x10
105	0026-0210-000	1	Washer

Frame Section II, BUC 1500

(see also fig. 2/13)

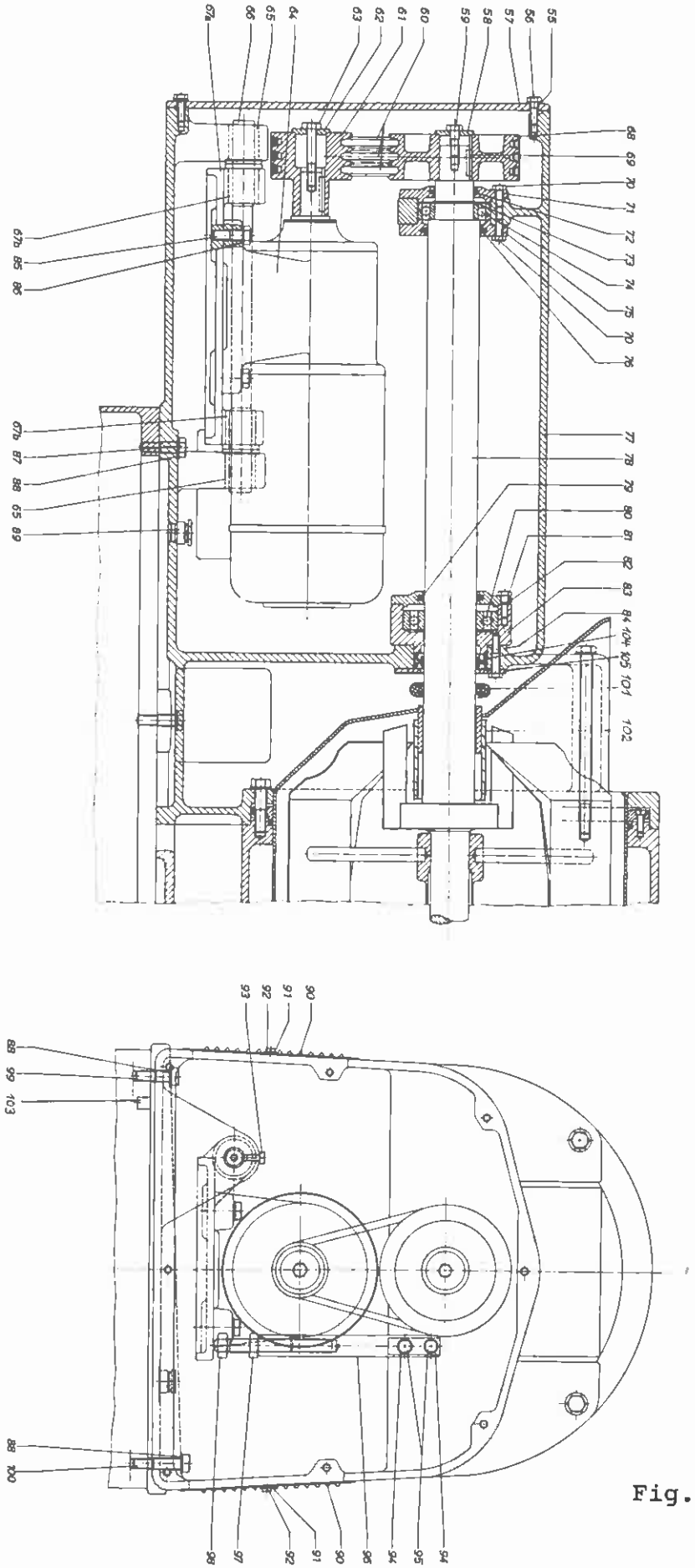


Fig. 2/14

Gearbox, BUC 1500

(for 5,5 kW AC motor)

List of Parts shown in Fig. 2/15

Item No.	Part - No.	Qty.	Part Description
-	8221-1350-000	1	Gearbox assembly (1-51)
1	8221-1029-010	1	V-belt pulley
2	0026-1656-010	1	Centering disc
3	0019-6490-090	1	Hex head screw M 8x25 DIN 931
4	0026-1325-170	1	Lock washer
5	0026-1755-160	1	Key A 8x8x55
6	0019-6841-090	6	Hex head screw M 6x15 DIN 933
7	0019-6492-090	3	Hex head screw M 8x30 DIN 931
8	8221-1371-000	1	Casing for drive shaft, complete
9	0026-5996-060	1	Distance sleeve
10	0011-6306-000	1	Grooved ball bearing 6306 DIN 625
11	8221-1019-000	1	Shaft
12	0019-6841-090	6	Hex head screw M 8x15 DIN 933
13	0019-6935-090	1	Hex head screw M 10x25
14	0026-5500-030	1	Washer
15	8221-1066-010	1	Toothed wheel
16	0026-1762-160	1	Key 10x8x28 DIN 6885
17	0011-6307-000	1	Grooved ball bearing 6307 DIN 625
18	8221-3412-000	1	Pinion shaft
19	0011-6405-000	1	Grooved ball bearing 6405 DIN 625
20	8221-3375-040	1	Bearing cover
21	0019-6452-090	3	Hex head screw M 6x20 DIN 931
22	0021-4570-600	1	Oiler
23	0026-1781-160	1	Key 8x7x22
24	0026-1355-300	1	Washer
25	0019-6903-090	1	Hex head screw M 8x20 DIN 933
26	0019-5053-060	1	Threaded pin M 8x15 DIN 553
27	8221-1129-000	1	Coupling piece
28	0004-1954-830	1	Felt ring 45/58 Ø x 5,5
29	0021-4570-600	1	Oiler
30	0019-6452-090	3	Hex head screw M 6x20 DIN 931
31	5615-1124-000	1	Bearing cover
32	0011-6309-000	1	Grooved ball bearing 6309 DIN 625

List of Parts shown in Fig. 2/15

Item No.	Part - No.	Qty.	Part Description
33	8221-3421-000	1	Drive shaft
34	0026-1773-160	2	Key A 14x8x55
35	8221-1066-020	1	Toothed wheel
36	0011-6308-000	1	Grooved ball bearing 6308 DIN 625
-	8221-1351-000	1	Reduction gear housing assembly (37a-d)
37a	8221-1352-000	1	Reduction gear housing
37b	0026-1073-030	1	Set pin 5h8x16 DIN 7
37c	0019-6492-090	4	Hex head screw M 8x30 DIN 931
37d	8221-1353-000	1	Bearing bridge
38	0019-6169-150	4	Cylindrical screw M12x50 DIN 912
39	8221-1066-000	1	Pinion
40	0026-5835-180	1	Securing ring 50x2 DIN 472
41	8221-3375-030	1	Bearing cover
42	0004-5559-750	1	Sealing ring A 30x50x10
43	0011-6306-000	1	Grooved ball bearing 6306 DIN 625
44	1022-3375-000	1	Bearing cover
45	0004-1950-830	1	Felt ring 34/47 Ø x 5,5
46	1022-3375-000	1	Bearing cover
47	8221-1373-000	1	Bearing shield
48	1022-3375-000	1	Bearing cover
49	0004-1950-830	2	Felt ring 34/47 Ø x 5,5
50	0019-6935-090	2	Hex head screw M 10x25 DIN 933
51	8222-1145-000	1	Angle bracket

Gearbox, BUC 1500 (for 5,5 kW AC motor)

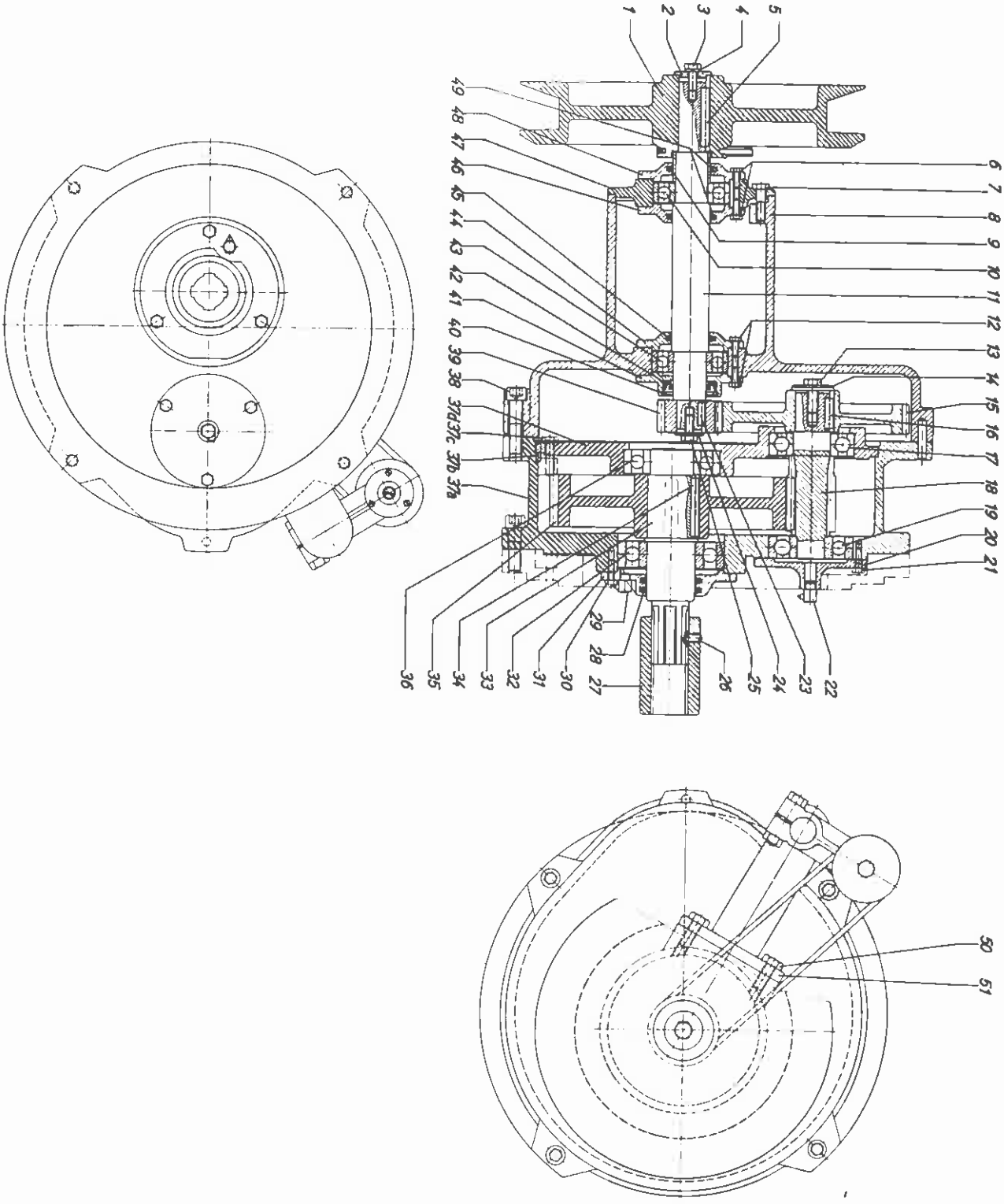


Fig. 2/15

Tachometer Drive, BUC 150C

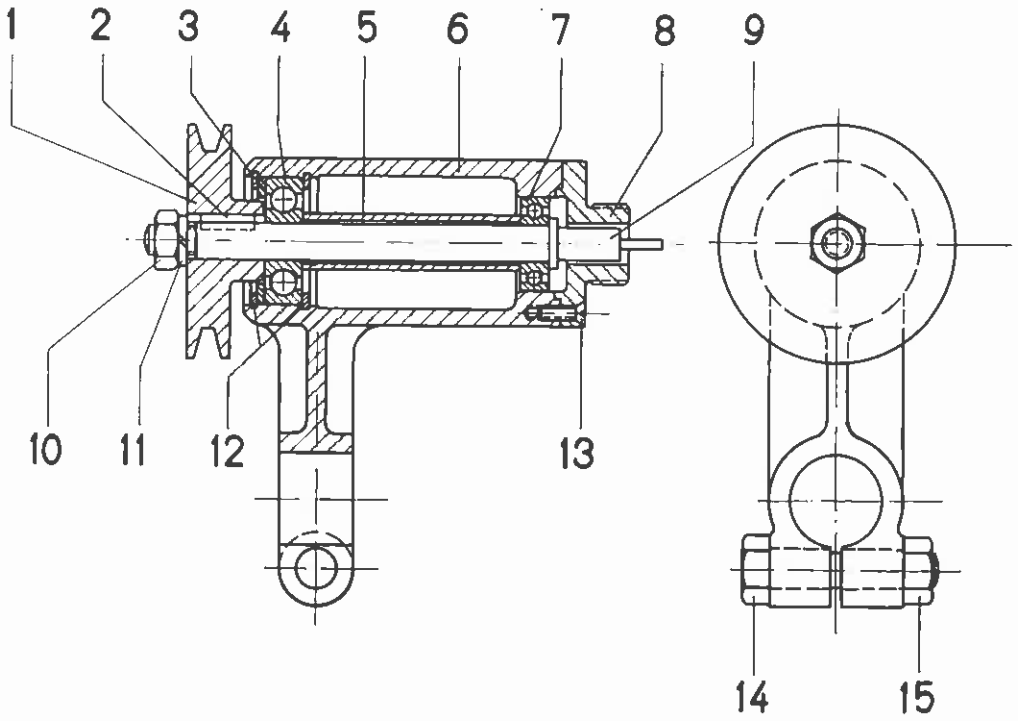


Fig. 2/16

tem No.	Part - No.		Qty.	Part Description
-	8221-1090-000		1	Tachometer drive assembly (1-15) (see also fig. 2/2, No. 20)
-	-	8222-1090-000		Tachometer drive assembly (1-5) (see also fig. 2/13, No. 39)
1	8221-1028-050	8222-1028-020	1	V-belt pulley
2	0026-1727-160	0026-1727-160	1	Key
3	0026-2037-000	0026-2037-000	1	Washer
4	0011-6300-050	0011-6300-050	1	Grooved ball bearing 6300/2Z DIN 625
5	0026-0515-840	0026-0515-840	1	Distance sleeve
6	8222-1091-000	8222-1091-000	1	Housing
7	0011-6000-050	0011-6000-050	1	Grooved ball bearing 6000/2Z DIN 625
8	8222-1092-000	8222-1092-000	1	Connection piece
9	8222-1096-000	8222-1096-000	1	Shaft
10	0013-0278-030	0013-0278-030	1	Hexagon nut M 8 DIN 934
11	0026-1325-170	0026-1325-170	1	Lock washer
12	0026-5833-170	0026-5833-170	2	Securing ring
13	0019-3220-030	0019-3220-030	3	Lens head screw AM 4x12 DIN 88
14	0019-6513-090	0019-6513-090	1	Hex head screw M 10x45 DIN 931
15	0013-0279-030	0013-0279-030	1	Hexagon nut M 10 DIN 934

Churning Cylinder II and Cover, BUC 1500

List of Parts shown in Fig. 2/17

Item No.	Part - No.	Qty.		Part Description
-	8221-3490-020	1		Churning cylinder II, complete
1	0019-6558-300	2		Hex head screw M 12x210 DIN 931
2	0026-1371-640	2		Washer
3	8222-3344-060	1		Tube
4	8222-3430-000	1		Ring
5	0019-2265-030	12		Cylindrical screw AM 8x20 DIN 84
6	0007-2692-750	2		Gasket 400/412 Ø x 6
7	8222-3491-020	1		Housing for churning cylinder II
-	8221-3495-000	1		Screw conveyor, complete (8a-f)
8a	8222-3494-000	1		Conveyor shaft
-	0026-1063-400	12		Cylindrical pin 4h8x32 DIN 7
8b	8222-3497-120	12		Paddle
8c	8222-3497-090	6		Paddle
8d	0013-0406-400	6		Hat nut M 12 DIN 1587
8f	0013-0280-400	18		Hexagon nut M 12 DIN 934
9	8221-3405-030	1	+)	Casing, complete
9a	8221-3382-020	1	+)	Strainer, complete (short)
9b	8221-3382-010	1	+)	Strainer, complete (long)
9c	8222-3419-000	3	+)	Locking pin
9d	8221-3337-010	1	+)	Baffle plate
9f	0021-3128-300	1	+)	Handle
9g	8222-1073-060	3	+)	Holding pin
9h	8222-8206-050	4	+)	Support
9k	0019-1218-300	3	+)	Hook screw, complete
-	8222-3325-050	1		Cover assembly (10a-m)
10a	0019-1218-300	3		Hook screw, complete
10b	8222-8206-040	3		Support
10c	8222-1073-060	3		Holding pin
10d	0021-3128-300	3		Handle
10f	8222-3323-020	1		Cover
10g	8222-3360-010	1		Sight glass, complete
10h	8222-3365-020	1		Washing nozzle
10k	0026-1345-300	3		Washer
10m	0019-6897-400	3		Hex head screw M 8x8 DIN 933
11	0026-1664-400	1		Centering disc
12	0019-6533-300	1		Hex head screw M 12x35 DIN 931
13	see page 2/31	1		Collecting pan (see fig. 2/18)
14	8222-3432-020	1		Thrust ring
15	0004-1872-720	2		Gasket 13/25 Ø x 2
16	0019-6553-400	2		Hex head screw M 12x170 DIN 931
17	0019-2265-550	2		Cylindrical screw AM 8x20 DIN 84
18	0026-1345-300	2		Washer
19	0005-0342-200	7		Limit switch
20	0007-2597-750	1		Gasket 50/4 Ø
21	0026-1371-640	2		Washer
22	0019-6536-550	2		Hex head screw M 12x50 DIN 931
23	0019-8984-400	2		Threaded pin M 10x25 DIN 914
24	8221-3497-000	1		Clearing paddle, welded

+) This part is included in item 9 (casing, complete), but is also available as a separate item.

Churning Cylinder II and Cover, BUC 1500

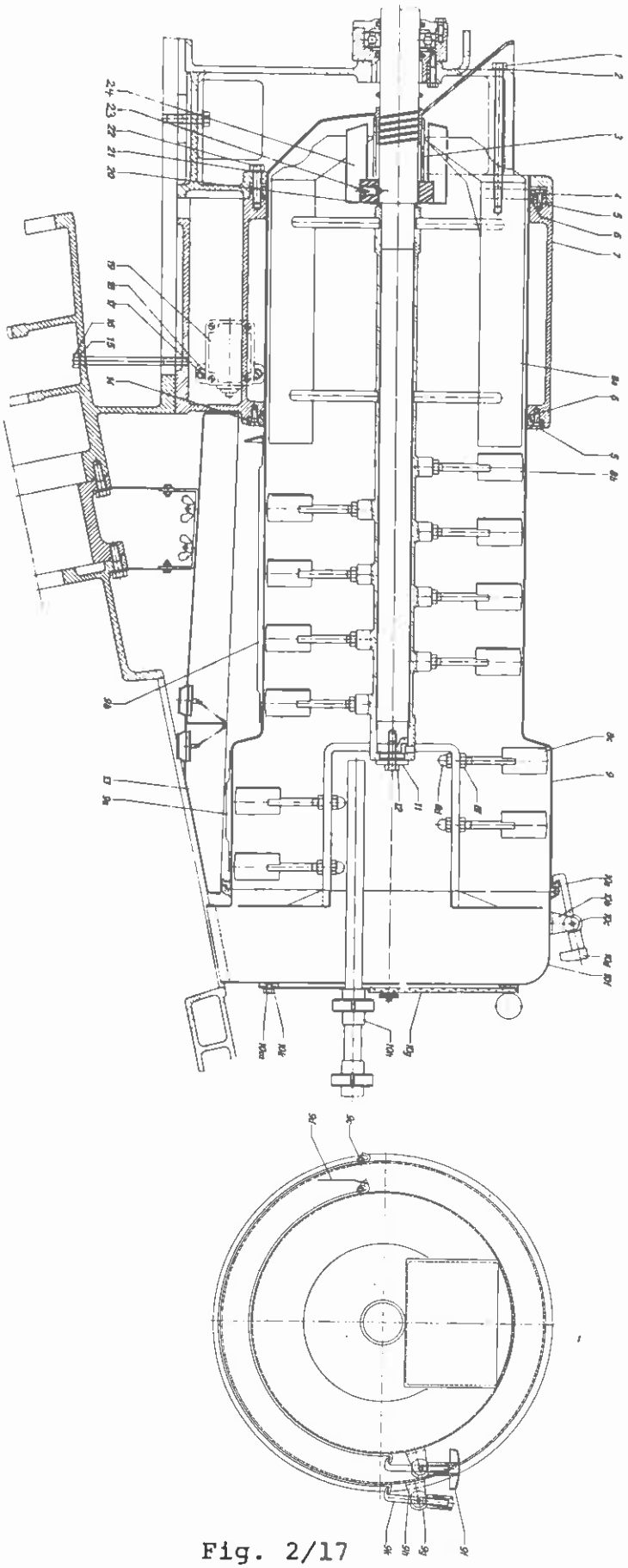
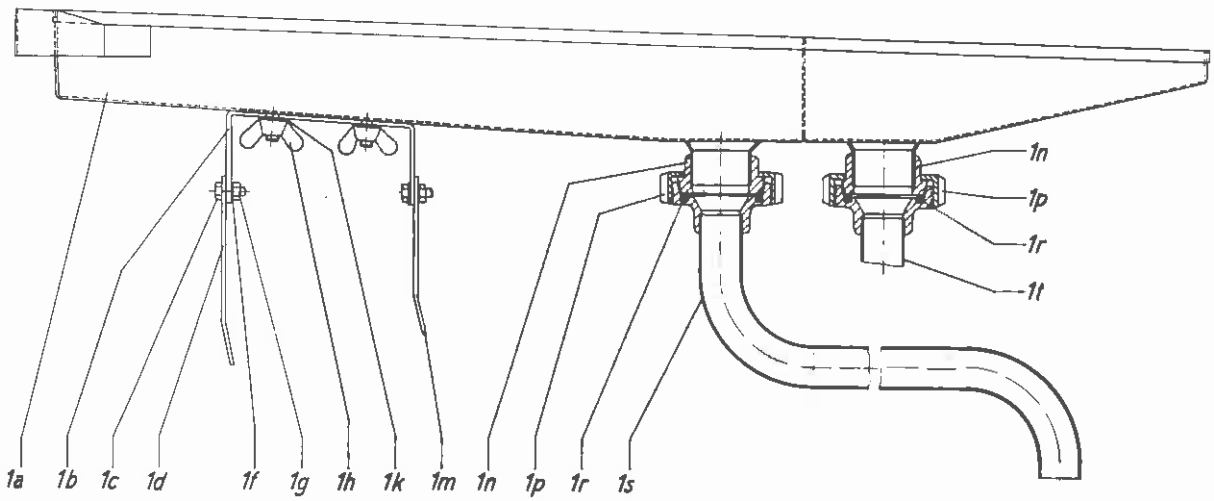


Fig. 2/17

Collecting Pan, BUC 1500



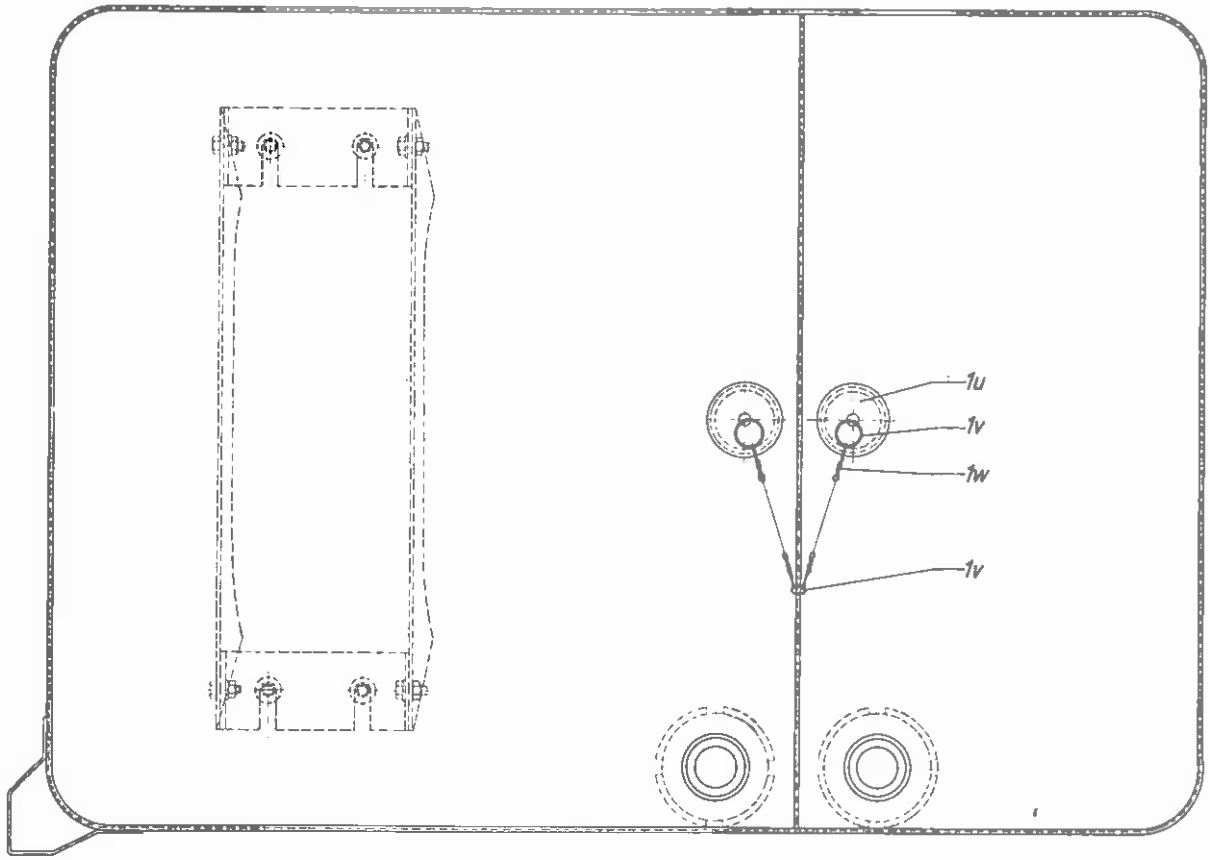


Fig. 2/18

Collecting Pan, BUC 1500

List of Parts shown in Fig. 2/18

Item No.	Part - No.	Qty.	Part Description
-	8221-9625-020	1	Collecting pan, complete (1a-w) (see also fig. 2/17, No. 13)
1a	8221-9626-010	1	Collecting pan
1b	8221-9624-050	2	Bracket
1c	0019-6841-400	4	Hex head screw M 6x15 DIN 933
1d	8221-9624-010	1	Support
1f	0026-1343-000	4	Washer
1g	0013-0276-300	4	Hexagon nut M 6 DIN 934
1h	0013-2561-260	4	Winged nut M 8 DIN 316
1k	0026-1345-300	4	Washer 8,4
1m	8221-9624-020	1	Support
1n	0018-3949-300	2	Cone connection
1p	0013-2844-300	2	Grooved nut
1r	0007-2210-750	2	Gasket 42/52 Ø x 5
1s	0002-2979-300	1	Bend
1t	0002-3333-300	1	Bend
1u	0018-1752-300	2	Plug
1v	0026-1433-300	3	Snap ring
1w	0026-0790-300	2	Chain 130 mm long

Texturizer, BUC 1500
(Aluminium Design)

List of Parts shown in Fig. 2/19

Item No.	Part - No.	Qty.	Part Description
-	8221-5500-130	1	Texturizer, complete (1-47)
1	0019-6534-550	5	Hex head screw M 12x40 DIN 931
2	8221-1025-010	1	Intermediate piece
3	0004-5729-840	2	Grooved ring 50/70 Ø x 10
4	0019-6903-550	6	Hex head screw M 8x20 DIN 931
5	0019-6534-550	5	Hex head screw M 12x40 DIN 931
6	8221-5616-010	2	Flange
7	8221-5535-030	1	Set of augers (7a-b)
7a	8221-5550-030	1	Auger, right side
7b	8221-5540-030	1	Auger, left side
8	8221-5642-000	1	Protective cover
9	0019-2507-300	2	Lens head screw AM 6x10 DIN 85
-	8221-5505-000	1	Press-off cylinder, complete (10a-p)
10a	0026-2128-300	4	Cap
10b	8221-5501-010	1	Press-off cylinder
10c	0019-6605-300	4	Hex head screw M 16x45 DIN 931
10d	0026-1353-400	4	Washer
10f	8221-5502-020	4	Bolt
10g	0019-5065-300	4	Threaded pin M 10x18 DIN 553
10h	0019-7949-150	16	Stud M 10x28 DIN 940
10k	0013-2645-300	16	Hat nut M 10
10m	8121-5503-000	1	Cover with threaded connection
10n	0004-2800-750	2	Gasket
10p	8121-5504-000	1	Cover
11	8221-5612-020	4	Clamping piece
12	see page 2/41	1	Buttermilk discharge, complete (see fig. 2/23)
13	0019-6510-550	2	Hex head screw M 10x30 DIN 931
14	8221-1105-010	1	Support
-	8221-5560-120	1	Blender assembly (15-47)
15	0019-6605-300	4	Hex head screw M 16x45 DIN 931
16	8221-5602-000	1	Perforated plate, complete
17	8221-5563-000	1	Cylindrical screen, complete
18	8221-5602-000	1	Perforated plate, complete
19	8221-5563-010	1	Cylindrical screen, complete
20	0019-1285-300	1	Handle screw M 8
21	8221-5612-000	1	Mouth piece
22	0007-2852-750	1	Gasket 112/122 Ø x 6
23	0013-3352-300	1	Coupling nut
24	0001-0255-300	1	Blind cap
-	8221-5561-000	1	Blending cylinder, complete (25a-f)
25a	8221-5562-040	1	Blending cylinder
25b	0019-6605-300	4	Hex head screw M 16x45 DIN 931
25c	0026-2902-300	4	Washer
25d	8221-5502-010	4	Bolt
25f	0019-5065-300	4	Threaded pin M 10x18 DIN 553
26	0018-1822-610	1	Hose connection 1/2"
27	0013-3282-640	1	Coupling nut
28	0018-1691-640	1	Hose cock with connection R 3/4"

List of Parts shown in Fig. 2/19

Item No.	Part - No.	Qty.		Part Description
29	0018-1553-300	1		Pipe nipple 3/8" x 45
30	8221-5612-020	4		Clamping piece
31	0019-6605-300	4		Hex head screw M 16x45 DIN 931
32	see page 2/36	1		Adjusting slide assembly (see fig. 2/20)
33	8221-5604-030	1		Blending auger, right side
34	8221-5565-000	1		Shaft assembly, right side
35	8221-5606-020	1		Blending auger 1, right side
36	8221-5606-010	1		Blending auger 2, right side
37	8221-5606-020	1		Blending auger 3, right side
38	8221-5606-030	1		Blending auger 4, right side
39	see page 2/37	1		Adjusting slide assembly (see fig. 2/21)
40	8221-5610-030	1		Blending auger, right side
41	8221-5603-030	1		Blending auger, left side
42	8221-5575-000	1		Shaft assembly, left side
43	8221-5605-020	1		Blending auger 1, left side
44	8221-5605-010	1		Blending auger 2, left side
45	8221-5605-020	1		Blending auger 3, left side
46	8221-5605-030	1		Blending auger 4, left side
47	8221-5610-020	1		Blending auger, left side
-	0001-0570-800	1	*	Inspection lid, complete (48-49)
48	0001-0571-810	1	*	Inspection lid
-	0019-1074-300	4	*	Threaded bolt
49	0013-0404-640	4	*	Hat nut
50	8222-5635-000	1	*	Protective screen, complete
51	0019-5194-550	3	*	Hex head screw AM 10x20 DIN 561

* Only on special order for blender with chute.

Texturizer, BUC 1500

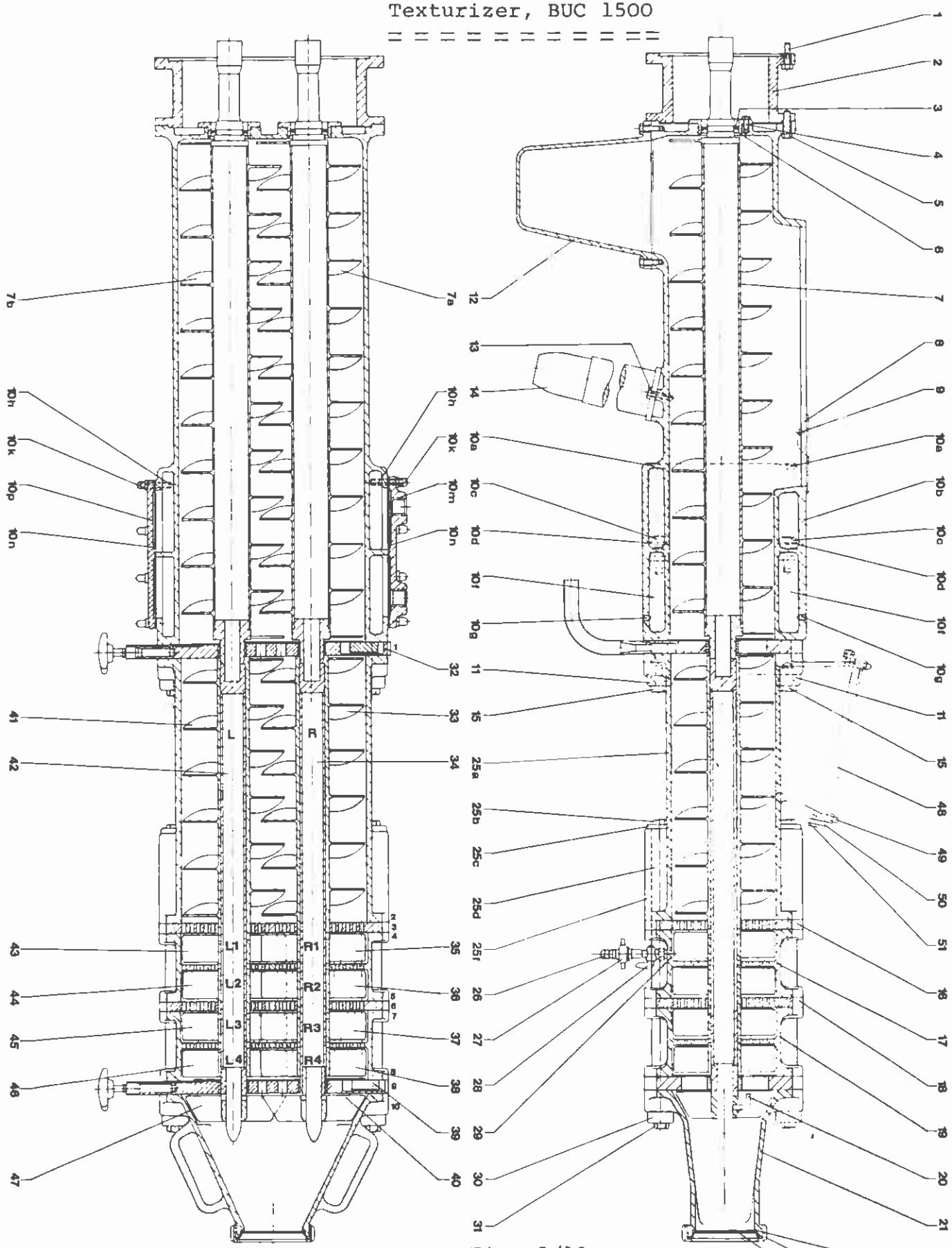


Fig. 2/19

Adjusting Slide, BUC 1500

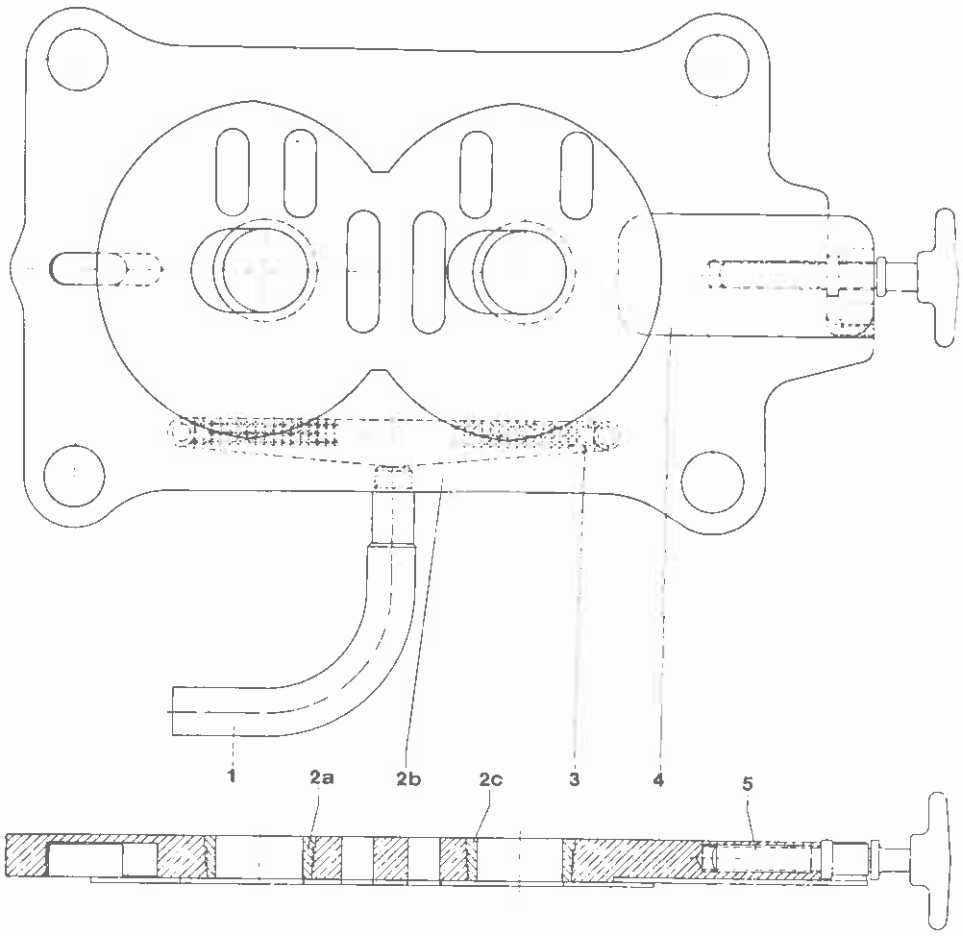


Fig. 2/20

Item No.	Part - No.	Qty.	Part Description
-	8221-5580-070	1	Adjusting slide assembly (1-5) (see also fig. 2/19, No. 32)
1	8221-5275-000	1	Bend
-	8221-5585-070	1	Bearing plate, complete (2a-c)
2a	8121-5583-030	1	Bearing bush (left-hand thread)
2b	8221-5584-070	1	Bearing plate
2c	8121-5583-020	1	Bearing bush (right-hand thread)
3	8221-5588-030	1	Perforated screen
4	8121-5595-010	1	Slide
5	8121-5590-010	1	Vernier

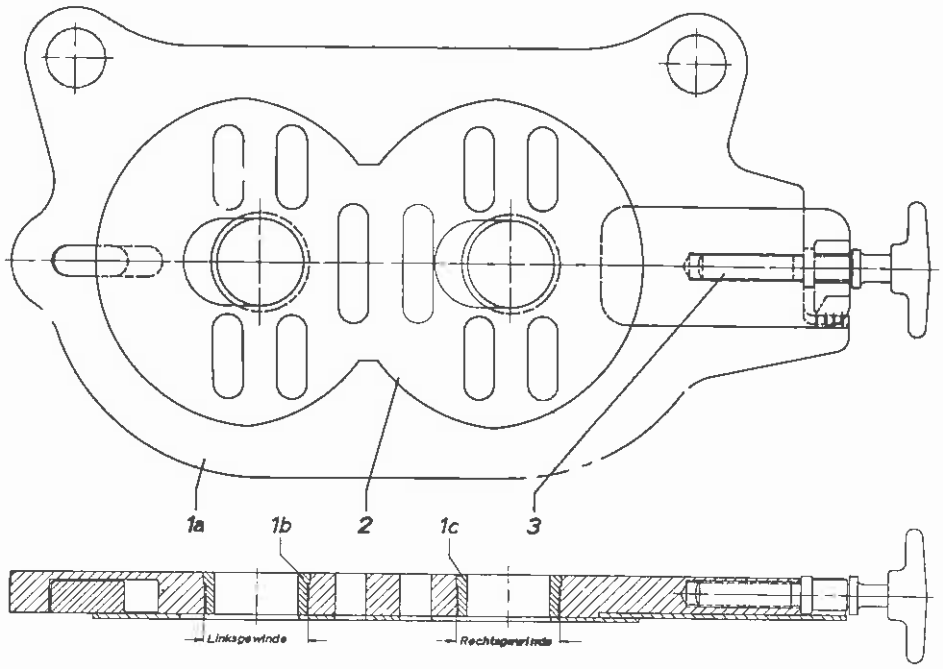


Fig. 2/21

Item No.	Part - No.	Qty.	Part Description
-	8221-5580-040	1	Adjusting slide assembly (1a-3) (see also fig. 2/19, No. 53)
-	8221-5585-030	1	Bearing plate, complete (1a-c)
1a	8221-5584-030	1	Bearing plate
1b	8121-5583-030	1	Bearing bush (left-hand thread)
1c	8121-5583-020	1	Bearing bush (right-hand thread)
2	8121-5595-010	1	Slide
3	8121-5590-010	1	Vernier

Texturizer, BUC 1500
(Stainless Steel Design)

List of Parts shown in Fig. 2/22

Item No.	Part - No.	Qty.	Part Description
-	8221-5500-150	1	Texturizer, complete (1-39)
1	0019-6972-300	5	Hex head screw M 12x40 DIN 933
2	0026-1371-400	8	Washer
-	8221-5554-040	2	Coupling piece, complete (3a-d)
3a	8221-5542-030	2	Coupling piece
3b	0019-8975-400	2	Threaded pin AM 8x20 DIN 914
3c	0026-1086-400	6	Cylindrical pin 6h8x14 DIN 7
3d	8221-5607-030	2	Sleeve
4	0013-0278-300	2	Hexagon nut M 8 DIN 934
5	0026-1345-300	4	Washer
6	0019-6903-400	2	Hex head screw M 8x20 DIN 933
7	0004-5729-840	2	Grooved ring 50/70 x 10
8	8221-5501-020	1	Press-off cylinder
-	8221-5535-020	1	Set of augers (9a-b)
9a	8221-5540-020	1	Auger, left side
9b	8221-5550-020	1	Auger, right side
10	0019-7037-400	8	Hex head screw M 16x40 DIN 933
11	8221-5612-030	4	Clamping piece
-	8221-5580-080	1	Adjusting slide I, complete (12a-g)
12a	8221-5588-040	1	Perforated screen
12b	8121-5583-020	1	Bearing bush (right-hand thread)
12c	8221-5595-010	1	Slide
12d	8121-5583-030	1	Bearing bush (left-hand thread)
12f	8221-5590-000	1	Vernier
12g	8221-5584-080	1	Bearing plate I
13	8221-5561-070	1	Blending cylinder I
-	8221-5614-010	1	Set of blending augers (14a-b)
14a	8221-5603-040	1	Blending auger, left side
14b	8221-5604-040	1	Blending auger, right side
15	8221-5556-010	6	Half of perforated plate
16	8221-5558-000	1	Blending cylinder II
17	8221-5559-010	1	Blending cylinder III
18	8221-5559-000	1	Blending cylinder III
-	8221-5580-060	1	Adjusting slide II, complete (19a-f)
19a	8121-5583-020	1	Bearing bush (left-hand thread)
19b	8221-5595-010	1	Slide
19c	8121-5583-030	1	Bearing bush (right-hand thread)
19d	8221-5590-000	1	Vernier
19f	8221-5584-060	1	Bearing plate
20	8221-5612-020	4	Clamping piece
21	8221-5612-010	1	Mouth piece
22	0007-2852-750	1	Gasket 112/122 Ø x 6
23	0013-3352-300	1	Coupling nut
24	0001-0255-300	1	Blind cap
25	0019-6968-300	2	Hex head screw M 12x25 DIN 933
26	0026-1371-400	2	Washer
27	8221-1105-020	1	Support
28	8222-1025-000	1	Floor mounting plate
29	8222-1106-000	1	Threaded bolt
30	0019-6387-400	1	Threaded bolt AM 12x28 DIN 915

List of Parts shown in Fig. 2/22

Item No.	Part - No.	Qty.	Part Description
-	8221-5200-030	1	Connection assembly (31a-d)
31a	0002-6332-300	1	Bend
31b	0007-2209-750	1	Gasket G 32 DIN 11851
31c	0013-2843-300	1	Coupling nut 32 DIN 11851
31d	8221-5611-000	1	Short discharge pipe
32	0019-6903-400	2	Hex head screw M 8x20 DIN 933
33	0004-2623-850	1	Gasket 200x20x1
-	8221-5200-000	1	Connection assembly (34a-g)
34a	0018-1843-400	1	Hose connection piece NW 10
34b	0013-2818-400	1	Hexagon coupling nut R 3/4"
34c	0007-2402-750	1	Gasket 17/23 x 3
34d	0018-1693-400	1	Straight-way cock
34f	0018-0795-300	1	Reducing socket 1/2" - 3/8"
34g	0018-1553-300		Pipe nipple 3/8" x 45
35	0007-2211-750	1	Gasket G 50 DIN 11851
36	see page 2/41	1	Discharge assembly (see fig. 2/23
37	8221-5610-000	1	Blending blade, left side
38	8221-5610-010	1	Blending blade, right side
39	0019-1285-300	2	Handle screw M 8x21,5

Texturizer, BUC 1500

(Stainless Steel Design)

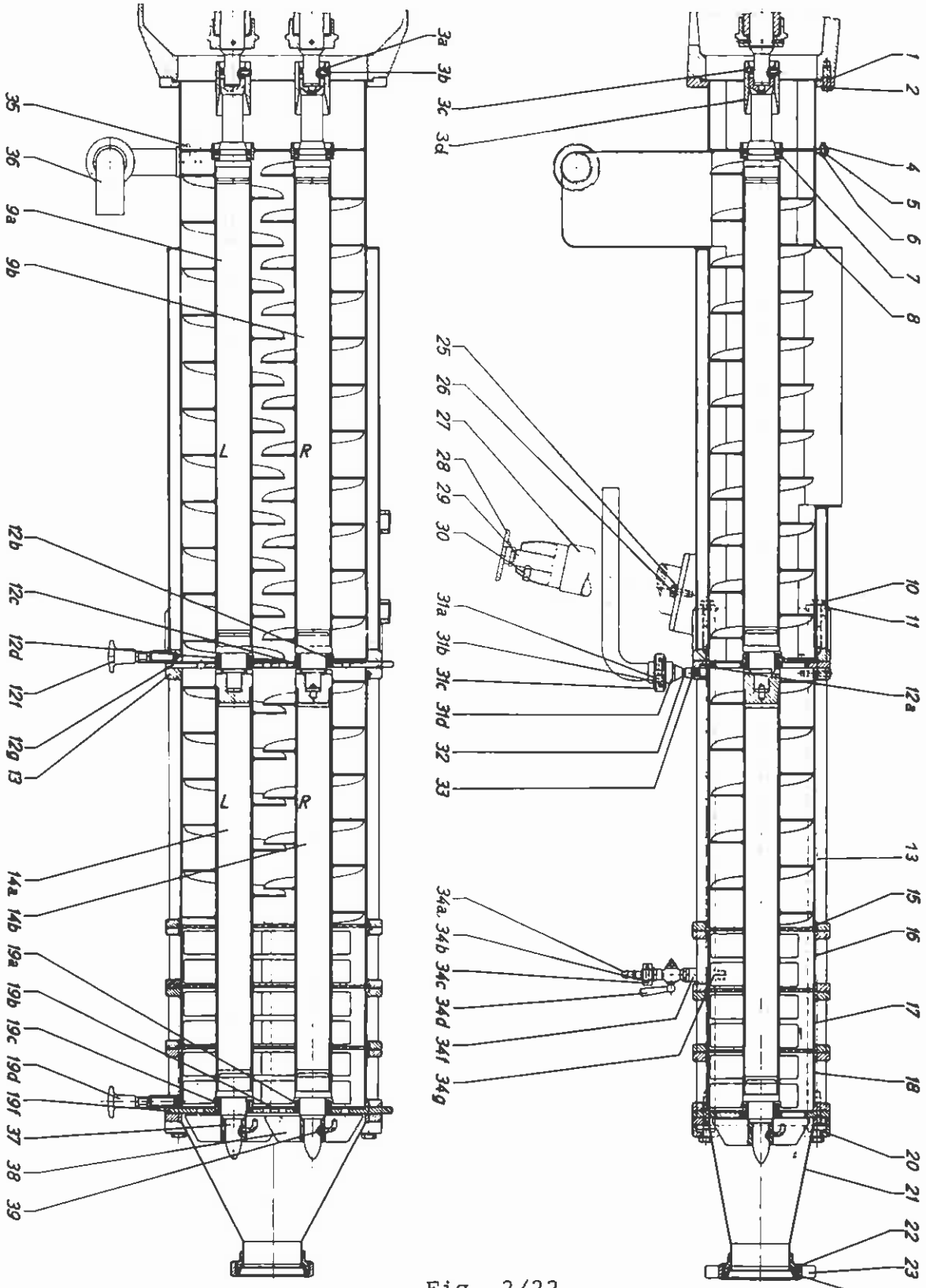


Fig. 2/22

Buttermilk Discharge, BUC 1500

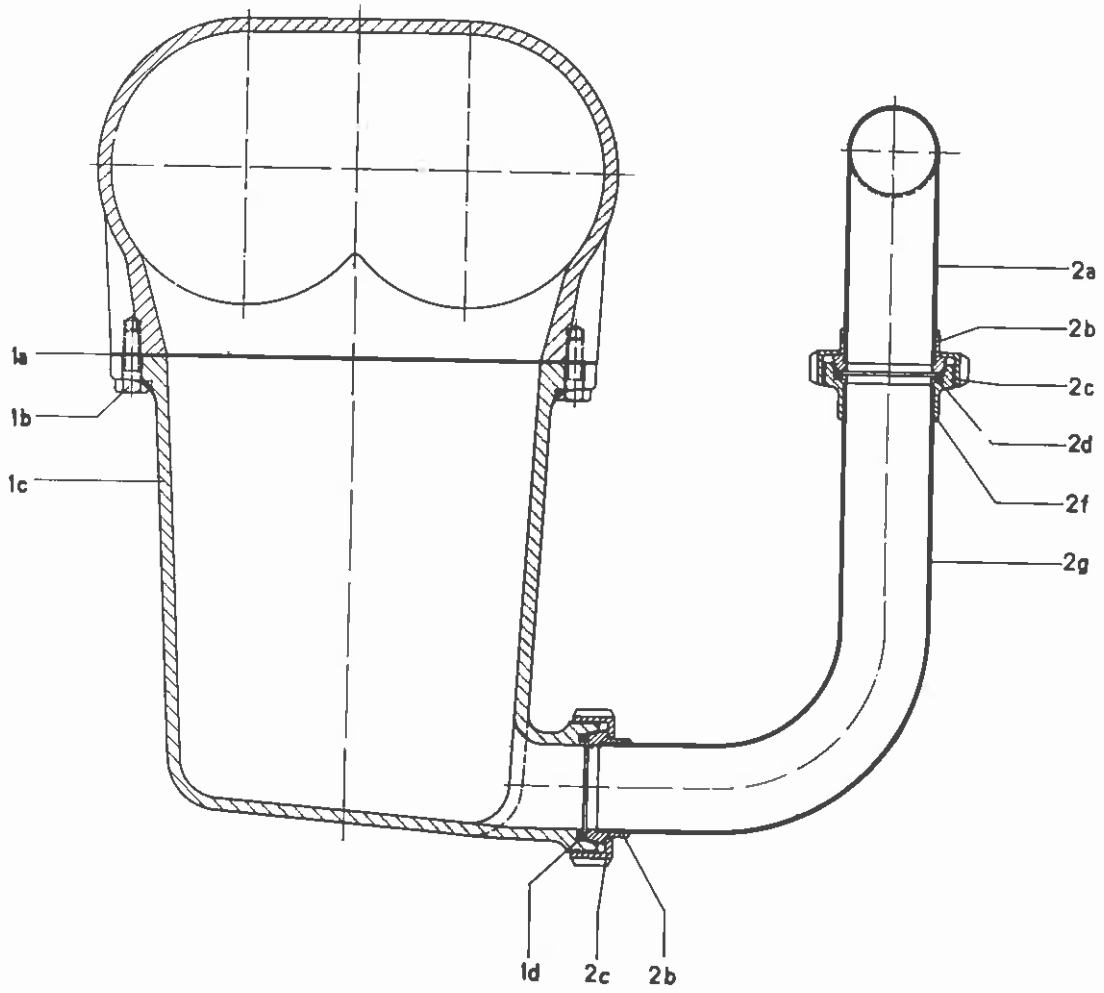


Fig. 2/23

Item No.	Part - No.	Qty.	Part Description
-	8221-5515-000	1	Buttermilk discharge assembly (1a-2g) (see also fig. 2/19, No. 18)
1a	0004-5575-700	1	Gasket 242 x 255 x 1
1b	0019-6935-550	8	Hex head screw M 10x25 DIN 933
1c	8121-5516-000	1	Decanting sump
1d	0007-2211-700	1	Gasket 54/64 Ø x 5
-	8222-5520-000	1	Discharge pipe assembly (2a-g)
2a	0002-6355-300	1	Bend
2b	0018-3956-300	2	Cone connection
2c	0013-2845-300	2	Grooved coupling nut
2d	0007-2211-700	1	Gasket 54/64 Ø x 5
2f	0018-4120-300	1	Threaded connection piece
2g	0002-6356-300	1	Bend

Buttermilk Vat and Strainer, BUC 1500

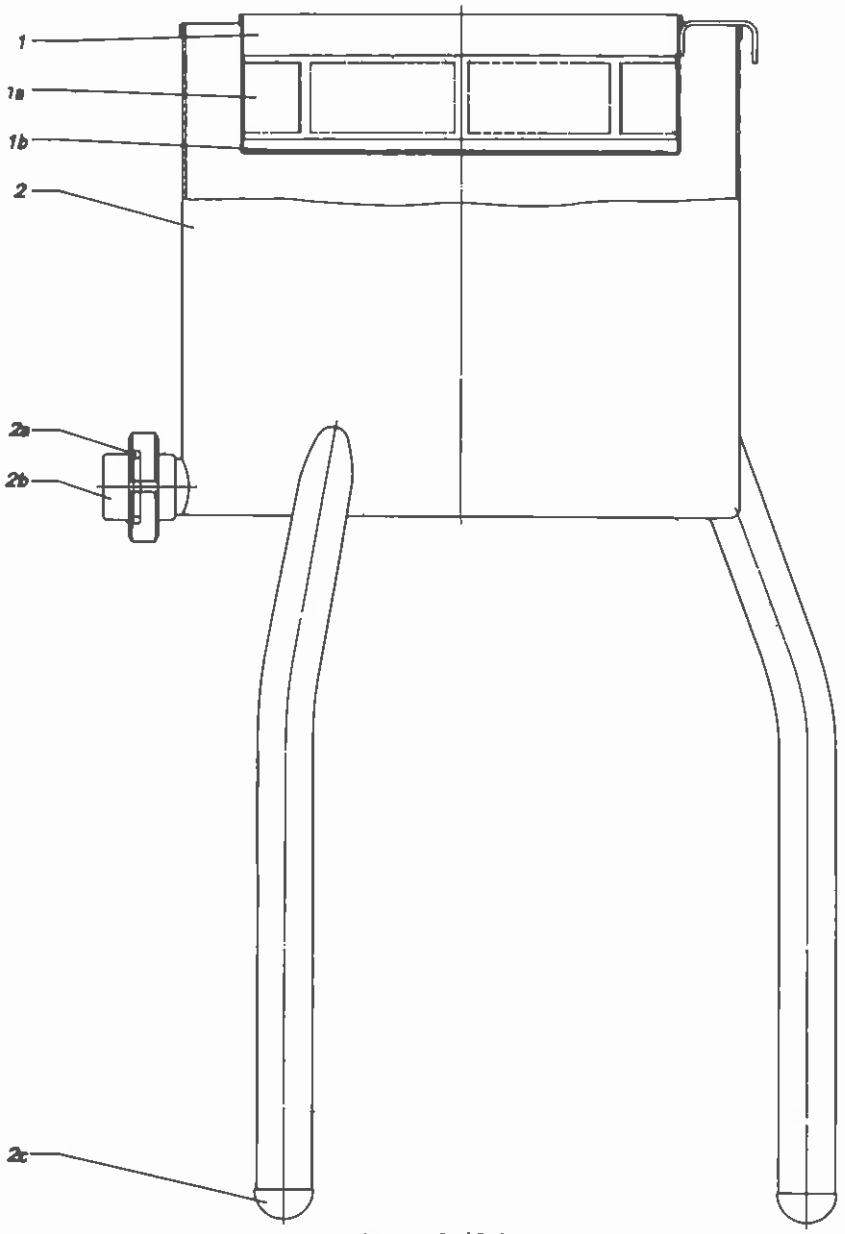


Fig. 2/24

Item No.	Part - No.	Qty.		Part Description
1	8222-9720-010	1		Strainer assembly
1a	8222-9723-030	1	+)	Wire cloth
1b	8222-9723-020	1	+)	Wire cloth
2	8222-9855-020	1		Buttermilk vat, complete
2a	0007-2210-700	1	++)	Gasket 42/52 Ø x 5
2b	0018-4114-300	1	++)	Threaded connection piece
2c	0021-3155-700	1	++)	Foot 38/42 x 55

+) This part is included in the strainer, item No. 1, but is available as separate it
++) This part is included in the buttermilk vat, item No. 2, but is available as separate item.

Cooling-Water Line, BUC 1500 (Bottom Feed Connection)

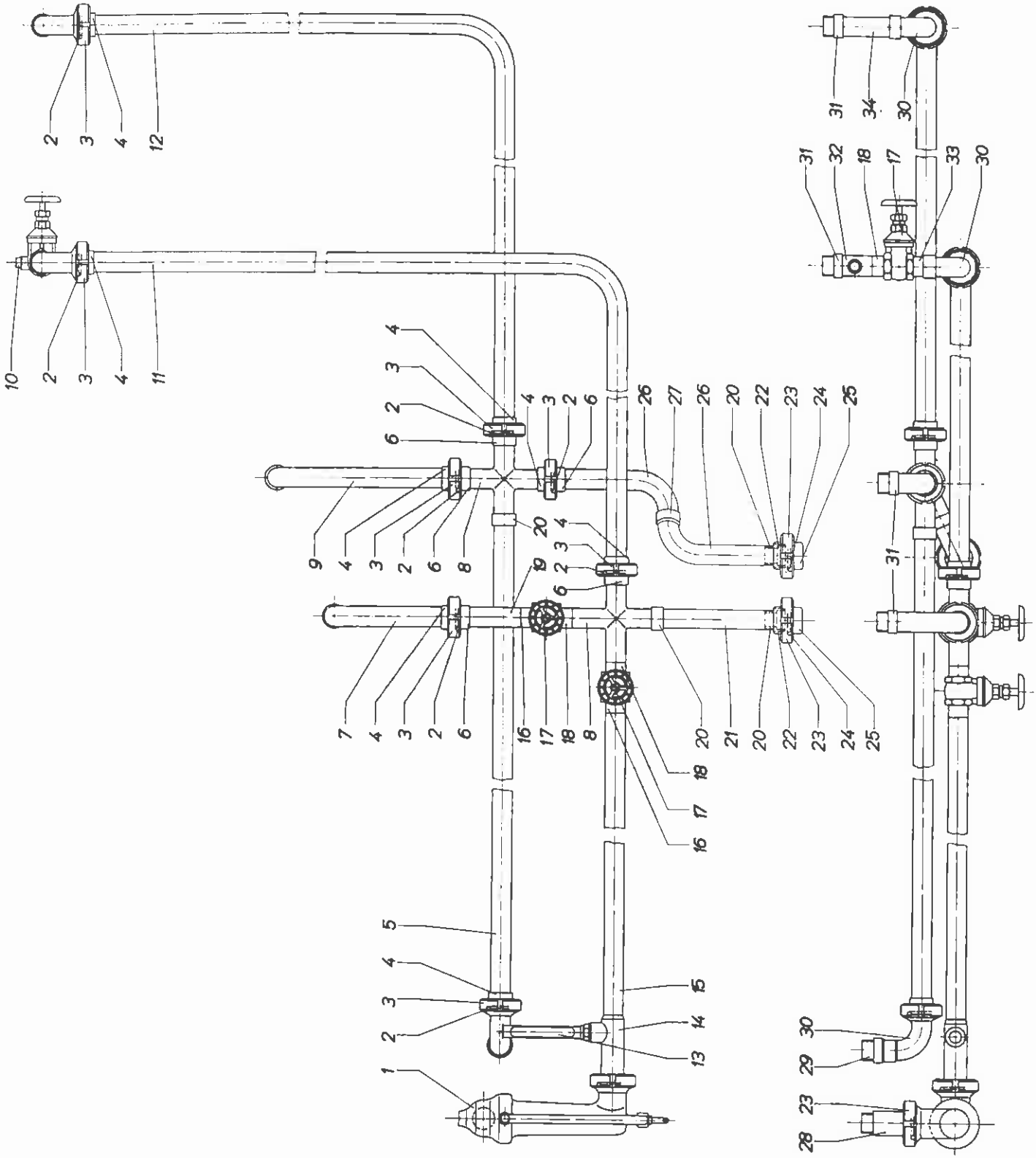


Fig. 2/25

Cooling-Water Line, BUC 1500 (Bottom Feed Connection)

List of Parts shown in Fig 2/25

Item No.	Part - No.	Qty.		Part Description
-	8221-7700-000	1	+)	Cooling-water line assembly (1-34)
1		1		Flowmeter assembly (see fig. 2/27)
2	0007-2209-700	8		Gasket 36/46 Ø x 5
3	0013-2843-300	8		Grooved coupling nut
4	0018-3943-300	8		Cone connection
5	0018-0476-300	1		Pipe
6	0018-4108-300	5		Threaded connection piece
7	0002-6337-300	1		Bend
8	0018-2490-400	2		Cross piece
9	0002-6323-300	1		Bend
10	0019-0137-300	1		Hex head screw R 1/4"x12 WSN 19-1130/(
11	0002-6341-300	1		Bend
12	0002-6342-300	1		Bend
13	0001-0327-280	1		Thermometer
14	8122-7711-080	1		Tee piece assembly
15	0018-0466-300	1		Pipe
16	8122-7718-040	2		Pipe connection
17	0018-1410-690	3	*)	Shut-off valve
18	8222-7718-040	3		Pipe connection
19	0018-0465-300	1		Pipe
20	8222-7718-010	4		Pipe connection
21	0018-0468-300	1		Pipe
22	0018-3949-300	2		Cone connection
23	0013-2844-300	3		Grooved coupling nut
24	0007-2210-700	2		Gasket 42/52 Ø x 5
25	0018-4114-300	2		Threaded connection piece
26	0002-6336-300	2		Bend
27	8222-7718-000	1		Connection piece
28	8122-7718-020	1		Pipe connection
29	8222-7718-020	1		Pipe connection
30	0018-1601-300	3		Bend
31	0018-3841-300	4		Pipe connection
32	8222-7718-030	1		Pipe connection
33	8122-7718-000	1		Connection piece
34	0018-0464-300	1		Pipe

*) For length adjustment fit a washer 0026-5750-400 at each end. Washers should be provided with R 1" thread. (Washer 32,5/41,5 x 2,5) (Previously 51 mm long, now 46 mm).

+) Optionally: Cooling-water line 8221-7700-010 (page 2/46), depending on local conditions.

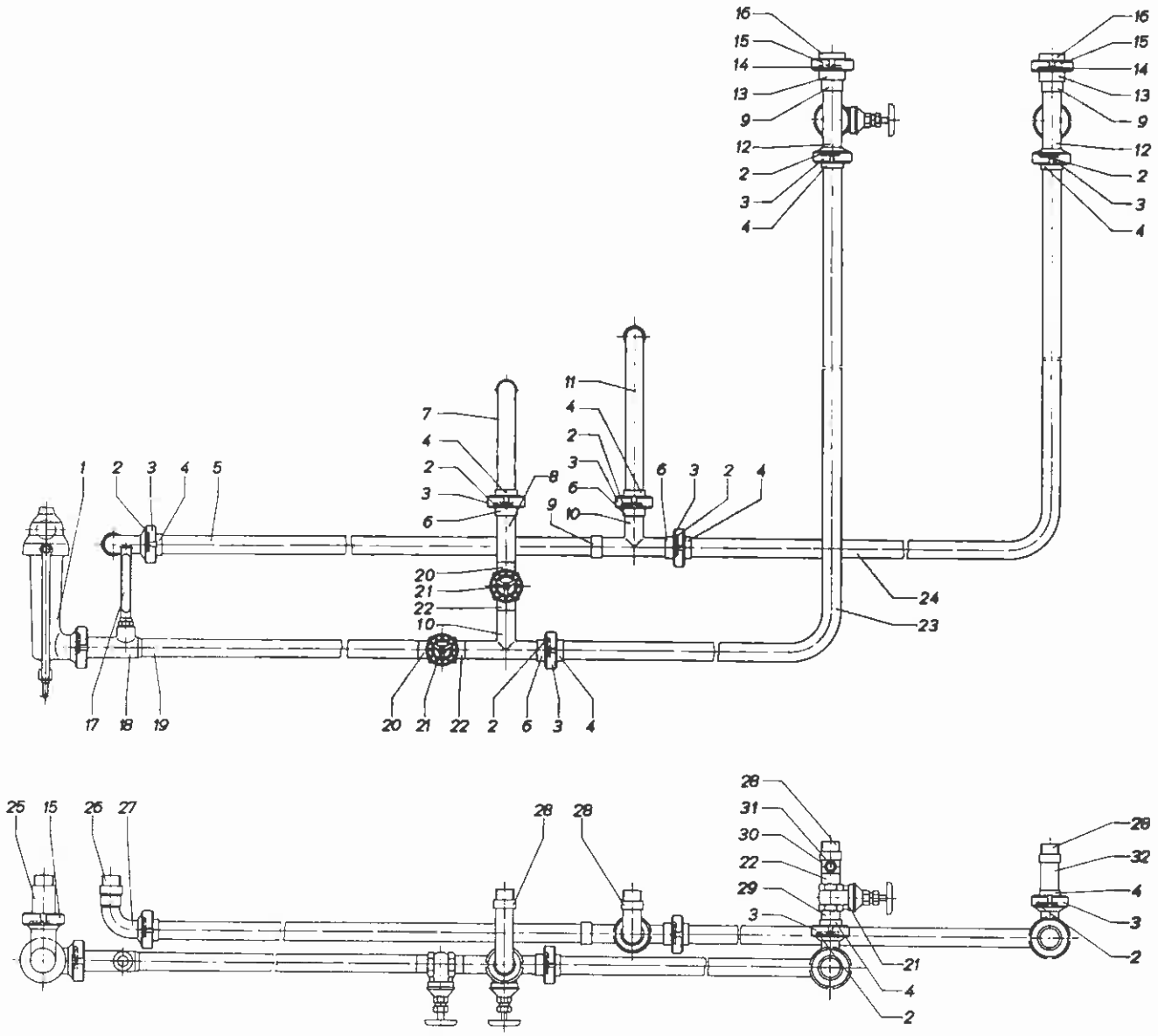

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Fig. 2/26

Cooling-Water Line, BUC 1500 (Top Feed Connection)

List of Parts shown in Fig. 2/26

Item No.	Part - No.	Qty.	Part Description
-	8221-7700-010	1	+) Cooling-water line assembly (1-32)
1	see page 2/47	1	Flowmeter assembly (see fig. 2/27)
2	0007-2209-700	9	Gasket 36/46 Ø x 5
3	0013-2843-300	9	Grooved coupling nut
4	0018-3943-300	9	Cone connection
5	0018-0476-300	1	Pipe
6	0018-4108-300	4	Threaded connection piece
7	0002-6337-300	1	Bend
8	0018-0465-300	1	Pipe
9	8222-7718-010	3	Pipe connection
10	0018-2500-400	2	Tee piece
11	0002-6323-300	1	Bend
12	0018-1611-300	2	Tee piece
13	0018-4114-300	2	Threaded connection piece
14	0007-2210-700	2	Gasket 42/52 Ø x 5
15	0013-2844-300	3	Grooved coupling nut
16	0018-3949-300	2	Cone connection
17	0001-0327-280	1	Thermometer
18	8122-7711-080	1	Tee piece
19	0018-0466-300	1	Pipe
20	8122-7718-040	2	Pipe connection
21	0018-1410-690	3	Shut-off valve
22	8222-7718-040	3	Pipe connection
23	0002-6341-300	1	Bend
24	0002-6342-300	1	Bend
25	8122-7718-020	1	Pipe connection
26	8222-7718-020	1	Pipe connection
27	0018-1601-300	1	Bend
28	0018-3841-300	4	Pipe connection
29	8122-7718-000	1	Connection piece
30	8222-7718-030	1	Pipe connection
31	0019-0137-300	1	Hex head screw R 1/4"x12 WSN 19-1130/
32	0018-0464-300	1	Pipe

+) Optionally: Cooling-water line 8221-7700-000 (page 2/43), depending on local conditions.

Flowmeter, BUC 1500

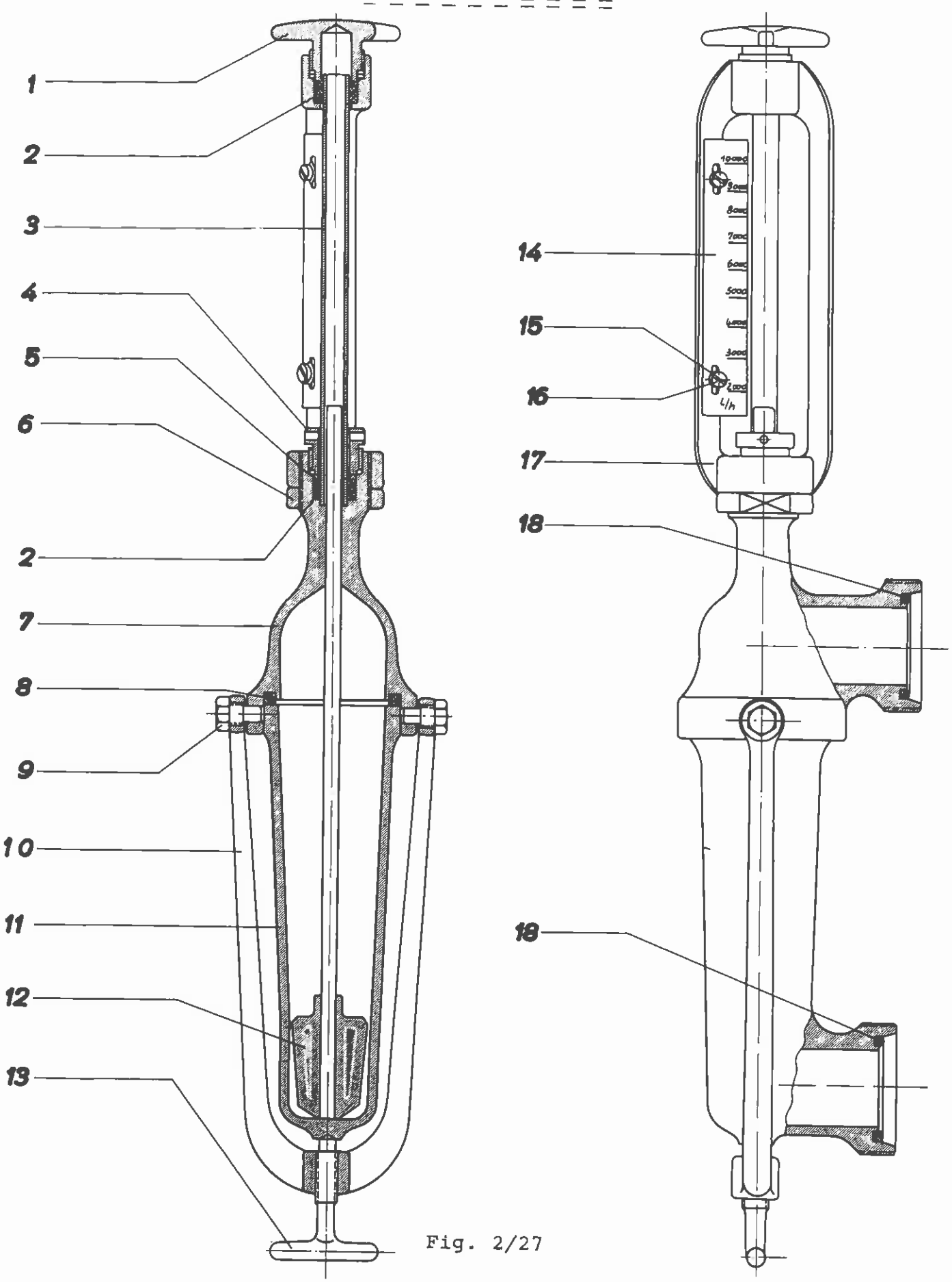


Fig. 2/27

Flowmeter, BUC 1500

Measuring range: 2,000 - 10,000 l/h

List of Parts shown in Fig. 2/27

Item No.	Part - No.	Qty.	Part Description
-	8021-2100-000	1	Flowmeter, complete (1-18) (see also fig.2/25, No. 1 and fig. 2/26, No. 1
1	0019-1731-640	1	Handle screw
2	0007-2298-700	2	Gasket 14/22 Ø x 10
3	0001-0083-820	1	Cylindrical sight glass
4	0019-7131-640	1	Pressure screw
5	0026-1375-620	1	Washer
6	0013-3010-640	1	Nut M 35x1,5 WSN 13-39/1
7	8021-2003-000	1	Discharge pipe
8	0007-2279-750	1	Gasket 56/68 Ø x 6
9	0019-0171-640	2	Hex head screw M 12x15 WSN 19-13/2
10	8021-2004-000	1	Clamp
11	8021-2001-000	1	Inlet cup
12	8021-2112-000	1	Float
13	0019-0002-640	1	Handle screw
14	8021-2117-000	1	Scale
15	0004-5261-720	2	Gasket 4,5/8,5 Ø x 1
16	0019-2478-640	2	Lens head screw M 4x8 DIN 85
17	8020-2002-000	1	Intermediate piece
18	0007-2210-750	2	Gasket 42/52 Ø x 5

Tools and Accessories, BUC 1500

When unpacking, check with the packing list furnished with the Buttermaking Machine.

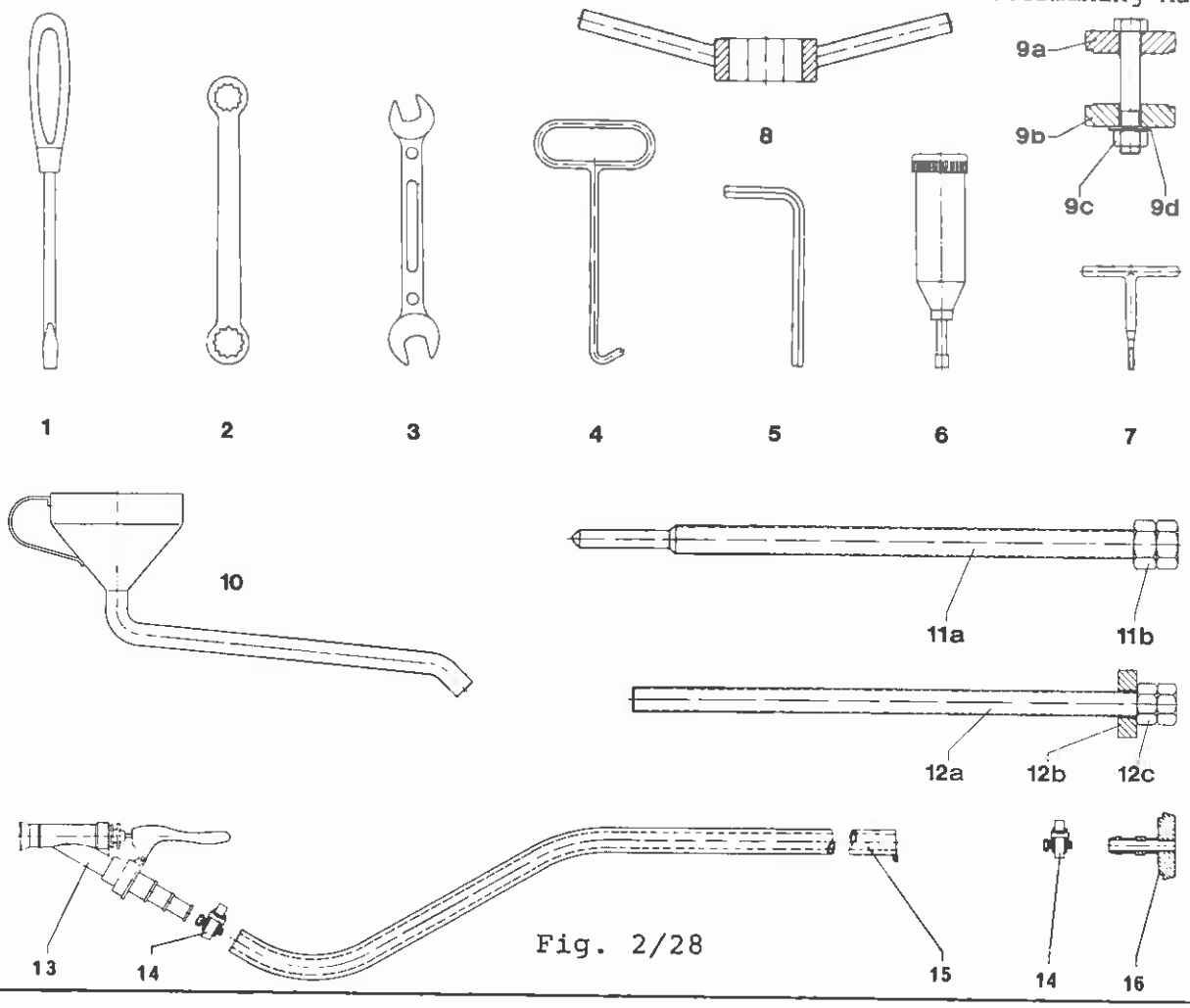
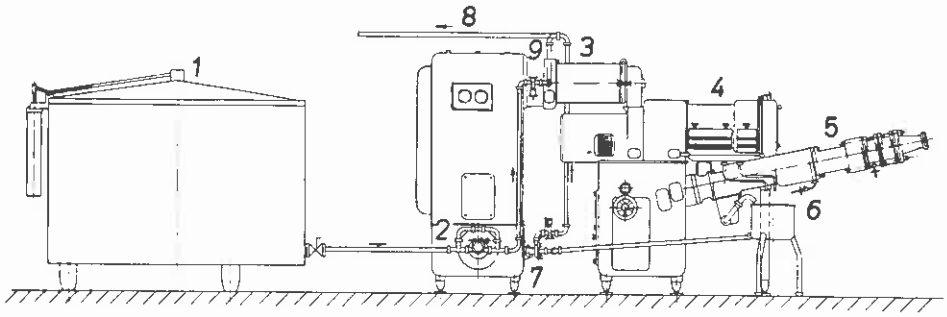


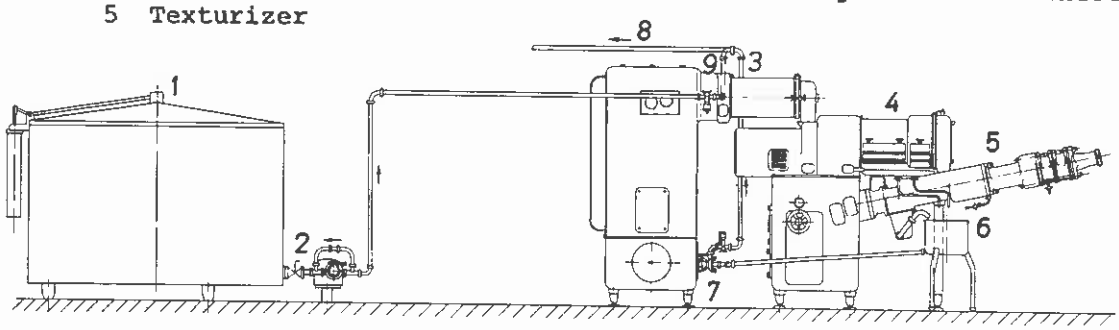
Fig. 2/28

Item No.	Part - No.	Qty.	Part Description
-	8221-9900-040	1	Set of tools
1	0003-4638-050	1	Screwdriver 7x125
2	0003-0483-320	1	Wrench 22x24 DIN 837
3	0003-4202-320	1	Double-ended wrench 12x13 DIN 3110
3	0003-4205-320	1	Double-ended wrench 17x19 DIN 3110
3	0003-4208-320	1	Double-ended wrench 22x27
3	0003-4209-320	1	Double-ended wrench 24x30
4	0003-0154-400	1	Hook
5	0003-3778-320	1	Hexagon wrench 10 DIN 911
6	0003-4502-000	1	Grease gun 40x155
7	8222-9910-000	2	Withdrawal tool
8	0003-4286-030	1	Allen wrench 55
-	8222-9940-000	1	Mounting device (9a-d)
9a	8222-9942-000	1	Mounting piece
9b	8222-9941-000	1	Disc
9c	0013-0282-030	1	Hexagon nut M 16 DIN 934
9d	8222-9941-000	1	Disc
10	0003-0161-010	1	Oil filler
11	8221-9840-000	1	Pulling device, complete
12	8221-9845-000	1	Mounting tool, complete
13	0003-4481-600	1	Sprinkler, adjustable
14	0018-3816-300	3	Hose clamp
15	0018-2625-718	1	Hose 1/2" x 4000
16	0018-1817-300	1	Hose nipple

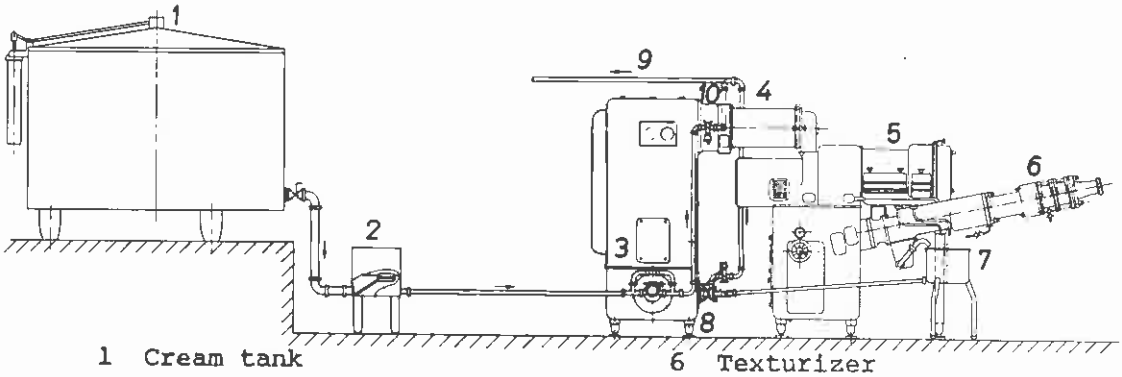
Recommended Hook-Ups for the Buttermatic BUC 1500



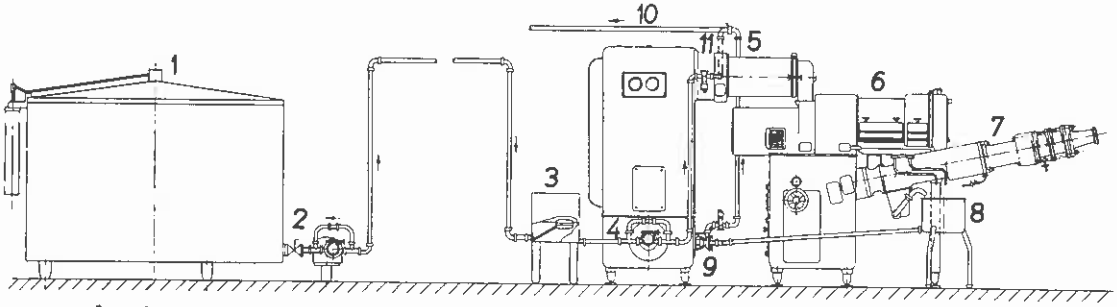
1 Cream tank
2 WESTFALIA Cream pump
3 Churning cylinder I
4 Churning cylinder II
5 Texturizer
6 Buttermilk vat
7 Buttermilk pump
8 Buttermilk discharge line
9 Cleaning solution connection



1 Cream tank
2 WESTFALIA Cream pump
3 Churning cylinder I
4 Churning cylinder II
5 Texturizer
6 Buttermilk vat
7 Buttermilk pump
8 Buttermilk discharge line
9 Cleaning solution connection

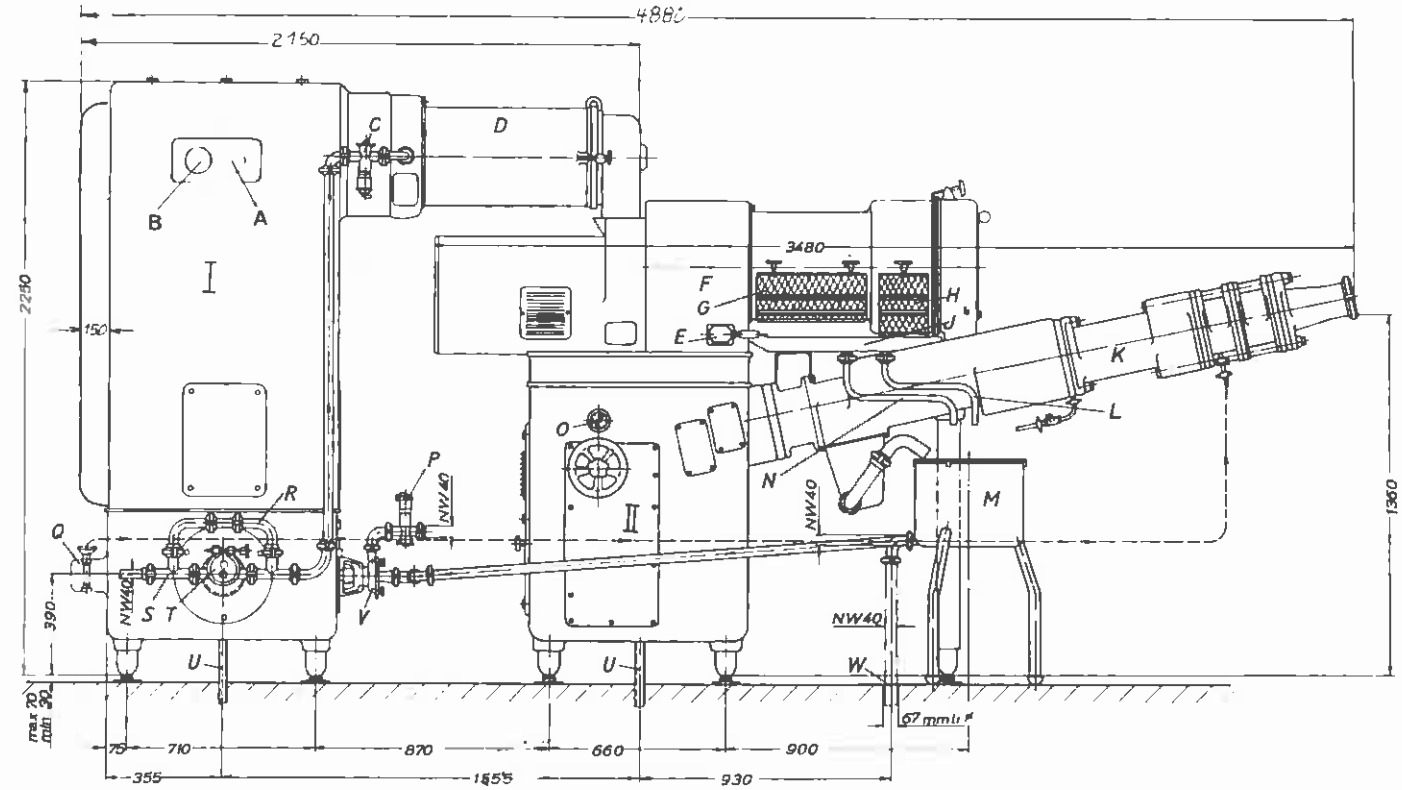


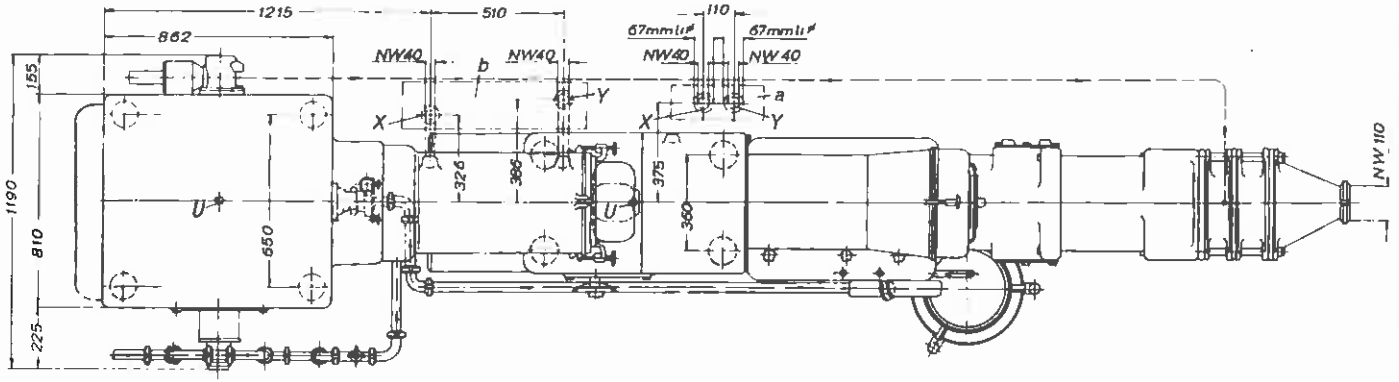
1 Cream tank
2 Float controlled balance tank
3 WESTFALIA Cream pump
4 Churning cylinder I
5 Churning cylinder II
6 Texturizer
7 Buttermilk vat
8 Buttermilk pump
9 Buttermilk discharge line
10 Cleaning solution connection



1 Cream tank
2 WESTFALIA Cream pump
3 Float controlled balance tank
4 WESTFALIA Cream pump
5 Churning cylinder I
6 Churning cylinder II
7 Texturizer
8 Buttermilk vat
9 Buttermilk pump
10 Buttermilk discharge line
11 Cleaning solution connection

Fig. 3/1



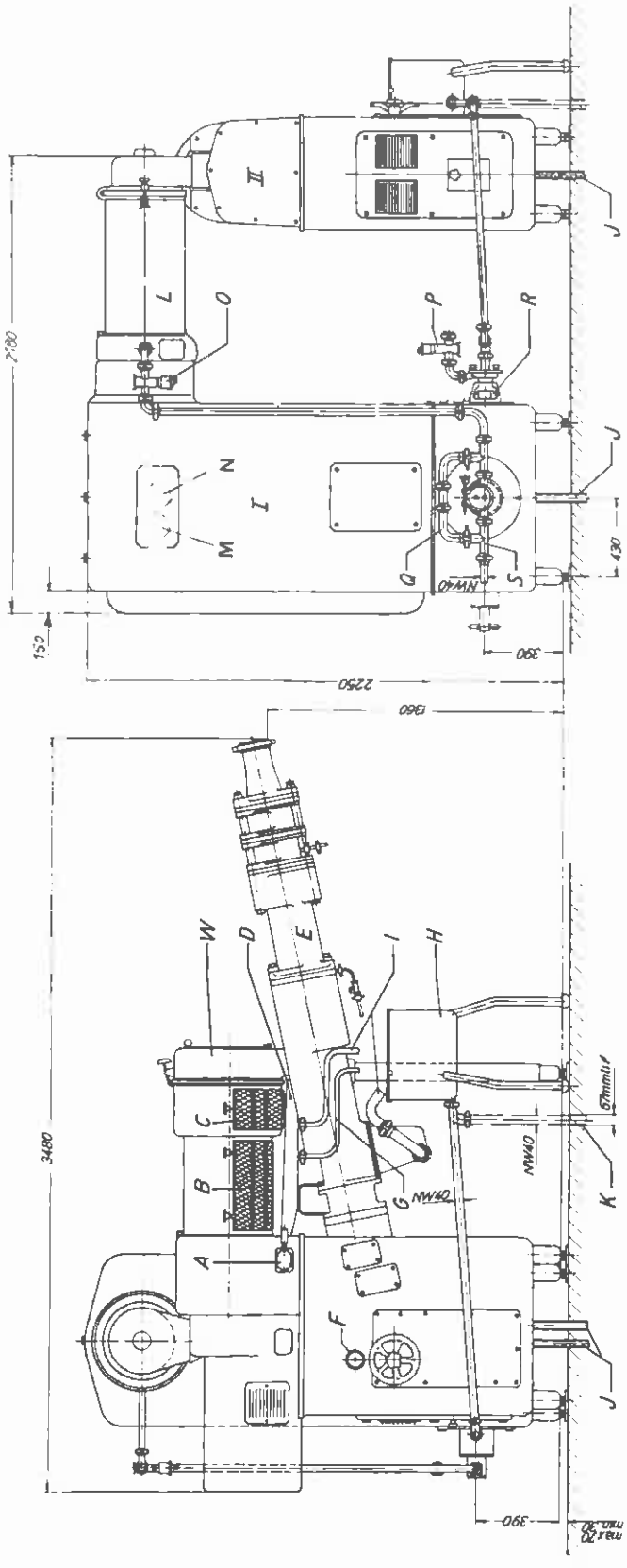


A Ammeter
B Tachometer
C Valve assembly (cream feed)
D Churning cylinder I
E Limit switch
F Churning cylinder II
G Buttermilk discharge strainer
H Buttermilk or wash-water discharge strainer
J Buttermilk collecting pan
K Texturizer
L Buttermilk or wash-water discharge
M Buttermilk vat with strainer
N Buttermilk discharge
O Tachometer (texturizer)
P Valve assembly (buttermilk discharge line)
Q Metering pump
R Cream recycle line with throttling valve
S Cream feed
T WESTFALIA cream pump
U Inlet electrical conduit
V Buttermilk pump
W Buttermilk discharge, line through floor (protective pipe 67 mm ID)
X Return line, cooling liquid
Y Feed line, cooling liquid
a Location of cooling liquid connections if fed from below (protective pipe 67 mm ID)
b Location of cooling liquid connections if fed from above

Dasher speed (churning cylinder I)	controllable from 1000 - 2000 rpm
Dasher speed (churning cylinder II)	53 rpm
Auger speed (texturizer)	controllable from 40 - 80 rpm
Net weight: Frame section I with churning cylinder I	2320 kg
Net weight: Frame section II with churning cylinder II and texturizer	1220 kg

Fig. 3/2
- 3/2 -

Installation Plan
(plan and elevations)



A Limit switch
B Buttermilk discharge strainer
C Buttermilk or wash-water discharge strainer
D Buttermilk collecting pan
E Texturizer
F Tachometer
G Buttermilk discharge
H Buttermilk vat with strainer
I Buttermilk or wash-water discharge
J Inlet electrical conduit
K Buttermilk discharge, line through floor (protective pipe 67 mm ID)
L Churning cylinder I
M Tachometer
N Ammeter
O Valve assembly (cream feed)
P Valve assembly (buttermilk discharge line)
Q Cream recycle line with throttling valve
R Buttermilk pump
S Cream feed
T Return line, cooling liquid
U Feed line, cooling liquid
V Location of cooling liquid connections if fed from below (protective pipe 67 mm ID)
X Location of cooling liquid connections if fed from above

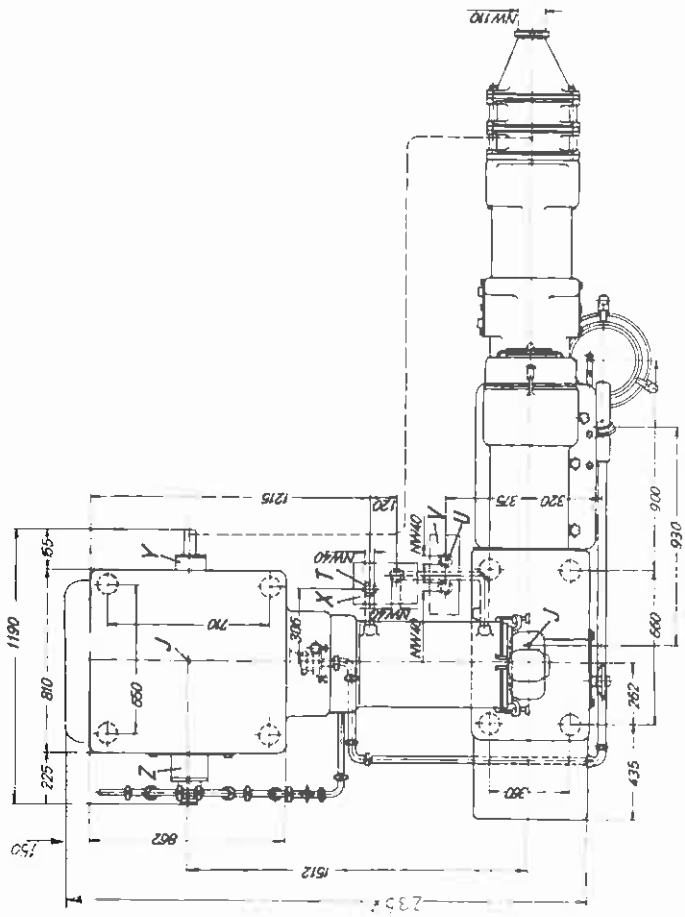


Fig. 3/3

Lubrication Chart

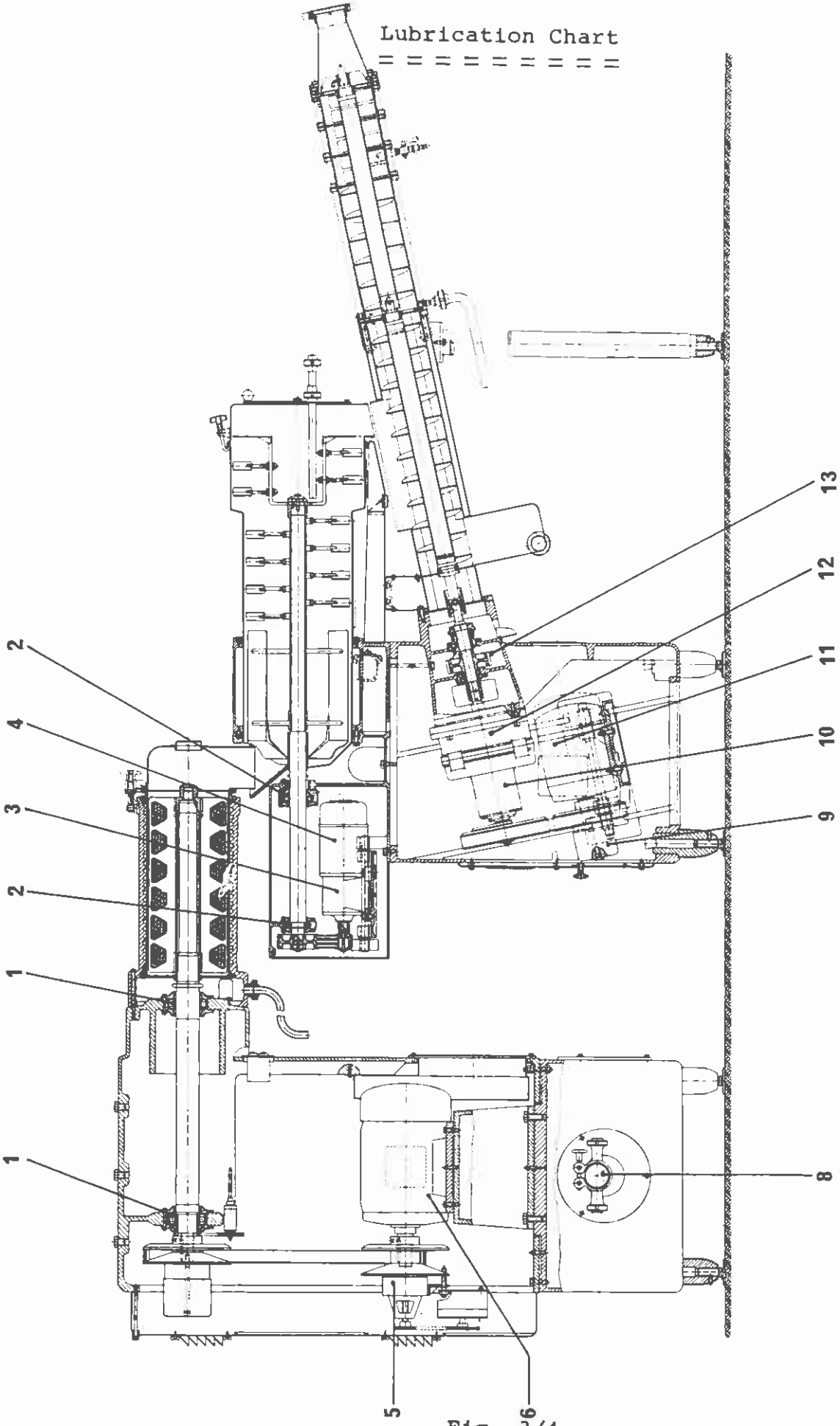


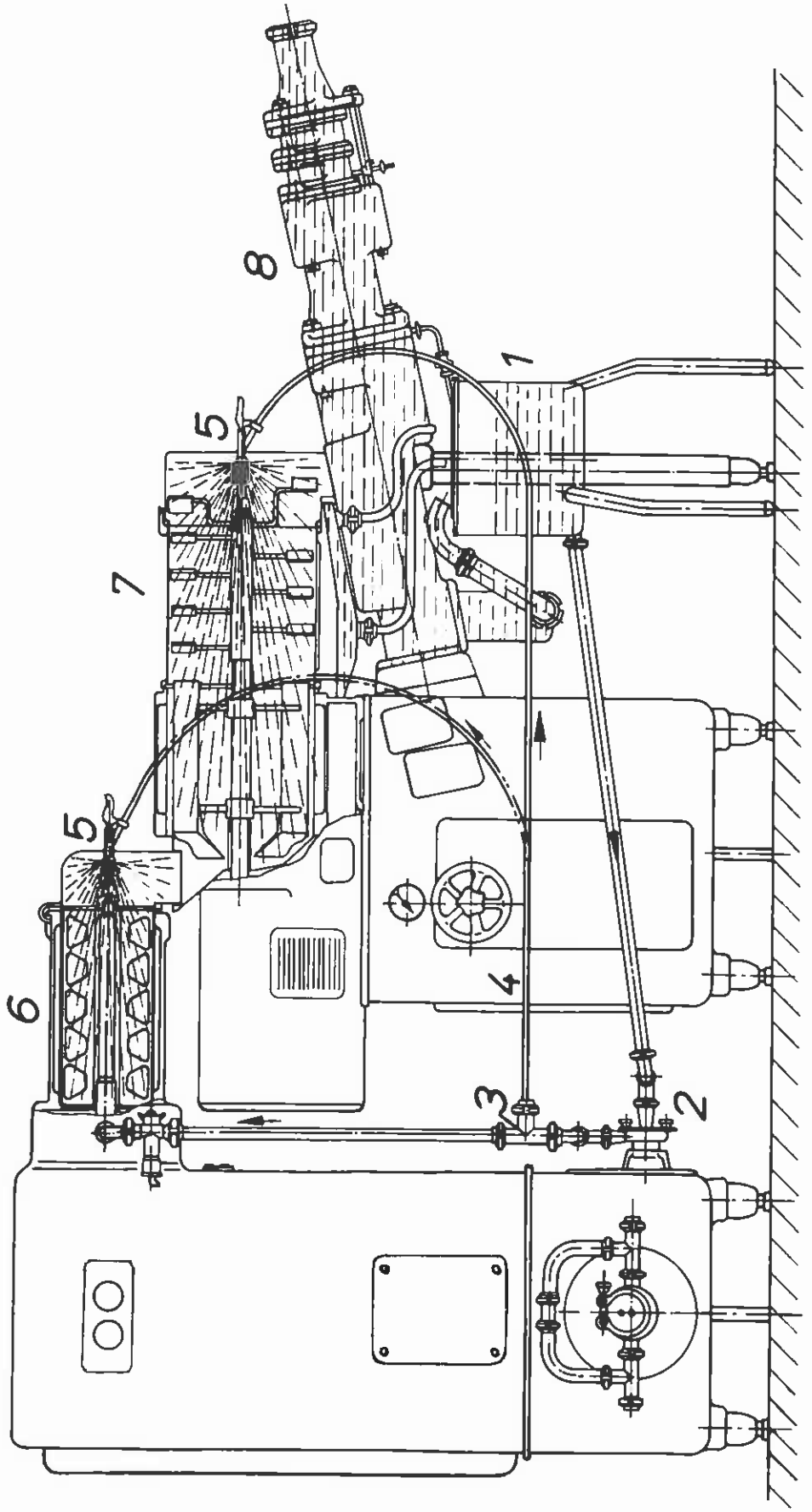
Fig. 3/4

Lubrication Chart

No. in Figure	Lubricant	Amount of lubricant required for each filling	Lubrication Points	Once a week	Once a month	Once a year	Every two years
1	A	-	Frame Section I (grooved ball bearing)		▨		
2	A	-	Frame Section II (grooved ball bearing)				▨
3	B	0,5 ltr.	SEW Gear motor (toothed gear)				▨
4	A	-	SEW Gear motor (grooved ball bearing)				▨
5	A	-	'Becker' Regulating disc RL6 (section I)	▨			
6	A	-	A.C. 3-phase motor (grooved ball bearing)				▨
-	A	-	Metering pump (motor ball bearing)				▨
-	B	0,1 ltr.	Metering pump (pump gear)			▨	
8	A	-	Cream pump (motor grooved ball bearing)				▨
8	C	0,65 kg	Cream pump (toothed gear)				▨
-	A	-	Buttermilk pump (motor ball bearing)				▨
9	A	-	'Becker' Regulating disc RM5 (texturizer)	▨			
10	A	-	Gearbox (grooved ball bearing)				▨
11	A	-	A.C. 3-phase motor (grooved ball bearing)				▨
12	C	2,0 kg	Gearbox (toothed gear)				▨
13	B	3,5 ltr.	Synchronizing gear			▨	

Designation of the lubricants		Order - No.
A	Can containing 1 kg of ball bearing grease (on lithium base), drip point approx. 185°C, worked test (0,1 mm) 220 - 250, NLGI-class 3.	0015-0106-100
B	Can containing 1 litre of standard gear oil 53, with a viscosity of 55 - 61 cSt at 50°C = 6,5E. If oils have EP additives they should be mild acting and noncorrosive.	0015-0002-070
C	Tube containing 1/2 kg of gear grease (sodium-saponified, semiliquid grease), drip point approx. 135°C, worked test (0,1 mm) 355 - 385, NLGI-class 0	0015-0107-000

Diagram showing the Cleaning- and Sterilization Cycle



1 Buttermilk Vat
2 Buttermilk Pump
3 T - Piece
4 Cleaning and Sterilization line
5 Sprinkler
6 Churning Cylinder I
7 Churning Cylinder II
8 Texturizer

Fig. 3/5