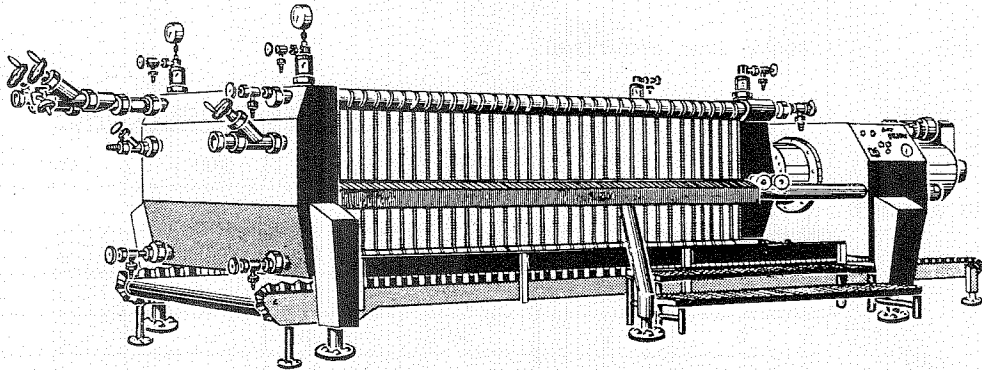


Leitz

ORION® OF 100 V



KIESELGUHR AND SHEET FILTER

APPLICATION Sterilisable Universal filter for kieselguhr filtration or clarifying and sterilising sheet filtration.

T Y P E O R I C N 100

CHASSIS SIZE	KG FILTRATION FOLDED SHEETS	SHEET FILTRATION
100	max. 29	50
150	" 43	75
200	" 57	100
250	" 71	125
300	./.	150
350	./.	175

SHEET SIZE Folded sheet: KG sheet 0/400 Fa = 990 x 982 mm according to
EK- and clarifying sheet = 1000 x 2012 mm Fs 65621

FILTER AREA per sheet = 2 x 0,95 sq. m.

OPERATING PRESSURE Max. = 8 atms.

DESIGN Stationary sheet filter with square filter elements in vertical formation. Hydraulic filter sheet pressing mechanism with mechanical locking. Control of hydraulic unit from built-in electrical control board. Switch units in separately erected switchbox. Filter cover in pressure-resistant finish (pressure element). Risers permanently fixed to fittings cover, easily accessible for cleaning. Fittings and connections as desired. If desired, beneath the filter there is a conveyor belt for carrying away the used kieselguhr. There are platforms along each side for operation.

MATERIAL Filter cover, cross bar and support bars completely covered with stainless, acid-resistant steel sheet. Hydraulic piston of stainless steel (Cr-Ni-Mo). All parts coming into contact with the liquid, filter plates and KG frames, are of stainless, acid-resistant steel.

Смена 100 V BB

FITTINGS

Piston inclined seat valves = nom diam. NW 100 or NW 80

Type of connection = Screw connection, round 130 x 1/4" or round 110 x 1/4"

CONNECTIONS

See page III

CONNECTION LOAD

2,5 kW, 220/380 volt, 50 cycles.
Special models provided for different voltage and frequency.

OPERATING VOLTAGE

State when ordering!

SHEETS, PLATES AND KG FRAMES FOR KIESELGUHR FILTRATION

CHASSIS SIZE	100	150	200	250	300	350	piece
MAX. NO. FOLDED SHEETS	29	43	57	71	-	-	"
FILTER PLATES	29	43	57	71	-	-	"
KG FRAMES	28	42	56	70	-	-	"
KG END FRAMES	2	2	2	2	-	-	"
EFFECTIVE FILTER AREA	55	82	108	134	-	-	m ² max.

SHEETS AND PLATES FOR SHEET FILTRATION

CHASSIS SIZE	100	150	200	250	300	350	piece
MAX. NO. FOLDED SHEETS	50	75	100	125	150	175	"
FILTERPLATES	99	149	199	249	299	349	"
END PLATES	2	2	2	2	2	2	"
EFFECTIVE FILTER AREA	95	142,5	190	237,5	285	332,5	m ² max.

WEIGHT IN KG

CHASSIS SIZE	100	150	200	250	300	350		
WEIGHT EMPTY	SHEET FILTER	8400	10000	11200	12600	13027	14377	With max.no.plates and fittings
	KG FILTER	7200	8000	9000	9800	./.	./.	
OPERATING WEIGHT	SHEET FILTER	9900	12200	14300	16000	16934	18934	With sheets and liquid
	KG FILTER	8900	10600	12300	14000	./.	./.	
SUPPORT POINTS	SHEET FILTER	4	6	8	8	10	10	
	KG FILTER	4	6	8	8	./.	./.	
LOAD PER FOOT	SHEET FILTER	3000	2300	2200	2500	2100	2000	
	KG FILTER	2700	2200	2000	2400			

FILTER ELEMENTS

FILTERELEMENTS	SIZE mm ²	THICKNESS mm	WEIGHT kg	INTAKE VOLUME approx. l
FILTER PLATE	1000	13	25	7
END PLATE	1000	13	25	7
KG FRAME	1000	40	23	38
END FRAME	1000	25	22	24

SEITZ-WERKE in 6550 BAD KREUZNACH

Commando B.B.

Orion 100 V

WU 16711

BERUFSGENOSSENSCHAFT

18

151/68

185N 418

OPERATING INSTRUCTIONS

INDEX

ORION CHASSIS OF 100V SIZE 250 FN 65621

	<u>PAGE</u>
Data Sheets	I-IX
Survey sheet	2
1. GENERAL	4
1.1. Erection	5
1.2. Cleaning before initial operation	6
1.3. Insertion of filter plates	7
2. KIESELGUHR FILTRATION	8
2.1. Insertion of sheets	8
2.2. Initial compression of stack of plates	8
2.3. Sterilisation of filter	8
2.4. Cooling and de-aerating the filter	9
2.5. Filtration	10
2.6. End of filtration	11
2.7. Removing the used kieselguhr	11
2.8. Washing the filter sheets	12
2.9. Cleaning the filter plates when changing sheets	13
3. SHEET FILTRATION	14
3.1. Insertion of sheets	14
3.2. Initial compression of stack of plates	14
3.3. Sterilisation of filter	14
3.4. Cooling and de-aerating the filter	15
3.5. Filtration	16
3.6. End of filtration	17
3.7. Rinsing the filter sheets	17
3.8. Cleaning the filter plates when changing sheets	18

Continued on next page

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	<u>PAGE</u>
4. MAINTENANCE OF HYDRAULICS	18
4.1. & 4.2. Oil change	18 + 19
4.3. Lubrication of piston locking device	20
5. PISTON EXTENSION	20
6. LIMITING THE PISTON STROKE	20
7. FAULTS AND THEIR CORRECTION	21
8. MAINTENANCE OF FILTER PLATES AND FRAMES	22
9. GLYCERINE FILLING AND GLYCERINE CONTAINER ON THE PRESSURE GAUGES	22
10. FUNCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT	24
Fig. A	
HANDLING THE CONTROL DESK	
FILTRATION DIAGRAM	
INSERTION OF FILTER SHEETS	27
REMOVAL OF FILTER SHEETS	28
APPENDIX	29

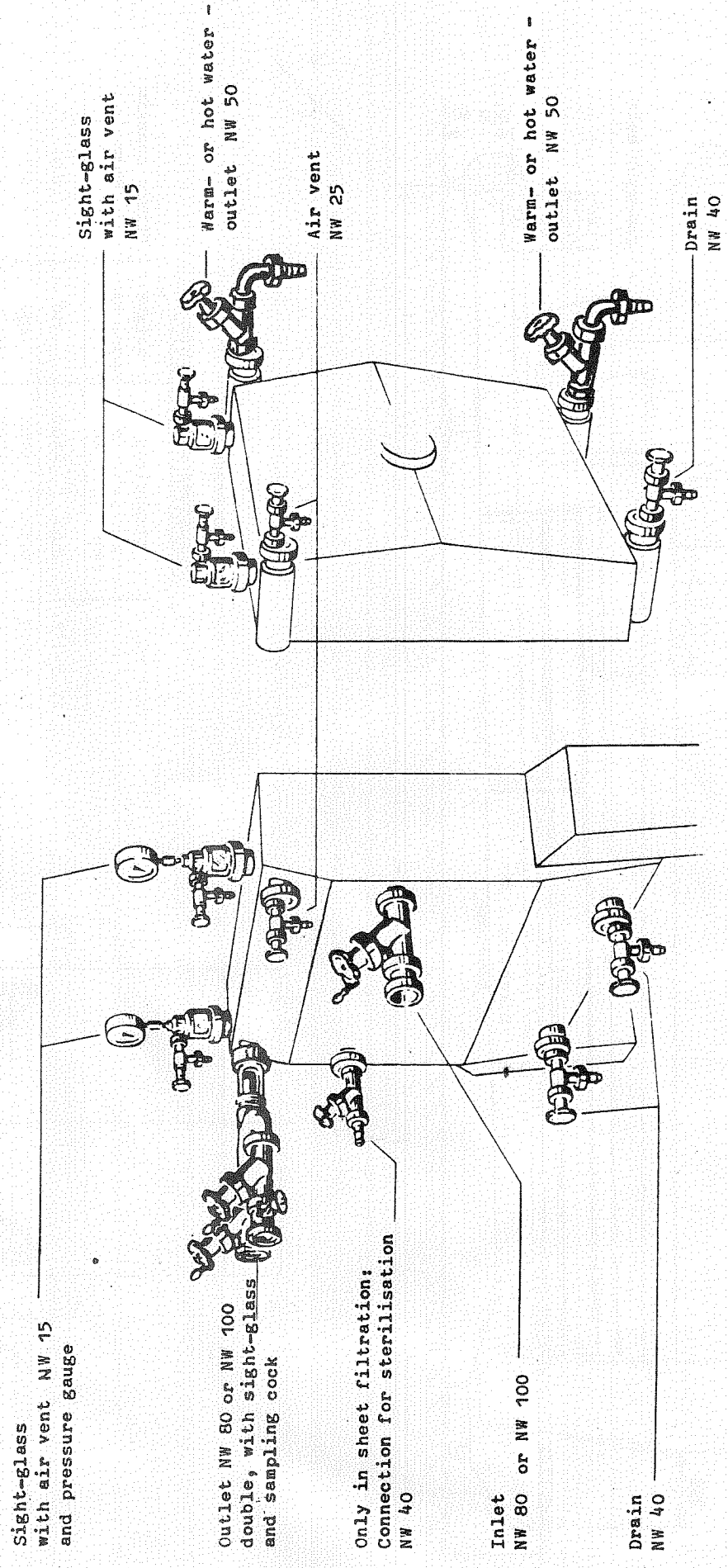
B 10205/E

ORION OF 100 V

ARRANGEMENT OF FITTINGS

(Standard equipment)

Leitz



Sight-glass with air vent NW 15 and pressure gauge

Outlet NW 80 or NW 100 double, with sight-glass and sampling cock

Inlet NW 80 or NW 100

Drain NW 40

Sight-glass with air vent NW 15

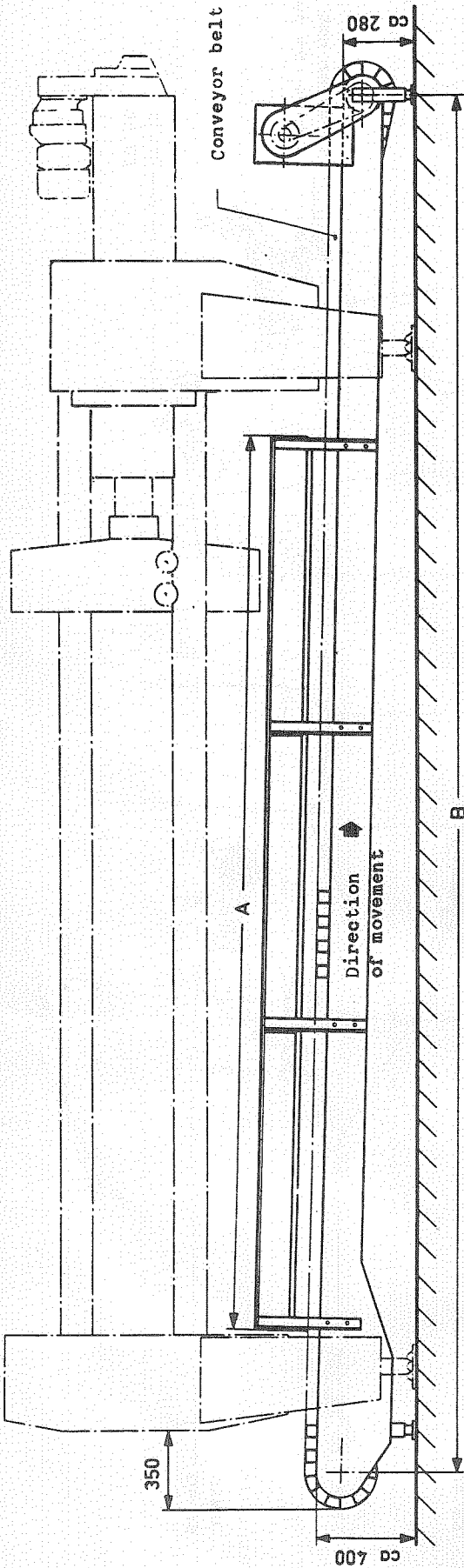
Warm- or hot water outlet NW 50

Air vent NW 25

Warm- or hot water outlet NW 50

Drain NW 40

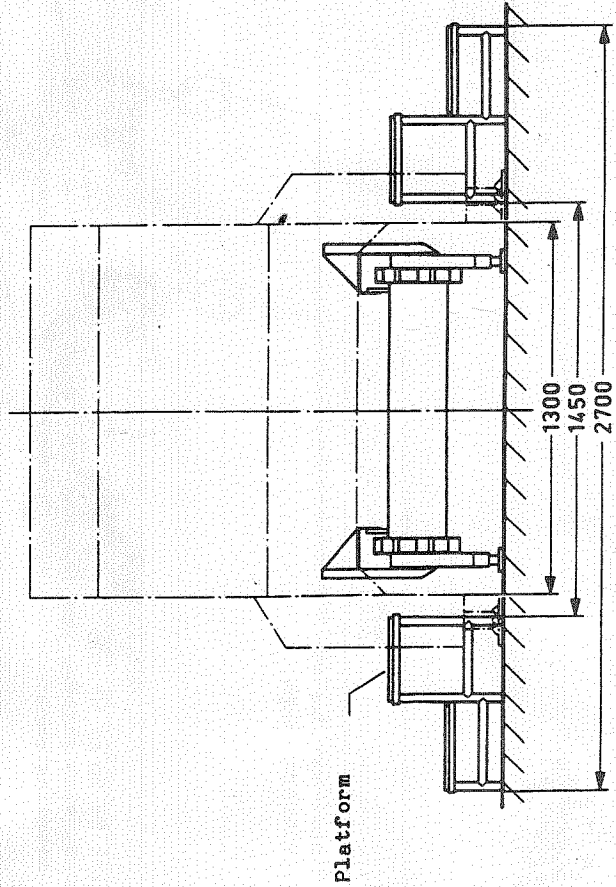
Conveyor belt, rigid

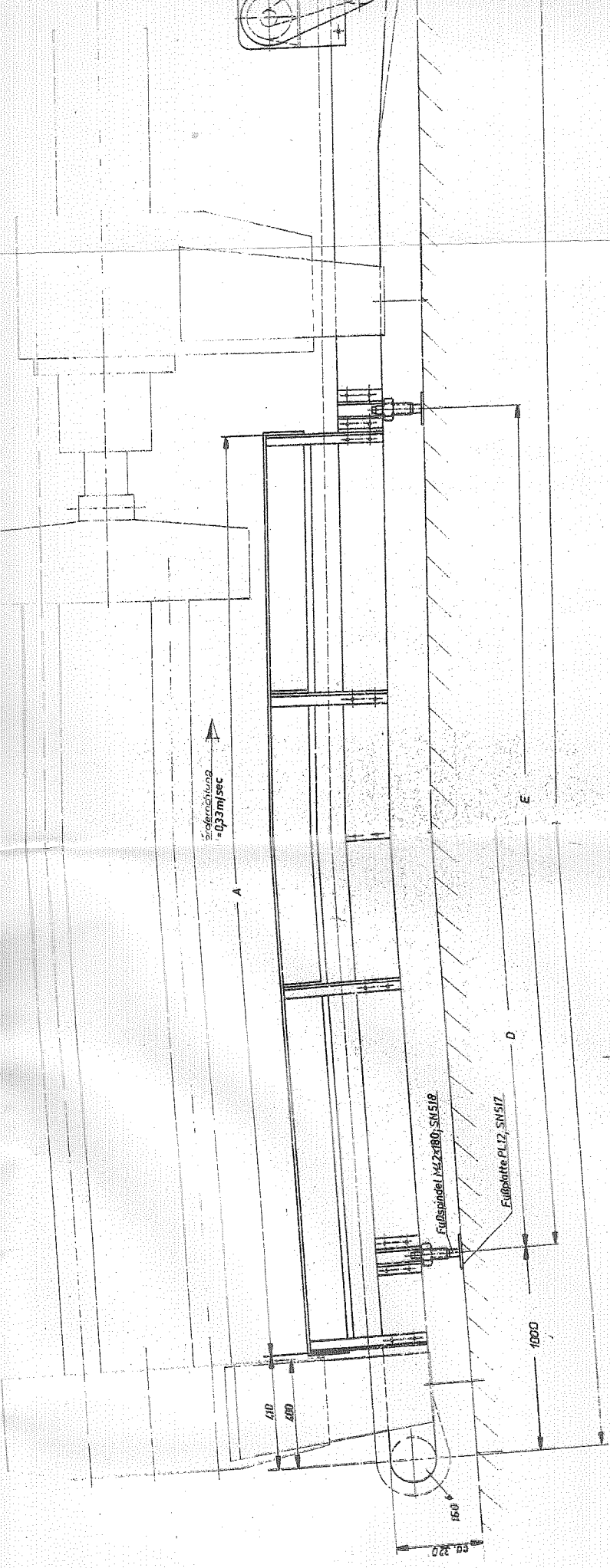


Conveyor belt

Dimensions and weights

Part no.	Dimensions		Weight appr. kg	Filter chassis size
	A mm	B mm		
Fs 51017	2550	4600	350	170
Fs 51018	3450	5500	420	150
Fs 51019	4350	6400	500	200
Fs 51020	5250	7300	580	250
Fs 51301	6150	8700	570	300
Fs 51302	7050	9640	550	350





Technische Daten:

- Antrieb: Drehsromotriebemotor 220/380V, 50 Hz
- Motorschutzart: P 54 ④
- Motor-Leistung: 1,1 kW ④
- Antriebsstrommet: gummiert
- Spannschlitz: mit Spannfremmet 180 mm² und Spindelorientierung
- Gurtauführung: Flexwellgurt mit einer 45 mm hohen Wellenkante Gurtbreite 1000 mm mit 3 Einlagen Qualität B 50

Zusatzziele:

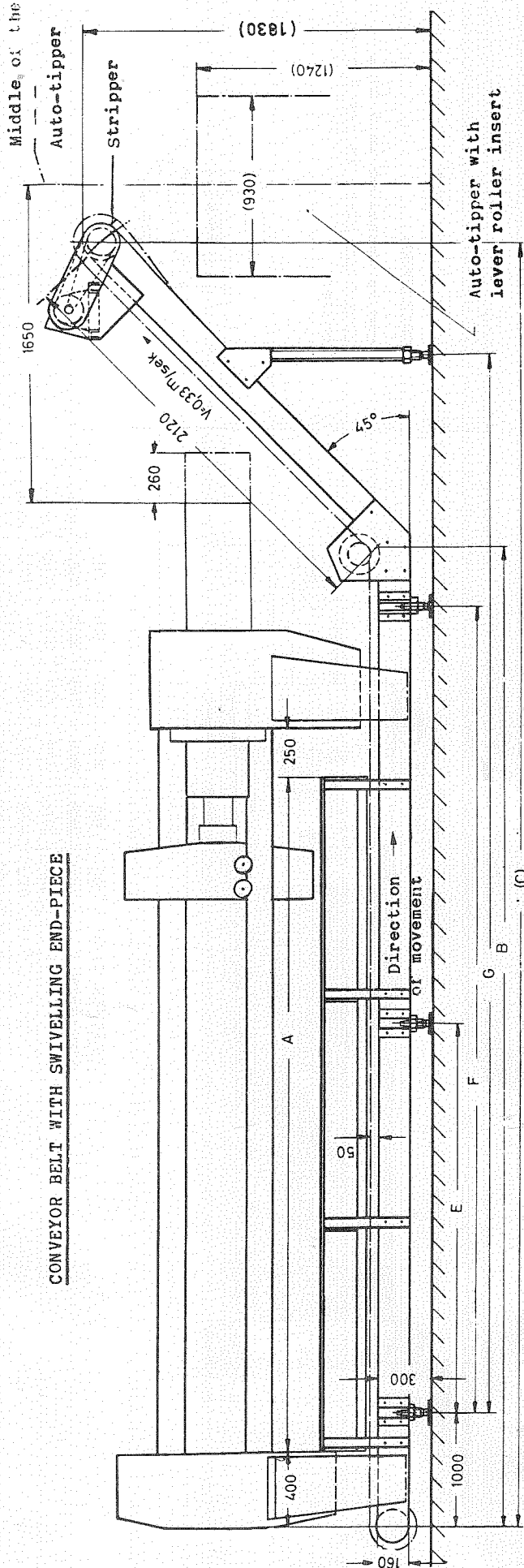
- nachstellbarer Außenabstreifer
- Anstrich: 1-fach Zinkchromat grundiert
- 3-fach Anstrich Chlorkautschuk, Farbton RAL 70 22
- seitl. Führungsbleche aus 1,4301 15 mm dick

Maß-Nr.	Maß A	Maß B	Maß D
Fs 51017	2.550	4.600	276
Fs 51018	3.450	5.500	375
Fs 51019	4.350	6.400	2700
Fs 51020	5.250	7.300	2650

Hersteller: Fa. H. A. Wiens
Frankenhof/Platz

Stock	Benennung und Abmessung	
Abt.	Werkstoff	
KP 31	Zusammenfassung	
	Einheiten	
Bruchteil	20.3.67	
Gezeichnet		

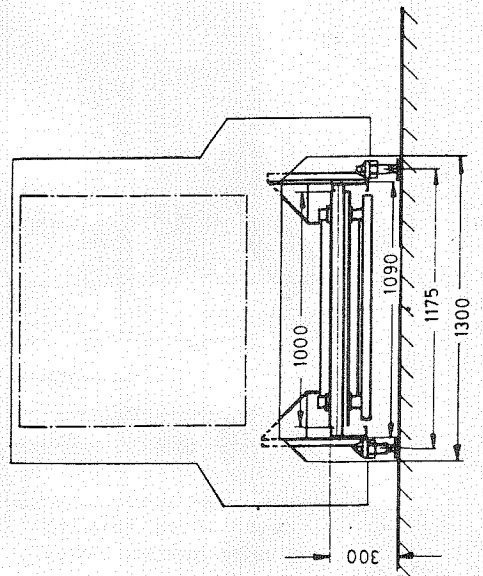
CONVEYOR BELT WITH SWIVELLING END-PIECE



CONVEYOR BELT

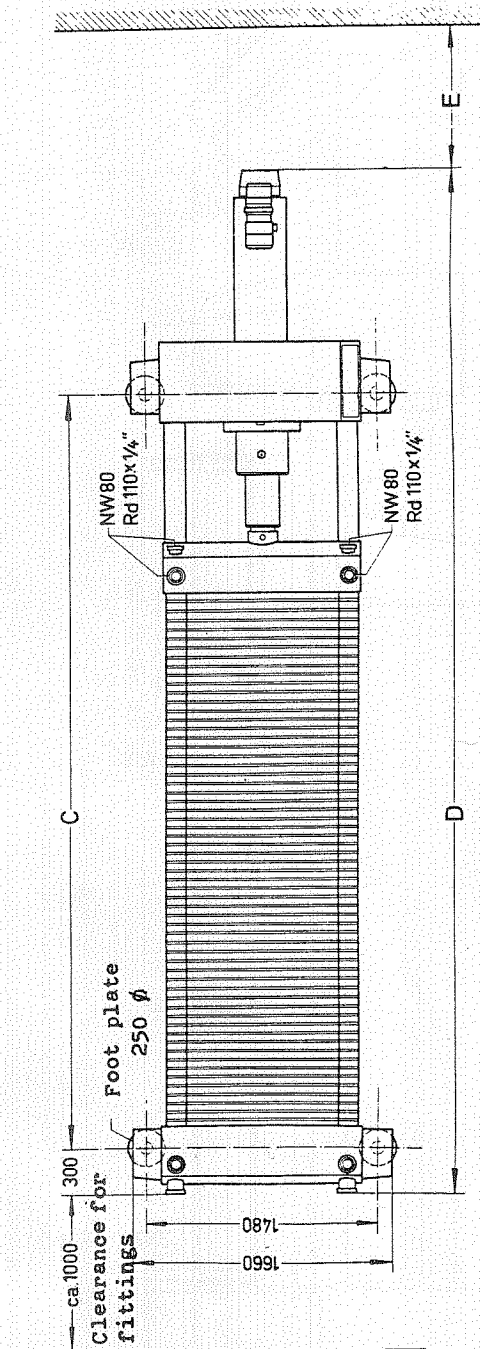
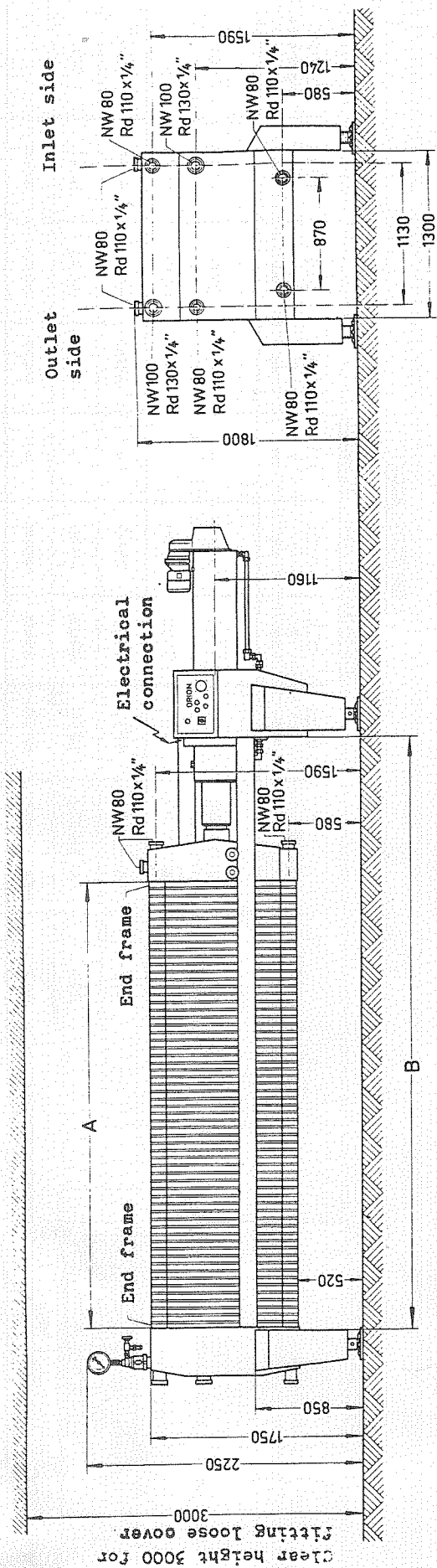
DIMENSIONS AND WEIGHTS

CHASSIS SIZE	PART NO	DIM. A mm	DIM. B mm	DIM. C mm	DIM. D mm	DIM. E mm	DIM. F mm	DIM. G mm	WEIGHT approx. kg
100	Fs 51069	2550	4200	5800	-	-	2800	4120	450
150	Fs 51070	3450	5100	6700	-	-	3700	5020	520
200	Fs 51071	4350	6000	7600	-	2300	4600	5920	600
250	Fs 51072	5250	6900	8500	-	2750	5500	6820	780
300	Fs 5129A	6150	8340	9940	-	3470	6940	8260	-
350	Fs 5129B	7050	9240	10840	-	3920	7840	9160	-



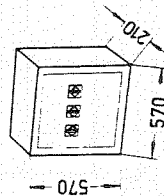
D I M E N S I O N S

ORION® OF 100V



SWITSCHBOX

can be installed in a dry, protected place in the filter cellar

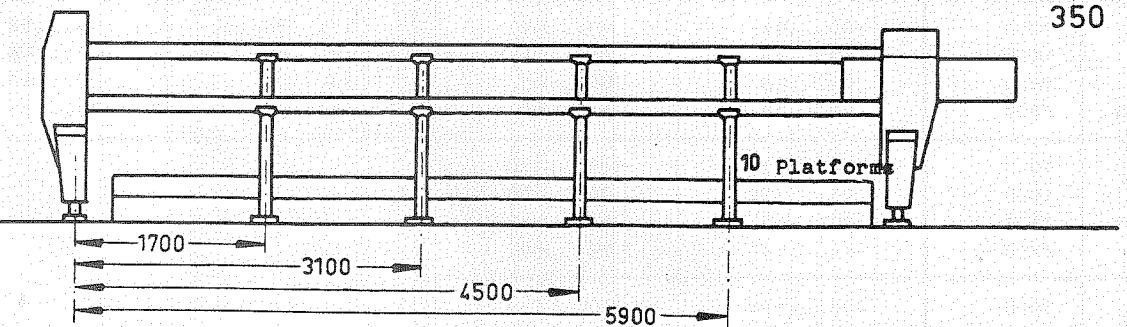
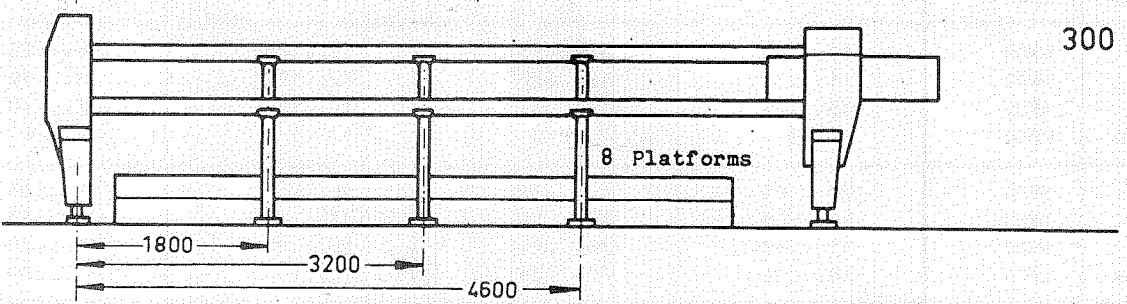
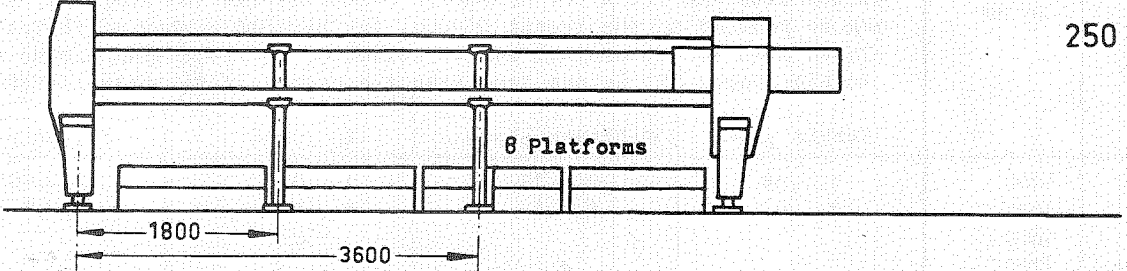
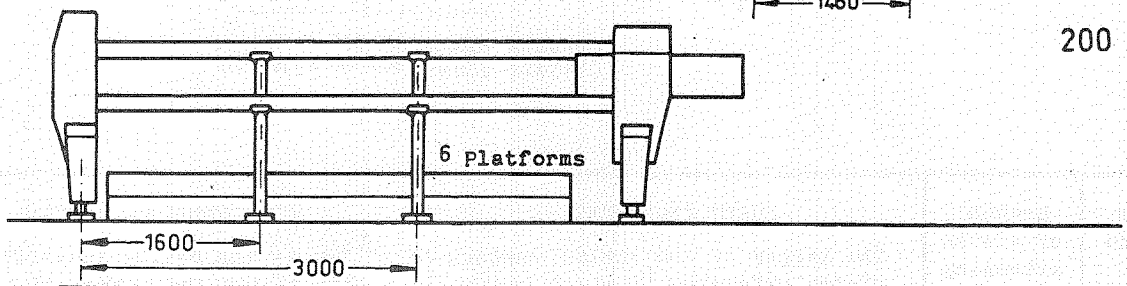
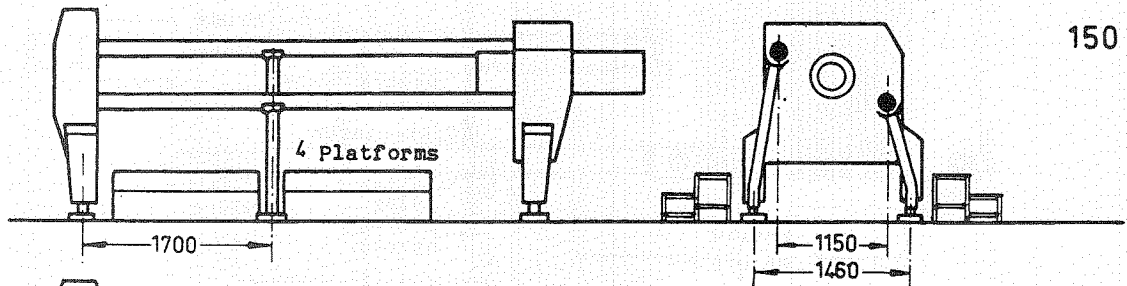
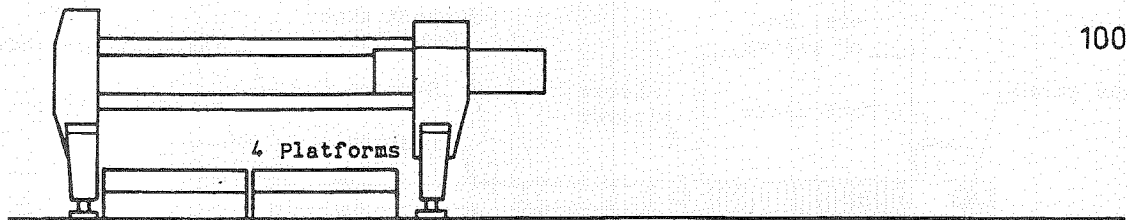


CHASSIS SIZE	100	150	200	250	300	350	mm
DIMENSION A =	2000	2900	3800	4700	5600	6500	mm
" B =	2800	3700	4600	5500	6400	7300	mm
" C =	3115	4015	4915	5815	6715	7615	mm
" D =	4900	5800	6700	7600	9040	9940	mm
" E =	1550	1550	1550	1550	2240	2240	mm

ARRANGEMENT OF THE SUPPORTING FEET AND PLATFORMS

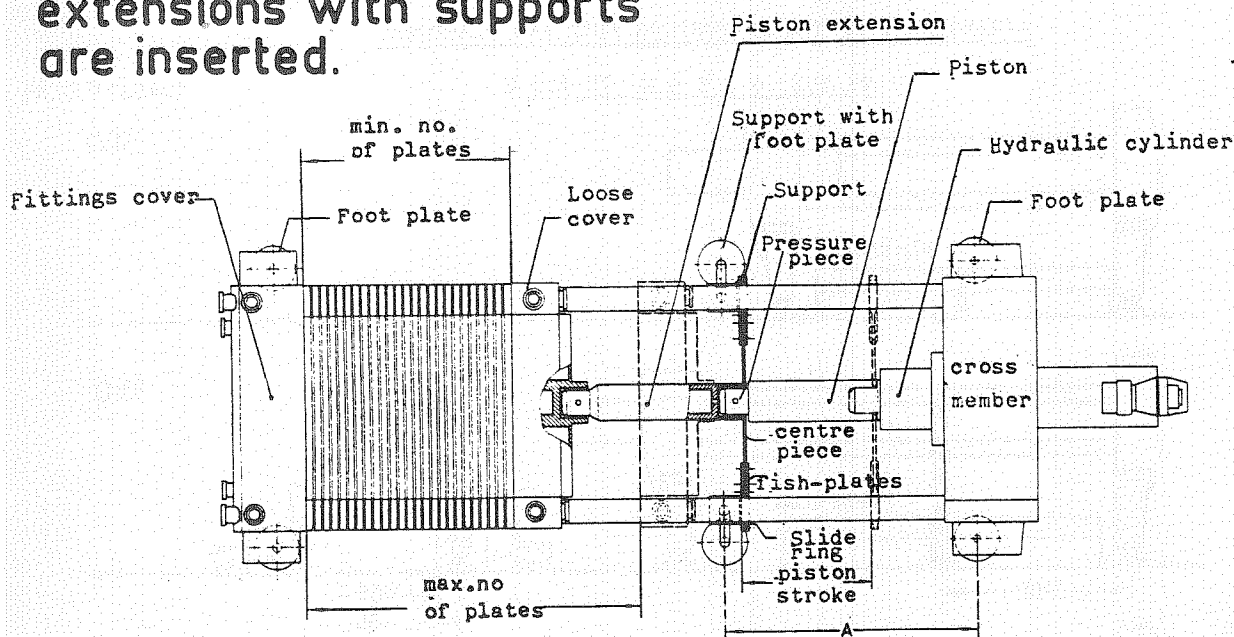
ON THE ORION OF 100 V

CHASSIS SIZE



Number of plates when piston extensions with supports are inserted.

ORION OF 100 V

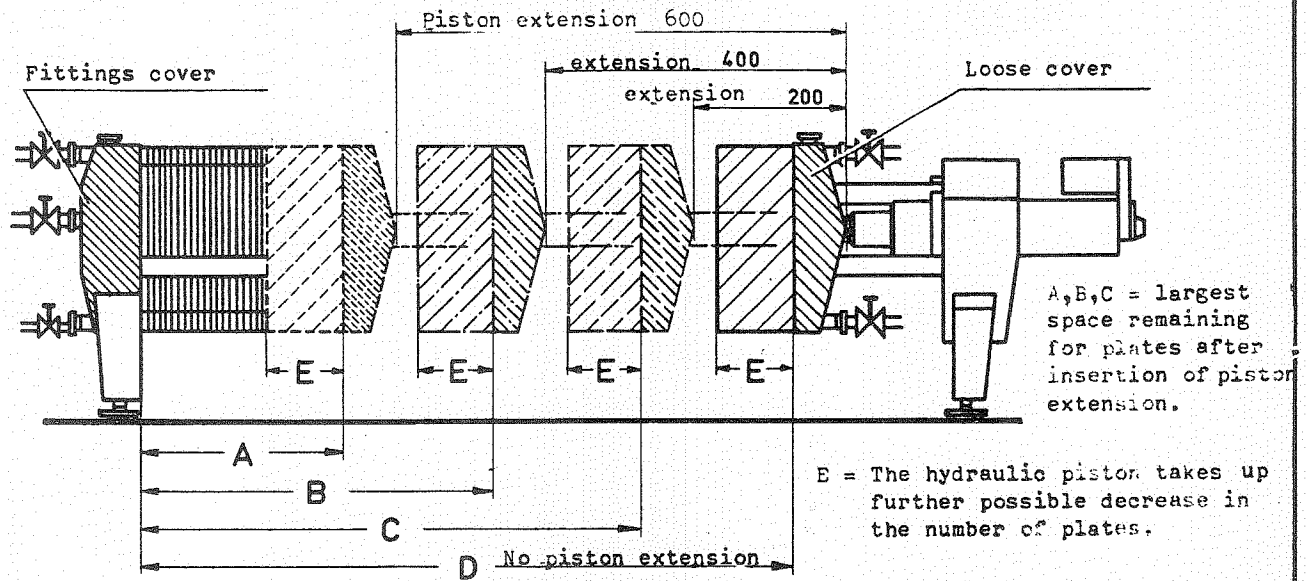


Chassis sizes 100-250 A=1935 mm
Chassis sizes 300-350 A=2475 mm

Chassis size and piston stroke	Length of piston extension in mm	SHEET FILTRATION		KIESELGUHR FILTRATION	
		Turbid plate	Filtrate plate	KG frame	Filtrate plate
100 1260 mm	1000	1...14	2...15	1...9	2...10
	1400	1...6	2...7	1...4	2...5
	1800				
	2200				
150 1260 mm	1000	31...44	32...45	15...24	16...25
	1400	15...31	16...32	7...17	8...18
	1800	18...29	19...30	1...11	2...12
	2200	1...9	2...10	1...5	2...6
200 1260 mm	1000	60...69	61...70	31...37	32...38
	1400	50...58	51...59	23...31	24...32
	1800	35...43	36...44	16...25	17...26
	2200	19...34	20...35	9...19	10...20
250 1260 mm	1000	90...94	91...95	47...51	48...52
	1400	79...83	80...84	40...45	41...46
	1800	65...68	66...65	32...39	33...40
	2200	50...59	51...60	25...33	26...34
300 1800 mm	1000	108...119	109...120		
	1400	95...108	96...109		
	1800	79...93	80...94		
	2200	64...84	65...85		
350 1800 mm	1000	138...144	139...145		
	1400	124...133	125...134		
	1800	109...118	110...119		
	2200	97...109	98...110		

ORION OF 100 V

NUMBER OF PLATES WITH PISTON EXTENSIONS INSERTED



CHASSIS SIZE AND PISTON STROKE	LENGTH OF PISTON EXTENSION in mm	SHEET FILTRATION		KIESELGUHR FILTRATION	
		TURBID PLATE	FILTRATE PLATE	KG FRAME	FILTRATE PLATE
100 1260 mm	without	29...49	40...50	14...28	15...29
	200	22...45	43...46	11...26	12...27
	400	14...40	45...41	7...22	8...23
	600	7...35	8...36	3...19	4...20
150 1260 mm	without	60...74	61...75	31...42	32...43
	200	53...69	54...70	28...40	29...41
	600	39...59	40...60	20...33	21...34
200 1260 mm	without	93...99	94...100	47...56	48...57
	200	86...93	87...94	44...54	45...55
	400	78...88	79...89	40...50	41...51
	600	71...82	72...83	36...46	37...47
250 1260 mm	without	121...124	122...125	64...70	65...71
	200	112	113	60...66	61...67
	600	105	106	56...63	57...64
300 1800 mm	without	143...149	144...150		
	200	140...143	137...144		
	400	131...138	130...139		
	600	122...130	121...133		
350 1800 mm	without	173...174	174...175		
	200	165...169	167...170		
	400	160...164	161...165		
	600	153...159	154...158		

F O R E W O R D

KHS E would be grateful if you would hand over these operating instructions to your servicing staff.

Careful attention to the instructions will protect you from unnecessary damage and will increase the durability of the machine.

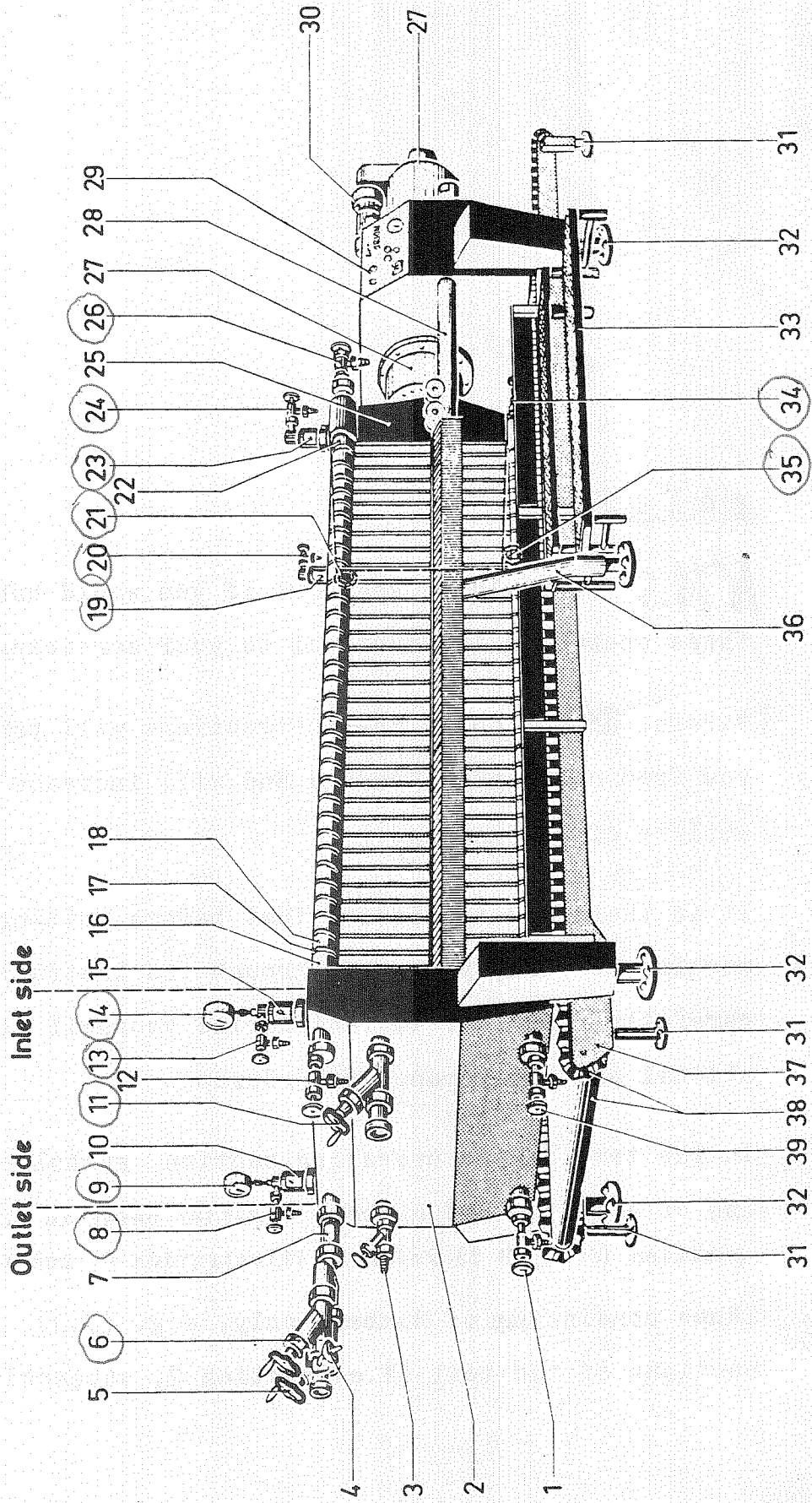
It is therefore imperative that before putting the machine to work, you read through the instructions carefully, in order to familiarize yourself with operational and maintenance procedures.

In the text of the operating section, symbols consisting of a letter and number, e.g.(18) refer to SURVEY SHEET, position 18 or (B 5) refer to illustration B, position 5.

Those consisting of numbers only, e.g. (7.2), refer to sections of the text (i.e. section 7, subsection 2).

ORION[®] OF 100V

SURVEY SHEET



KEY TO SURVEY SHEET

1.	<u>Drain valve</u>	Condensate waste	Outlet side
2.	<u>Fittings cover</u>		
3.	<u>Steam valve</u>	Steam - inlet	Outlet side
4.	<u>Sampling valve</u>		Outlet side
5.	<u>Outlet valve</u>	First runnings outlet	Outlet side
6.	<u>Outlet valve</u>	Filtrate outlet	Outlet side
7.	<u>Flow sight-glass</u>		Outlet side
8.	<u>Air vent valve</u>		Outlet side
9.	<u>Pressure gauge</u>		Outlet side
10.	<u>Sight-glass</u>		Outlet side
11.	<u>Inlet valve</u>	Turbid inlet	Inlet side
		Inlet hot and warm water	
12.	<u>Air vent valve</u>		Inlet side
13.	<u>Air vent valve</u>		Inlet side
14.	<u>Pressure gauge</u>		Inlet side
15.	<u>Sight-glass</u>		Inlet side
16.	<u>Kieselguhr end frame</u> (1 FG)	Turbid	on fittings cover
17.	<u>Filter plate</u>	Filtrate	
18.	<u>Kieselguhr frame</u>	Turbid	
19.	<u>Sight-glass</u>		Outlet side
20.	<u>Air vent valve</u>		Outlet side
21.	<u>Air vent valve</u>	Outlet hot and warm water	Outlet side
22.	<u>Kieselguhr end frame</u> (2 KG)	Turbid	on loose cov
23.	<u>Sight-glass</u>		Inlet side
24.	<u>Air vent valve</u>		Inlet side
25.	<u>Loose cover</u>		
26.	<u>Air vent valve</u>		Inlet valve
27.	<u>Hydraulic tightening cylinder</u>		
28.	<u>Support bars</u>		
29.	<u>Cross member with hydraulics</u>		
30.	<u>Locking motor</u>		
31.	<u>Screw foot for kieselguhr waste conveyor</u>		
32.	<u>Screw foot for filter</u>		
33.	<u>Platform with grid</u>		
34.	<u>Drain valve</u>	Condensate waste	Inlet side
35.	<u>Drain valve</u>	Condensate waste	
		Outlet hot and warm water	Outlet side
36.	<u>Supports for support bar</u>		
37.	<u>Kieselguhr waste conveyor</u>		
38.	<u>Conveyor belt</u>		
39.	<u>Drain valve</u>	Condensate waste	Inlet side

1. GENERAL

The ORION 100 is a kieselguhr and sheet filter for filtering beverages.

It consists of the fittings cover (2) and the loose cover (25), 2 support bars (28), the cross member (29) with built-in hydraulics and tightening cylinder (27), a set of plates.

- a) filter plates and kieselguhr frames for KG filtration, or
 - b) filter plates for clarifying and sterilising filtration,
- and the necessary fittings.

The hydraulic tightening of the filter takes place in 2 stages. In the 1st stage the pressure is built up to 30 - 50 atms. Under this pressure the filter is filled with water, de-aerated, sterilised and pre-coated. Before filtration, the pressure is raised to the set final figure. When this has been reached, the hydraulic pump automatically switches off and the locking motor (30) mounted on the cylinder (27) starts up. This operates a threaded spindle which during the filtration holds the piston against the machine chassis and afterwards it is likewise switched off automatically.

The stack of plates thus remains firmly pressed together during the whole filtration period whilst the hydraulic unit is free from pressure during this time.

When the filter is opened, first of all pressure is built up again to relieve the load on the supporting spindle. This pressure is about 20 atms. above the closure pressure and is limited in the same way by a pressure switch.

After the pressure has been built up, the locking motor switches on and the spindle automatically runs back, until the entire piston track is clear again.

The piston is now brought back hydraulically, thus opening the filter.

For safety's sake the black button must remain pressed down during all piston movements. The piston comes to a standstill immediately if this is released.

A further safety device is the red button. If it is necessary to interrupt the closing of the filter, pressing this button immediately reverses the piston movement.

CAUTION: No work of any kind, cleaning work, moving sheets, must be carried out on the filter while the piston is in motion.

1.1. ERECTION

- 1.1.1. The filter should be erected in the place where it is to work, with sufficient clearance all round so as to ensure satisfactory operation.

The erection and initial operation are carried out by SEITZ fitters.

- 1.1.2. It is essential that the future operating staff should be present at the erection and initial operation in order to familiarise themselves with the filter, its operation and maintenance.

1.1.3. ASSEMBLY

- a) Align the filter accurately, both horizontally and vertically by means of the screw feet (32), using a spirit-level.

- b) Place supporting feet (36) under the support bars (28), set up fairly tight, the support bars must not sag (does not apply to chassis size 100).

1.1.4. ELECTRICAL INSTALLATION

- a) Connect up the electricity supply according to the relevant I.E.E. regulations, and any local safety regulations.

Total connected load is 2.5 kw.

- b) Check mains voltage and motor voltage to see that they agree.

- c) Check direction of rotation of the motors.

Pump motor: the motor runs in a clockwise direction, looking at the fan.

NOTE: The hydraulic piston does not move when the direction of rotation is the wrong way round.

Geared motor: looking at the sprocket, this rotates

- a) in a counter-clockwise direction for "Closing filter",
- b) in a clockwise direction for "Opening filter".

Further information on pages 24 - 28

1.1.5. HYDRAULIC UNIT

Check the liquid level in the tank.

When the piston is right in, the liquid level must not be below the lower inspection window. Check the whole hydraulic system for leakages. Tighten any loose pipe connections.

1.2. CLEANING BEFORE INITIAL OPERATION

Clean filter plates and fittings with a brush and a weak solution of one of the usual alkaline detergents (not pure caustic soda, however). Wash gaskets with hot water.

1.3. INSERTION OF FILTER PLATES

NOTE: Filtrate plates and turbid plates differ by the distance of the suspension lugs from the upper eyelet, with its connection channel to the inside of the plate.

Turbid plate - long distance, filtrate plate - short distance.

Resting on the fittings cover and the loose cover, there is a "turbid end plate" or, in the case of kieselguhr filtration, a "turbid end frame" closed on one side (the closed side must rest against the appropriate cover).

2. KIESELGUHR FILTRATION

For kieselguhr filtration the filter is equipped with KG frames and filtrate plates in alternate sequence. On the fittings cover (2) and on the loose cover (25) there is a turbid end frame (16, 22), the closed side of which must rest against the appropriate cover.

2.1. INSERTION OF SHEETS

The washable filter sheets O/400 Fa are folded and inserted according to Figs. 1 - 5 (Page 31)

NOTE: Do not use damaged sheets.

Make sure the trademark is always on the inside.

Fold the sheets so that the edges are flush.

The folded sheet is hung over the filtrate plate and is wetted absolutely evenly over the entire surface. The folded sheet should not get into the eyelet packing. It is preferable to start inserting the sheets at the fittings cover (2).

2.2. INITIAL COMPRESSION OF STACK OF PLATES

Switch on hydraulic pressure, and raise to a pressure of 30 - 50 atms. See handling the control desk, work sequence "Closing filter, 1 - 3" (fig. A).

2.3. STERILISATION OF FILTER

In KG filtration, sterilising is done in the direction of filtration.

To protect the packing, all warm treatment phases are only to be carried out with the compressed filter; hydraulic pressure 30 to 50 atms. when rinsing and sterilising, always run at the nominal filter output. The appropriate supply pipes must be suitably regulated. All infeed and discharge pipes must be sterilised at the same time as the filter.