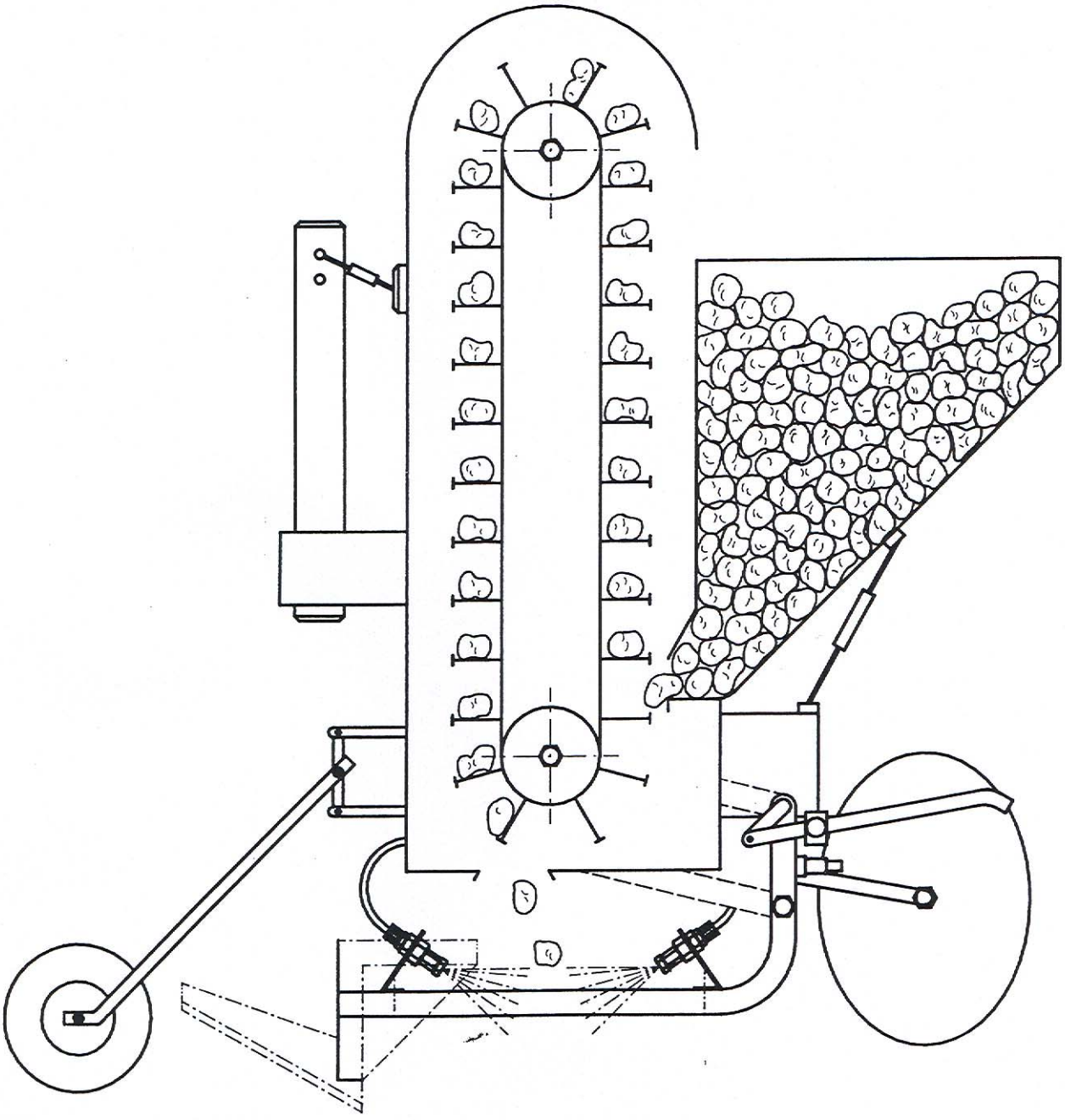
Lechler
Attachment kit
for seed dressing



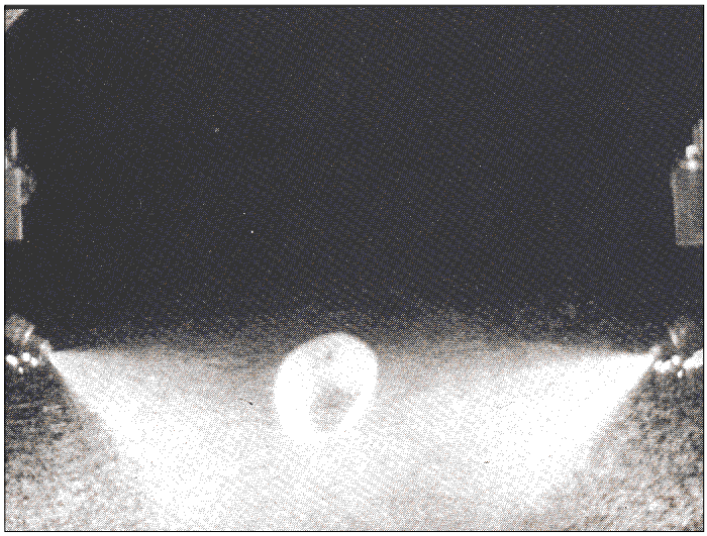
Lechler Attachment kit for seed dressing

- **even effective coating of potatoes on all sides**

- **safe function**

- **can be retrofitted easily**

Potatoes are effectively protected from infestation by Rhizoctonia (the main cause of vegetable skin diseases) if they are treated on all sides with a protective agent before tuber storage. In planting machines, the potatoes are evenly sprayed with a suitable protective fluid agent by means of spray nozzles under the layering shaft just before they are stored. During this process, the layering channel leading up to the front unit is also covered by to the spray jet so that ground treatment also occurs at the same time. The time-consuming task involving dust powder agents is therefore no longer required.



The Lechler attachment kit for fluid seed dressing allows any type of universally available planting machine to be retrofitted to "automatic" spray coating. The tried and tested Lechler hollow cone nozzles ensure this and are installed in a favourable spray position in the grooved unit and behind the layering shaft. The spray jet can be set precisely to the ejection point of the tubers under the layering shaft through the use of a ball joint.

All components, in particular the line filters, have good access, can be simply monitored and cleaned without any problems.

You can purchase the attachment kit from co-operatives, specialist dealers and specialist workshops.

Attachment kit for one row

Only **one** attachment kit, **order no. 400.440.C6.10** is required per layering shaft. 4 attachment kits are therefore required for a four-row machine.

The attachment kit consists of 2 nozzle stems **(Fig. A, Page 3)** as well as the valve unit **(Fig. B, Page 3)**. Furthermore, 4 attachment brackets, 4 m hosing and the associated hosing clamps and replacement gaskets are also supplied as loose components.

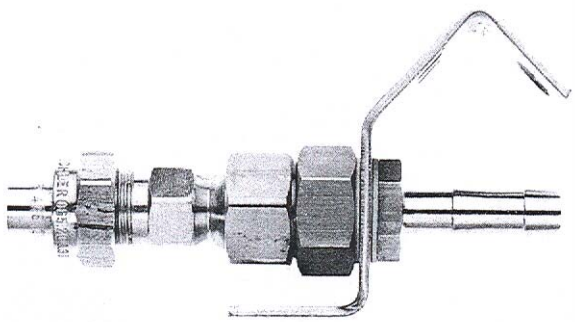
Filter and distribution unit

As a result of the relatively low throughput of fluid, fine filtering (80-100M) is required at the pressure end. If an appropriate filter unit is not already integrated in the fixtures available, we would recommend the use of the **Lechler filter and distribution unit, order no. 400.440.30.21.00.3 (Fig. C, Page 3)**.

A maximum of six attachment kits (correspondig to 6-row planting machine) can be connected to the distributor kit.
The appropriate connections should be mortise-locked for smaller machine units (2 to 4 rows).

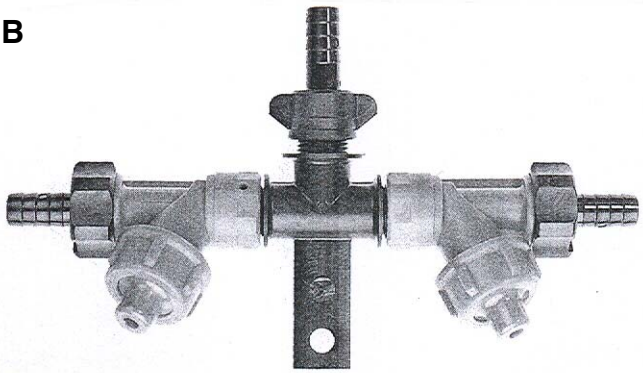
Scope of supply and accessories

A



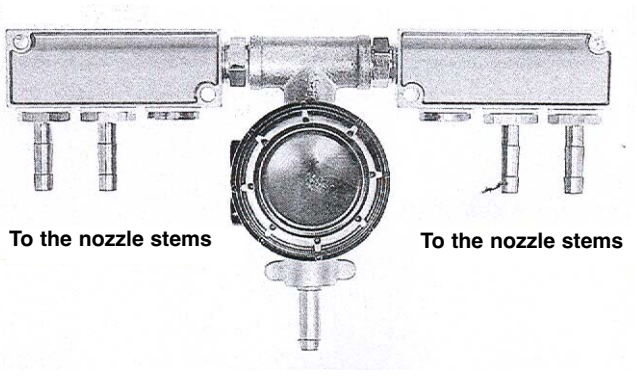
Nozzle stem with fastening bracket

B



Valve unit (pre-assembled)

C



Filter and distibutor unit (pre-assembled, here for a 4-row machine)

Barrel, pump and fittings do not fall within the scope of supply!

If the appropriate basic devices are not available, we would recommend the use of commerciall available belt spray equipment (assembly.

Additional nozzle equipment
The attachment kit is supplied as standard together with the hollow cone nozzle, **order no. TR80-01C** (approx.100 to 150 l/ha at 4km/h). For higher speeds or lower quantities, nozzles with smaller or larger orifice can be requeted (refer to production table on page 4).

Replacement gaskets:
The gaskets used in the attachment kit and in the distributor unit can be reordered under the **collective order no. 095.016.73.07.73.0.**

Additional accessories	Order no.
Teflon sealing tape	095.009.55.09.30
Hose nipple G1/2A	095.016.30.07.68
Quality pressure gauge, glycerine dampened (connection: G1/4A)	095.009.00.10.55

Assembly and Commissioning

The nozzle stem and dual valve are already pre-assembled with the appropriate gaskets (Figures A and B, page 3). During the final assembly, ensure seal integrity. Union nuts, valves and hose nipples should be tightened well, but not too tight as a result of the Teflon gaskets. If necessary use the Teflon sealing tape.

Before commissioning, the nozzle inserts (1) and screen filter (4) should first be rermoved (Table D, page 6) and the entire system should be rinsed with water. Then the machine is supplied with the nozzles installed in accordance with the production table (page 4). (Note differences in pressure between the fittings and nozzles).

Tab. E

Fastening brackets Versions	Pos. (Fig. D)	Length (not bent) (mm)	PLANTING MACHINE TYPE* CRAMER Junior	CRAMER Marathon	GRUSE/GRIMME sämtliche	HASSIA "GL"	HASSIA "KLE"	HASSIA "GLS"
	8a	122	S	S	S,R	S		S
	8b	250	R			R	R	R
	8c	143		R			S	

* if using a different machine type, please contact with the manufacturer in question

S = Fastening in the unit (= front nozzle, against direction of travel)
R = Fastening in the frame (= rear nozzle in direction of travel)

Fitting the nozzle stems

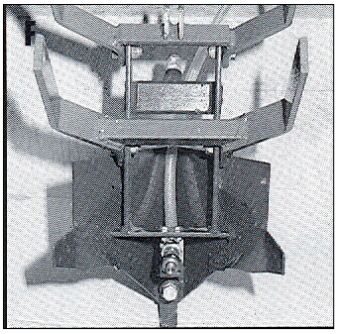
Various fastening brackets are also provided for fitting the nozzle stems to the planting machine.

Installation stages

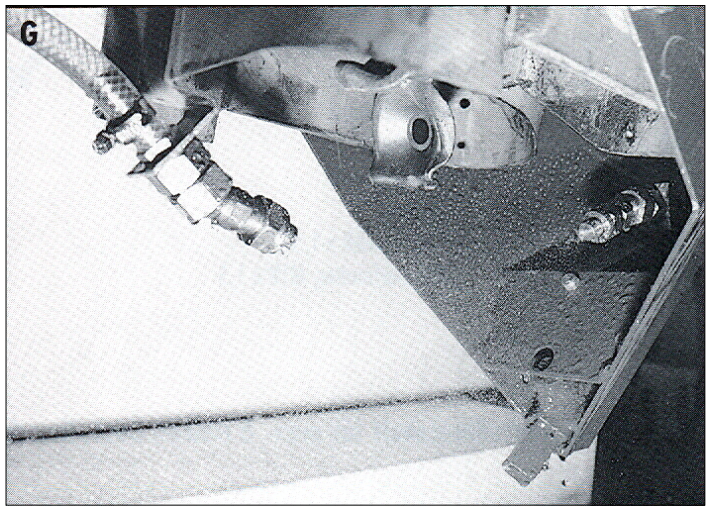
1. Select the brackets required for the appropriate machine type in accordance with the installation (Table E). (Two brackets are required per row - 2 brackets are therefore remaining).

2. Loosen hose (7) of ball joint (5) (Fig. D, page 6)

3. Attach fastening brackets (8) together with the gaskets (6) onto the thread of the hose nipple and firmly screw together with the ball joint (5) (Fig. D, page 6).



4. Screw one fastening bracket and nozzle stem into grooved unit (Fig. F)



5. The second nozzle stem is fastened opposite to the frame and/or to the layering shaft. The nozzles spraying against one another hould be aligned to ensure that the upper jet is directed horizontally or slightly downwards (Example, Fig. G). Ensure that the cup chain is not directly subjected to the spray jet.

Application tables

2 nozzles per row, row width 0,75 m

Nozzle	Pressure [bar]	l/min per nozzle	Liter per hectare rate l/ha at sprayer speed					
			3,0 km/h	4,0 km/h	5,0 km/h	6,0 km/h	7,0 km/h	8,0 km/h
TR 80-005	1,5	0,14	75	56	45	37	32	28
	2,0	0,16	85	64	51	43	37	32
	2,5	0,18	96	72	58	48	41	36
	3,0	0,20	107	80	64	53	46	40
TR 80-0067	1,5	0,17	90	68	54	45	39	34
	2,0	0,22	117	88	70	59	50	44
	2,5	0,25	133	100	80	67	57	50
	3,0	0,27	144	108	86	72	62	54
TR 80-01	1,5	0,28	149	112	89	75	64	56
	2,0	0,32	171	128	102	85	73	64
	2,5	0,36	192	144	115	96	82	72
	3,0	0,39	208	156	125	104	89	78

2 nozzles per row, row width 0,80 m

Nozzle	Pressure [bar]	l/min per nozzle	Liter per hectare rate l/ha at sprayer speed					
			3,0 km/h	4,0 km/h	5,0 km/h	6,0 km/h	7,0 km/h	8,0 km/h
TR 80-005	1,5	0,14	70	53	42	35	30	26
	2,0	0,16	80	60	48	40	34	30
	2,5	0,18	90	68	54	45	39	34
	3,0	0,20	100	75	60	50	52	38
TR 80-0067	1,5	0,17	85	64	51	43	36	32
	2,0	0,22	110	83	66	55	47	41
	2,5	0,25	125	94	75	63	54	47
	3,0	0,27	135	101	81	68	58	51
TR 80-01	1,5	0,28	140	105	84	70	60	53
	2,0	0,32	160	120	96	80	69	60
	2,5	0,36	180	135	108	90	77	68
	3,0	0,39	195	146	117	98	84	73

2 nozzles per row, row width 0,85 m

Nozzle	Pressure [bar]	l/min per nozzle	Liter per hectare rate l/ha at sprayer speed					
			3,0 km/h	4,0 km/h	5,0 km/h	6,0 km/h	7,0 km/h	8,0 km/h
TR 80-005	1,5	0,14	66	49	40	33	28	25
	2,0	0,16	75	56	45	38	32	28
	2,5	0,18	85	64	51	42	36	32
	3,0	0,20	94	71	56	47	40	35
TR 80-0067	1,5	0,17	80	60	48	40	34	30
	2,0	0,22	103	78	62	52	44	39
	2,5	0,25	118	88	71	59	50	44
	3,0	0,27	127	95	76	64	54	48
TR 80-01	1,5	0,28	132	99	79	66	56	49
	2,0	0,32	151	113	90	75	65	56
	2,5	0,36	169	127	102	85	73	64
	3,0	0,39	184	138	110	92	79	69

2 nozzles per row row width 0,90 m

Nozzle	Pressure [bar]	l/min per nozzle	Liter per hectare rate l/ha at sprayer speed					
			3,0 km/h	4,0 km/h	5,0 km/h	6,0 km/h	7,0 km/h	8,0 km/h
TR 80-005	1,5	0,14	62	47	37	31	27	23
	2,0	0,16	71	53	43	36	30	27
	2,5	0,18	80	60	48	40	34	30
	3,0	0,20	89	67	53	44	38	33
TR 80-0067	1,5	0,17	76	57	45	38	32	28
	2,0	0,22	98	73	59	49	42	37
	2,5	0,25	111	83	67	56	48	42
	3,0	0,27	120	90	72	60	51	45
TR 80-01	1,5	0,28	124	93	75	62	53	47
	2,0	0,32	142	107	85	71	61	53
	2,5	0,36	160	120	96	80	69	60
	3,0	0,39	173	130	104	87	74	65

*Spray pressure at the nozzle tip Liter-per-hectare rates apply to water

ENGINEERING
YOUR SPRAY SOLUTION

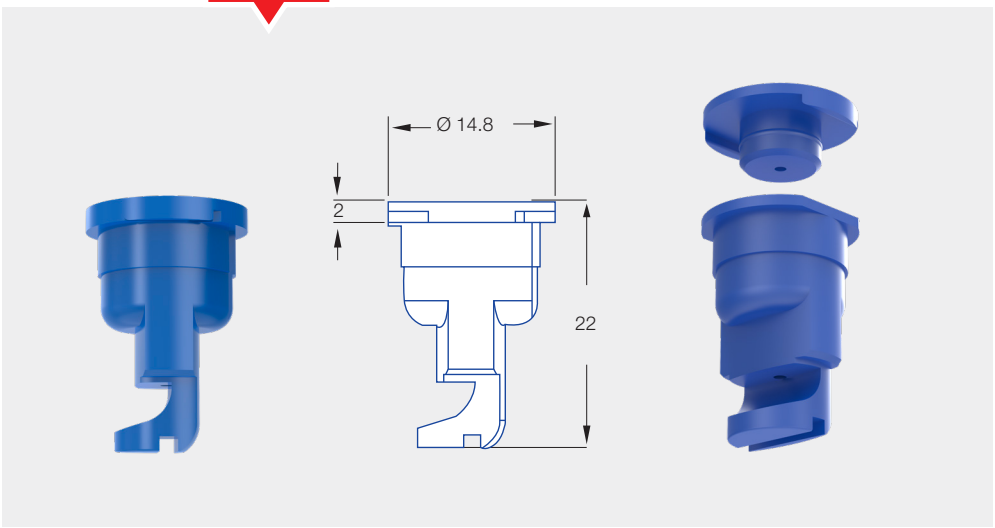
Nozzle recommendation for furrow treatment

NEW

Clog-resistant
flat spray nozzle.

Advantages

- Compact design
- Large, round flow cross-sections
- Self cleaning of jet forming area
- Jet build-up already from 1 bar
- FT 90 high drift reduction thanks to integrated pre-chamber



Nozzle size
01 – 04

Spray angle
90°

Material
POM

Pressure range
1 – 3 – 6 bar

Recommended filters
80 M 01
60 M 015 – 04

Droplet size
Medium – fine

Width across flats
Ø 12,65 mm

Recommendation furrow treatment (Potatoe)

1/3 of application rate to be sprayed into open furrow in front and 2/3 at back in covering soil.

*	4 km/h		6 km/h	
	Nozzle FT 90	l/ha	Nozzle FT 90	l/ha
Furrow opener (at front)	-01	64	-015	64
Cover discs (at back)	-02	130	-03	129

* Example with pressure of 2 bar

Sample for calculation of flow rate:

$$\dot{V} = \frac{M \times V_F \times B}{600}$$

$\dot{V}$ = Flow rate l/min
M = Liter per hectar rate
V_F = Sprayer speed km/h
B = Row spacing m

Spray table for flood nozzle FT 90

		l/min	l/ha (0,75 m)					
			3 km/h	4 km/h	5 km/h	6 km/h	7 km/h	8 km/h
FT 90-01 (80 M)	1.0	0.23	61	46	37	31	26	23
	1.5	0.28	75	56	45	37	32	28
	2.0	0.32	85	64	51	43	37	32
	2.5	0.36	96	72	58	48	41	36
FT 90-015 (60 M)	1.0	0.34	91	68	54	45	39	34
	1.5	0.42	112	84	67	56	48	42
	2.0	0.48	128	96	77	64	55	48
	2.5	0.54	144	108	86	72	62	54
FT 90-02 (60 M)	1.0	0.46	123	92	74	61	53	46
	1.5	0.57	152	114	91	76	65	57
	2.0	0.65	173	130	104	87	74	65
	2.5	0.73	195	146	117	97	83	73
FT 90-03 (60 M)	1.0	0.69	184	138	110	92	79	69
	1.5	0.84	224	168	134	112	96	84
	2.0	0.97	259	194	155	129	111	97
	2.5	1.09	291	218	174	145	125	109
FT 90-04 (60 M)	1.0	0.91	243	182	146	121	104	91
	1.5	1.12	299	224	179	149	128	112
	2.0	1.29	344	258	206	172	147	129
	2.5	1.44	384	288	230	192	165	144

Replacement of hollow cone nozzles for potatoe dressing
Potatoes and machine parts should not be sprayed on.

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