Assembly Manual

Augermatic BP330, Fluxx330 and Fluxx Breeder 360 / 360AZ

Code No. 99-97-0742 GB

Edition: 12/2006

1 Basic instructions

!	Please take care of this manual and always keep it in the same place close to the installation for quick reference. All persons working with the system, assembling, cleaning and servicing it have to be familiar with the contents of these instructions. Please observe the contained safety instructions! If this manual gets damaged or lost, request a new copy from **Big Dutchman**.

1.1 Basics

The **Big Dutchman** installation has been constructed according to the current state of the art and all acknowledged regulations regarding technical safety. The installation is reliable. Upon operation, however, dangers to life and limb of the user or third persons or impairments of the system or other material property are still possible.

The system may only be mounted, attended, repaired und used:

- for due use
- in an excellent state from the safety and technical point of view
- by persons who are familiar with the safety regulations

In the event of special problems which are not described in detail in this manual, we recommend to contact us for your own safety.

1.2 Explaining the symbols

1.2.1 Safety symbols in this manual

Upon reading this **manual** you will come across the following symbols

	**WARNING** This symbol indicates risks possibly leading to personal injury resulting in death or to severe injuries.
	CAUTION This symbol indicates risks or insecure procedures possibly leading to injuries or material damage.
	NOTE This symbol indicates notes leading to an effective, economic and environmentally-conscious handling of the installation

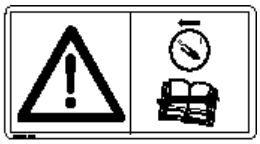
1.2.2 Safety symbols in the manual and on the installation

These safety symbols illustrate remaining dangers when handling the system. They are supplements to the above-mentioned symbols:

	Warning against dangerous electric tension
	Warning against the cold
	Warning against slippery surface

1.2.3 Safety symbols and notes on your installation

Depending on the type of installation you will find the following safety symbols. They indicate technically remaining dangers when handling the system and give information on how to avoid these dangers

	**GENERAL DANGER !** Installation automatically starts working.Before starting repair, maintenance or cleaning work, put main switch to ”OFF”
	**Danger of bruising due to rotating machine parts!** Close protective devices each time before taking the system into operation.Opening protective devices is only allowed when the system is in a standstill. People have to be authorised for this.
	**RISK OF INJURY due to operating auger, chain or cable discs!** Never reach into or climb into a feed container or trough while the motor is running.
	**DANGER OF SKIN CORROSION due to purifying agents!** Always wear protective clothing when repairing, maintaining and cleaning the installation.Always observe the manufacturer’s instructions when using acids!

Implicitly observe the instructions attached to the installation, such as the arrow on the motor indicating the direction of rotation.

The signs and safety instructions always have to be visible and must not be damaged. If they are soiled by dust, manure, feed remains, oil or grease, clean them by means of a water-detergent mixture.

	**If a safety symbol or instruction is fixed to a part to be replaced, ensure that it will be fixed to the new part as well.**

1.3 Designated use

This system has been created to supply birds with feed. This aim is the base for the definition of the designated use of the system. The **Big Dutchman** system may only be used according to its designated use.
Every other use is considered as non-designated use. The manufacturer does not accept liability for damages resulting from other uses, the user alone has to bear the risk. The designated use also includes the exact following of the operation, maintenance and repair conditions as prescribed by the manufacturer.

1.4 General safety instructions

All established safety precautions and other generally accepted safety regulations and medical references have to be observed. Please check safety and function control devices to ensure safe and accurate operation:

- before putting into operation
- at adequate time intervals
- after modifications and repairs.

Check the proper functioning of the system after any kind of repair works. You may only take the device into operation, when all protective systems have been put into place again. Follow the directions of the electric and water supply company.

1.5 Safety instructions when operating electrical appliances

You have to make sure that the system with the electrical appliances is operated and maintained according to the electro-technical regulations

	Installations and work on the electric components/structural groups may only be carried out by qualified personnel according to electro-technical regulations (e.g. EN60204, DIN VDE 0100/0113/0160).

	Dangerous electric tensions are bare in case of open control equipment. Please be aware of the danger and keep workers of other professions away from the dangerous spot!

Do not install control units directly in the house but in the service room in order to prevent damages due to ammonia vapours (NH3).Immediately switch off the installation in the event of malfunctions of the power supply units. Use a bipolar voltage probe to make sure that the electrical equipment is not alive.Check the electrical wiring and cables for recognisable damage before putting the device into operation. Replace damaged wiring and cables before taking the device into operation.Only use the fuses indicated in the circuit diagram. Immediately replace damaged fuses.

 	**Warning** **Never repair or bypass the fuses!** Damaged fuses have to be replaced with new fuses!

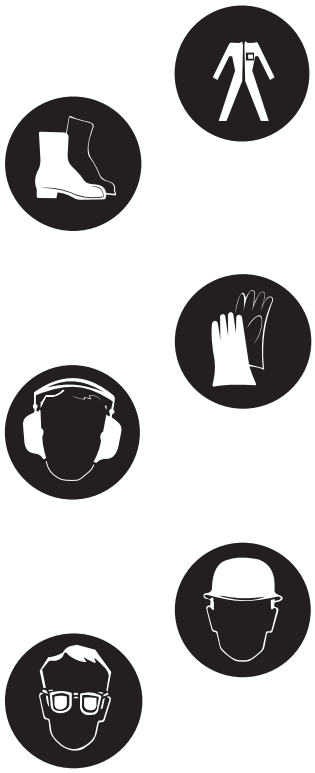
Never cover the electrical motor. This can cause high temperatures so that fire results and the working means can break down.The control box as well as the terminal and connector boxes of the installation must always be kept shut.Let damaged or broken plugs be replaced by an electrician.Let damaged or broken plugs be replaced by an electrician.For the respective connections please see the enclosed connecting plan of the system parts delivered.

1.6 Dangers resulting from non-compliance with the safety instructions

Non-observance of these instructions can cause severe danger for life and health of people or can lead to material or environmental damages and to the forfeiture of any claim for damages. To be precise, the non-observance of these instructions can lead to:

- Failure of vital functions of the installation
- Failure of prescribed maintenance methods
- Dangers for people owing to electrical and mechanical influences.

1.7 Clothing for personal safety



When operating, maintaining and cleaning the system, avoid wearing wide, fluttering clothes, rings and watches.Make sure that long hair is tied back when approaching moving system parts. Hair can get caught in the parts in motion and thus create severe injuries.Wear protective clothes and safety footwear upon operating, maintaining and cleaning the system, if required also use a safety helmet, ear protection, safety glasses, protective gloves and gas mask..

1.8 Assembly and maintenance

Assembly of the system can be carried out by the operator himself or by an authorised person. We require that the operator or the authorised person possess the required knowledge and practical experience or technical training and qualification necessary for a proper assembly.

Repairs may only be carried out by persons who are competent and can guarantee proper handling because of special training or knowledge and practical experience with the unit. The operator has the sole power of decision.Work on the electric components may only be carried out by technically skilled personnel and under consideration of German Industry Standards, VDE regulations, safety instructions and electro-technical regulations of the power supply industry (EVU).Only work with appropriate tools; in case of possible danger to hands, use protective gloves, and safety glasses in case of danger to the eyes

Repair, maintenance and cleaning operations as well as the removal of functional disorders may generally only be carried out when the installation is turned off and the power supply is disconnected.

Protect the installation by means of a sign fixed to the main switch reading ”Do not put into operation!” Refer to maintenance works in case of need..

Check the proper functioning of the system after any kind of repair or maintenance. You may only take the device into operation, when all protective systems have been put into place again.

1.9 Employing external personnel

Mounting, maintenance and repair work is frequently carried out by non-operating personnel, which is not familiar with the special circumstances and the inherent dangers

As supervisor, you are responsible for the safety of external personnel!

You as operator are to survey the personnel and to define responsibilities and powers. Inform these people in detail on the dangers of their area of work. Check their method of working and intervene as soon as possible.

1.10 Ordering spare parts

Operational safety is the prime necessity!

For your own safety only use original **Big Dutchman** spare parts. For foreign products that have not been released or recommended or for modifications carried out (e.g. software, control units) we cannot judge whether there is a safety risk in connection with the **Big Dutchman** systems.

Indicate the following for ordering spare parts:

- Code No. and description of the spare part or
- Invoice No. of original invoice
- Power supply e.g. 220/380V-3Ph.-50Hz

1.11 Obligations

Closely adhere to the instructions in this manual.A basic condition for safe operation and trouble-free handling of this system is the knowledge of the basic safety instructions and regulations.

These mounting and operating instructions, particularly the safety instructions, have to be observed by everyone working with this system. Moreover, the regulations and instructions for the prevention of accidents valid at the respective place of use have to be observed.

The manufacturer is not responsible for any damages to the machine resulting from changes done by the user.

1.12 Warranty and liability

Warranty and liability claims regarding personal and material damage are excluded if they result from one or several of the following causes:

- non-designated use of the installation
- inappropriate mounting and operating of the system

- operating the system with defective safety equipment or not duly fixed or not functioning safety and protective devices,
- non-observance of the instructions in this manual regarding transport, stock keeping, mounting, maintenance, operating and upgrading of the system
- unauthorised modifications on the system
- inappropriate repairs
- in the event of disasters caused by foreign matters or force majeure.

1.13 Disorders due to power failure

We recommend the installation of warning systems for a better control of your production units or the use of an emergency power-generating set for supplying the system with power in case of power failure. By this, you protect the birds and thus your own economical health.Emergency power units with universal transmission for connection to a tractor are also suitable. For further information please contact your property insurance.

1.14 First aid

For the case of an accident, unless specified otherwise, a first-aid kit must always be available at the place of work. Material taken out and used is to be replaced immediately.

If you need help, describe the accident as follows:

- where it happened
- what happened
- the number of persons injured
- what type of injury
- who is reporting the accident (your data)!

1.15 Waste disposal

After finishing the assembly or repair of this installation, dispose of the packing material and remains which do not need to be further used according to the legal provisions for recycling.The same applies to the component parts after putting the installation out of service.

1.16 Notes for use

We reserve the right to modify the construction and technical data for reasons of further development. Therefore, no claims can be derived from the information, pictures, drawings and descriptions. Subject to correction! In addition to the safety-relevant instructions in this manual and the safety precautions valid in the country of use, also observe the generally acknowledged technical regulations (safe and appropriate working according to UVV, VBG, VDE etc.). In addition to these operating instructions, please also observe the instructions supplied by the manufacturers (e.g.sensors).

1.17 Copyright

For further information please contact::

Big Dutchman International GmbH, P.O. Box 11 63, D-49360 Vechta, Germany, Phone +49(0)4447/801-0, Fax +49(0)4447/801-237, Telex 25510 big d

e-mail: big@bigdutchman.de, Internet: www.bigdutchman.de

2 Special safety instructions

2.1 Personal safety instructions

These safety instructions are intended to make you familiar with all information regarding the system that are important for your safety and that of the system.

Maintenance may only be carried out by specially trained and briefed users

Keep with the safety instructions in this manual.

2.2 Clothing and procedures for personal safety

2.2.1 Clothing and footwear

- Wide, fluttering clothes increase the risk of an accident
- Wide pieces of clothing, ties, scarves etc. can get caught in the moving or rotating system parts.
- High heels are a safety risk
- If you stumble, you can knock against sharp-edged, moving or rotating system parts and get severely injured

	Secure wide, fluttering clothes or take them off! When working at or on the system, only wear slip-free footwear and safety shoes when replacing heavy system parts!

2.2.2 Jewellery

- Loose or large jewellery increases the risk of an accident
- The large or loose parts of jewellery can get caught in components of the installation

	Take off all jewellery, particularly necklaces, bracelets and rings!

2.2.3 Hair

- Long hair increases the risk of an accident.
- Long hair can get caught in moving or rotating system parts

	Secure long hair by tying it back or wearing a bandanna or cap!

	Secure long hair by tying it back or wearing a bandanna or cap!

3 Operational safety and orders for spare parts

Operational safety is the prime necessity!

For your own safety only use original **Big Dutchman** spare parts. For foreign products that have not been released or recommended or for modifications carried out (e.g. software, control units) we cannot judge whether there is a safety risk in connection with the **Big Dutchman** systems.

We recommend the installation of warning systems for a better control of your production units. By this, you protect the birds and thus your own economical health.In case of power failure, an emergency power-generating set should automatically supply the system with power.Emergency power units with universal transmission for connection to a tractor are also suitable. For further information please contact your property insurance!

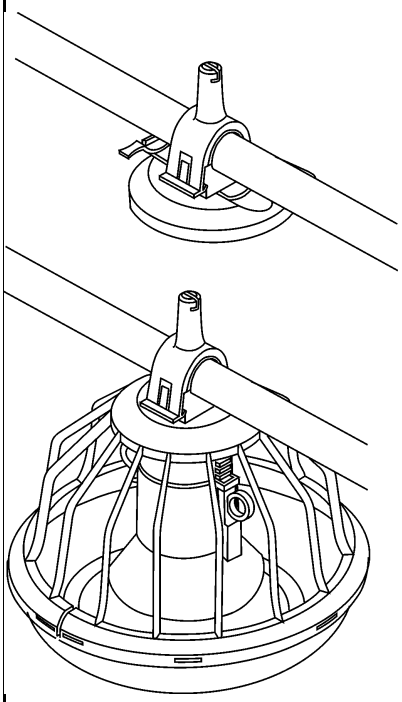
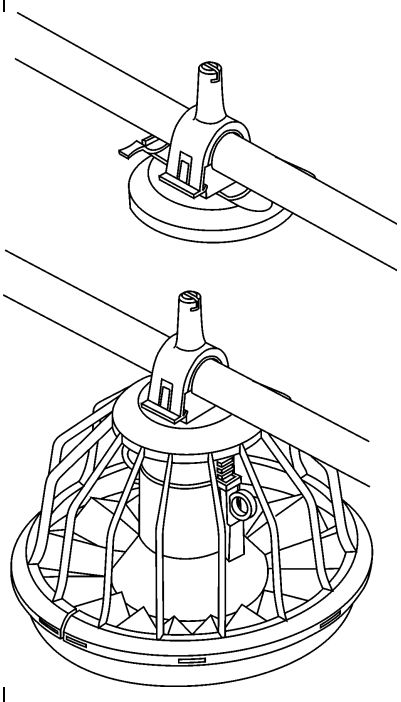
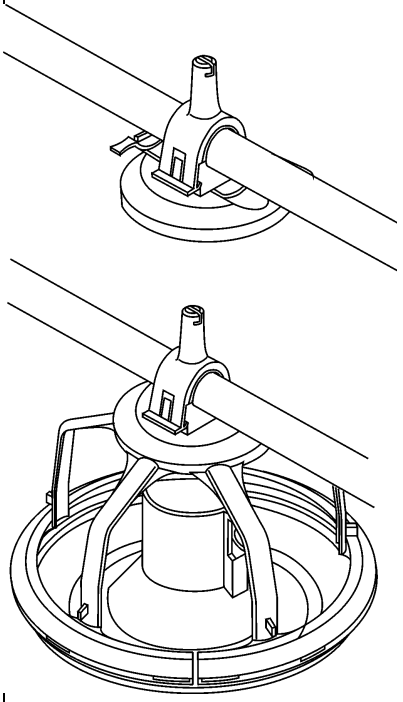
4 Introduction

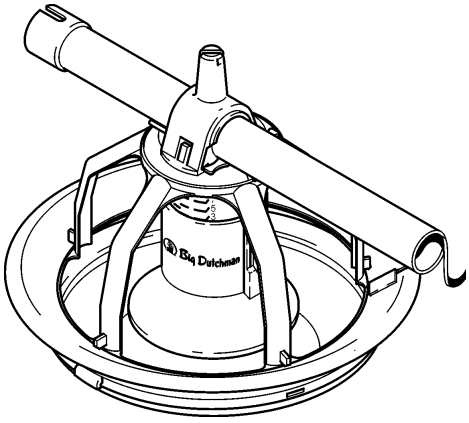
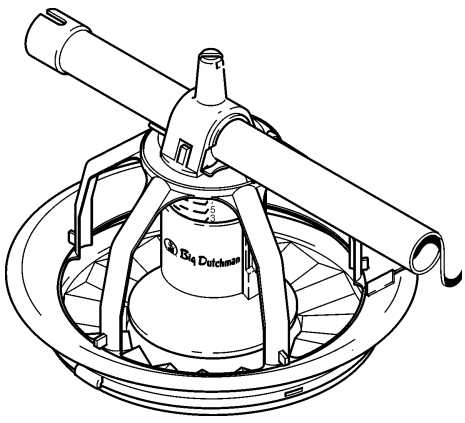
4.1 Survey of Big-Pan and Multi-Pan feed and control pans

Group of compents / Field of Application	Big-Pan						Multi-Pan								
	A			B			C			D			E		
	Feepan cpl. Bp 330 wo/shut-off	Feedpan cpl. BD 330 with shut-off	Control pan cpl. BD330 incl. sensor AFS	Feed pan cpl. BP 330-Plus wo/shut-off	Feedpan cpl. BP330-Plus with shut-off	Control pan cpl BP330-Plus incl. sensor AFS	Feedpan cpl MP 330 without shut-off with MP-dish	Feedpan cpl MPF 330 with shut-off and MP-dish	Control pan cpl MP 330 inc. sensor AFS	Feedpan cpl MP 330 with shut-off and BP-dish	Control pan cpl MP 330 with BP-dish incl. sensor AFS	Feed-saving collar MP 330	Feedpan cpl MP330-Plus with shut-off with RPM-dish	Control pan cpl MP 330-Plus with RPM-dish incl. sensor AFS	Fedd-saving collar MP330
	11-31-3501	11-31-3530	11-31-3552	11-31-3701	11-31-3730	11-31-3732	11-31-3570	11-31-3560	11-31-3573	11-31-3555	11-31-3557	11-31-3569	11-31-3565	11-31-3567	11-31-3569
broiler growing*		√			√						√			√	
turkey rearing*								√			(√)			√	
pre-finishing and final growing period turkeys*											√			√	
duck rearing*					√			√							
pre-findishing and final growing period ducks*											√			√	
pullet rearingt*		√			√										
layers*		√			√										
other (goose, pheasant, guinea fowi)*											√			√	
kind of feeding: **ad libitum**		√						√			√				
kind of feeding: let emptying at times only with: 11-31-3568 volume reducing insert whiteß		√						√			√				
kind of feeding: controlled					√									√	
kind of feeding: in rations					√									√	
kind of feeding: **restrictively**															
range of weight: **0 - 2,5kg**								√			√			√	
range of weight: **0 - 3,5kg**		√			√										
range of weight: **2 - 7kg**, only with: 11-31-3569 feed-saving collar											√			√	
range of weight: **7,0 - 12kg**, only with 11-31-3569 feed-saving collar											√			√	
height feed pan (distance between floor a/ upper edge pan edge) (mm)	76	76	76	61	61	61	46	46	46	71	71	127	56	56	112
height feed tube ((distance betw. floor and lower edge tube) (mm)	206	218	206	191	203	191	206	218	206	243	243	243	228	228	228

* consider range of weight √ suitable (√) partially suitable

4.1.1 Group of components Big Pan and Multi Pan

A	B	C
		

D	E
	

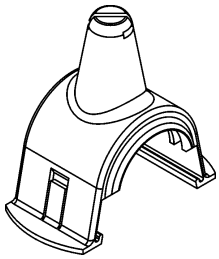
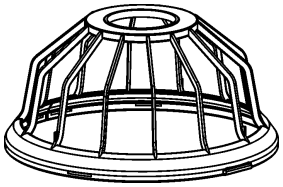
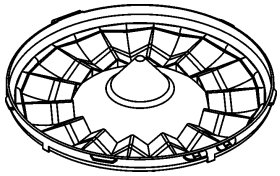
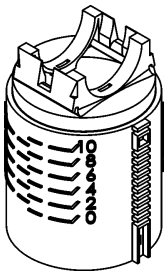
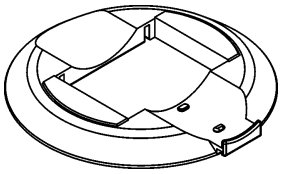
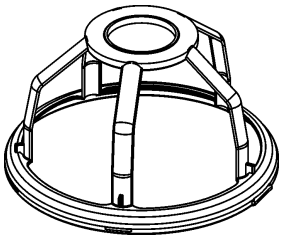
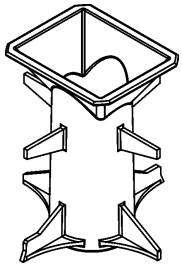
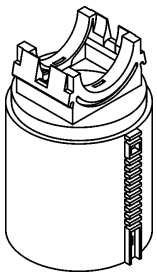
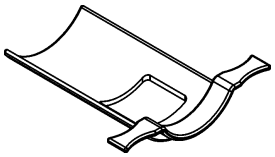
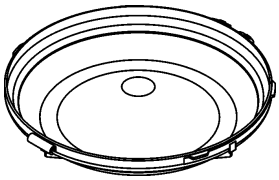
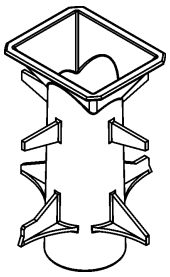
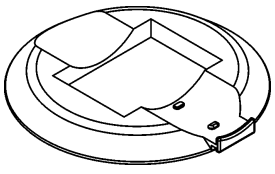
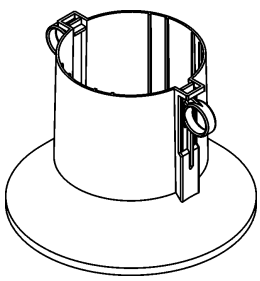
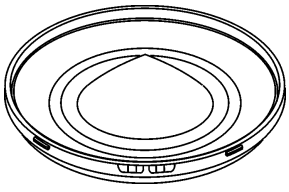
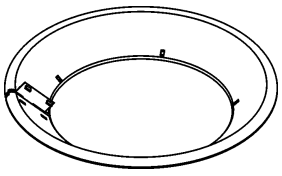
Pos A until E: see table on foreging page, line 2!

4.1.2 Single components of Big Pan and Multi Pan

group of components			Single components	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
				Tube adapter for BP/MP330	Cy-inder inner for "BP/MP 330 wo/shut-off"	Cylinder inner for "BP/MP 330 with shut-off"	Guide ring for shut-off BP/MP 330	Cylinder inner for "MP/Male Pan with shut-off"	Guide ring for shut-off MP/Male Pan	Slide shut-off BP/MP330	Cylinder outer for "BP/MP/RPM 330/male Pan"	Grille BP330	Grille MP330	Dish BP330	Dish MP330	Dish RPM330	Volume reducing insert orange BP330-Plus	Volume reducing insert white MP/RPM330	Fedd-saving collar MP330	Cylinder inner for "BP/MP 330 wo/shut-off" f/AFS	Cylinder inner for "BP/MP 330 with shut-off" f/AFS	Sensor AFS-01-60sec 90-250V	Guide ring for shut-off f/sensor AFS
				11-31-3515	11-31-3513	11-31-3533	11-31-3537	83-00-0131	83-00-0130	11-31-3536	11-31-3514	11-31-3512	11-31-3562	11-31-3511	11-31-3561	11-31-3711	11-31-3518	11-31-3568	11-31-3569	11-31-3516	83-00-9503	91-00-3905	83-00-9502
Big-Pan	A	11-31-3501	Feedpan cpl BP 330 wo/ shut-off	+	+						+	+		+				♦					
		11-31-3530	Feedpan cpl. BP 330 with shut-off	+		+	+			+	+	+		+				♦					
		11-31-3552	Control pan cpl. BP330 incl. sensor AFS	+							+	+		+						+		+	
	B	11-31-3701	Feedpan cpl BP 330-Plus wo/shut-off	+	+						+	+				+	+						
		11-31-3730	Feedpan cpl BP 330-Plus with shut-off	+		+	+			+	+	+				+	+						
		11-31-3732	Control pan cpl PB 330-Plus incl. sensor AFS	+							+	+				+				+		+	
Multi-Pan	C	11-31-3570	Feedpan cpl MP 330 without shut-off with MP-dish	+	+						+		+		+			♦					
		11-31-3560	Feedpan cpl MP 330 with shut-off and MP-dish	+		+	+			+	+		+		+			♦					
		11-31-3573	Control pan cpl MP 330 incl. sensor AFS	+							+		+		+					+		+	
	D	11-31-3555	Feedpan cpl MP 330 with shut-off and BP-dish	+				+	+	+	+		+	+				♦	♦				
		11-31-3557	Control pan cpl MP 330 with BP-dish incl sensor AFS	+						+	+		+	+					♦		+	+	+
	E	11-31-3565	Feedpan cpl MP 330-Plus with shut-off with RPM-dish	+				+	+	+	+		+			+		+	♦				
		11-31-3567	Control pan cpl MP 330-plus with RPM-dish incl. sensor AFS	+						+	+		+			+			♦		+	+	+

♦= option + = standard

4.1.2.1 Drawings of single components of Big Pan and Multi Pan

Pos 1 Code No 11-31-3515 	**Pos 5** Code No 83-00-0131 	**Pos 9** Code No 11-31-3512 	**Pos 13** Code No 11-31-3711 
Pos 2 Code No 11-31-3513 	**Pos 6** Code No 83-00-0130 	**Pos 10** Code No 11-31-3562 	**Pos 14** Code No 11-31-3518 
Pos 3 Code No 11-31-3533 	**Pos 7** Code No 11-31-3536 	**Pos 11** Code No 11-31-3511 	**Pos 15** Code No 11-31-3568 
Pos 4 Code No 11-31-3537 	**Pos 8** Code No 11-31-3514 	**Pos 12** Code No 11-31-3561 	**Pos 16** Code No 11-31-3569 

Pos numbers: see table on page 16, line 1

4.2 Survey of Fluxx feed- and control pans

Components / Field of application		Fluxx							
		with BP-dish				with RPM-dish			
		Feedpan cpl. FLUXX 330-5 with BP-dish	Feedpan cpl. FLUXX 330-14 with BP-dish	Control pan FLUXX 330-5 with BP-dish incl sensor AFS	Control pan FLUXX 330-14 with BP-dish incl sensor AFS	Feedpan FLUXX 330-5 plus with RPM-dish	Feedpan cpl. FLUXX 330-14 plus with RPM-dish	Control pan FLUXX 330-5 with RPM-dish incl sensor AFS	Control pan FLUXX 330-14 with RPM-dish incl sensor AFS
		11-31-4750	11-31-4700	11-31-4759	11-31-4709	11-31-4710	11-31-4760	11-31-4769	11-31-4719
broiler growing*			√				√		
turkey rearingt*									
pre-finishing and final growing period turkeyst*									
duck rearing*									
pre-finishing and final growing period ducks*									
pullet rearing*			√				√		
layers*									
Other (goose, pheasant, , guinea fowi,,etc.)*									
kind of feeding	**ad libitum**		√						
	let emptying at times only with 11-31-3568 volume reducing insert white								
	controlled		√				√		
	in rations						√		
	restrictively								
range of weight	**0 - 2,5kg**								
	0 - 3,5kg		√				√		
height of feed pan (distance between floor and upper edge pan edge) (mm))			76				61		
height of feed tube in floodposition 1 (distance between floor and lower edge tube) (mm)			206				191		
height of feed tube in floodposition 7 (distance between floor and lower edge tube) (mm)			234				219		

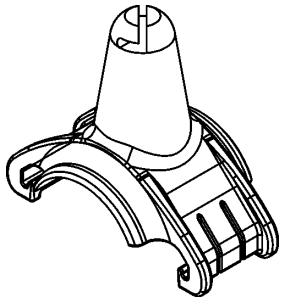
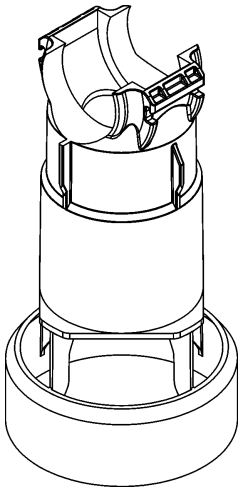
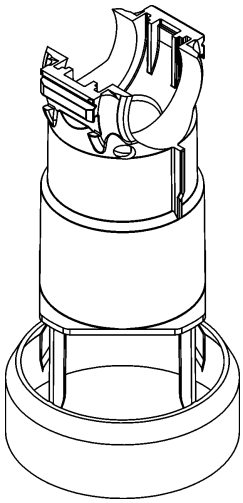
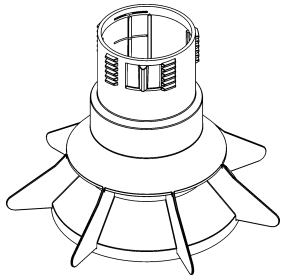
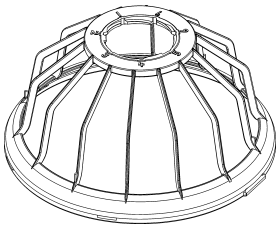
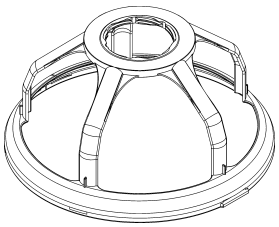
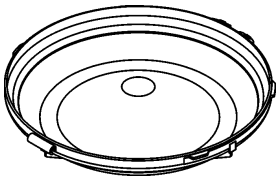
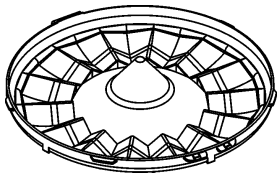
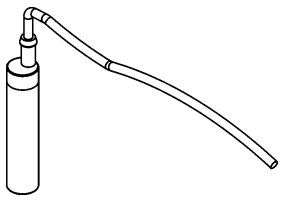
√ =suitable

4.2.1 Single components of Feed- and Control Pan Fluxx

Components			Single components	1	2	3	4	5	6	7	8	9	10	11
				Tube adapter for FLUXX 330	Cylinder inner for FLUXX 330	Cylinder inner for FLUXX 330 for sensor AFS	Cylinder outer for FLUXX 330	Grille 14-arm for feedpan ?BP/FLUXX 330	Grille 5-arm for feedpan BP/FLUXX 330	Dish BP330	Dish RPM330	Sensor AFS-01-60sec 90-250V	Protective hose 1500mm for sensor AFS-01 at TRU PAN	Strap 290mm plt3s-cs
				83-00-8718	83-00-8716	83-00-8779	83-00-8717	83-00-8545	83-00-8530	11-31-3511	11-31-3711	91-00-3905	11-31-4106	99-50-3775
mit Big-Pan Schale	11-31-4750	Feedpan cpl Fluxx 330-5 with BP dish		+	+		+		+	+				
	11-31-4700	Feedpan cpl FLUXX 330-14 with BP-dishr		+	+		+	+		+				
	11-31-4759	Control pan FLUXX 330-5 with BP-dish incl sensor AFS		+		+	+		+	+		+	+	+
	11-31-4709	Control pan FLUXX 330-14 with BP-dish incl sensor AFS		+		+	+	+		+		+	+	+
mit RPM Schale	11-31-4710	Feedpan cpl FLUXX 330-5 plus with RPM-dish		+	+		+		+		+			
	11-31-4760	Feedpan cpl FLUXX 330-14 plus with RPM-dish		+	+		+	+			+			
	11-31-4769	Control pan FLUXX 330-5 with RPM-dish incl sensor AFS		+		+	+		+		+	+	+	+
	11-31-4719	Control pan FLUXX 330-14 with RPM-dish incl sensor AFS		+		+	+	+			+	+	+	+

+ = standard

4.2.1.1 Drawings Single componentes for feed- and control pans Fluxx330

Pos 1 Code No 83-00-8718 	**Pos 2** Code No 83-00-8716 	**Pos 3** Code No 83-00-8779 
Pos 4 Code No 83-00-8717 	**Pos 5** Code No 83-00-8545 	**Pos 6** Code No 83-00-8530 
Pos 7 Code No 11-31-3511 	**Pos 8** Code No 11-31-3711 	**Pos 9** Code No 91-00-3905 

Pos numbers: see table at page 19, line 1

4.3 Survey feed- and control pan Fluxx Breeder 360

Components / Field of application	Fluxx Breeder 360			
	Rearing		Rearing and Production	
	Feed pan cpl. FXB360 for tube dia45 BB-rearing	Control pan FXB360 for tube dia45 BB-rearing incl sensor AFS	feed pan cpl FXB360 for tube dia45 BB-rearing and production	control pan cpl FXB360 for tube dia45 BB-rearing and production incl sensor AFS
	11-31-3815	11-31-3819	11-31-3810	11-31-3809
Broiler breeders (1. day of life until 20. week of age max.)	√			
Broiler breeders (1. day of life until 64. week of age)			√	
Height of feed pan (mm) (distance between floor and upper edge pan edge) (mm)	67,5		variable 67,5-85,5	
Earing window widths (mm)	not changeable		variable 34-53	
Eating window heights (mm)	not changeable		variable 57-75	

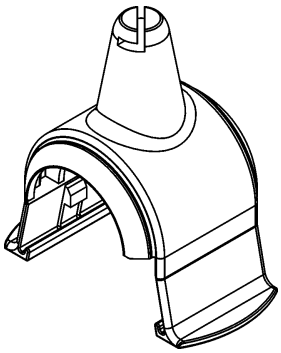
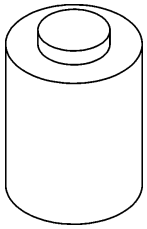
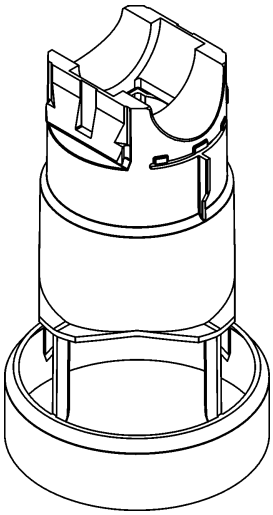
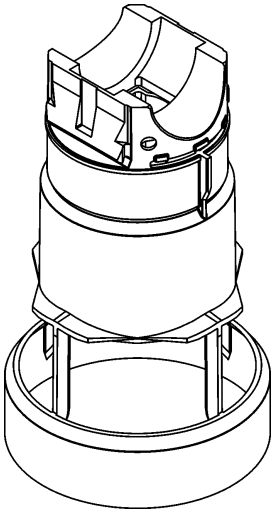
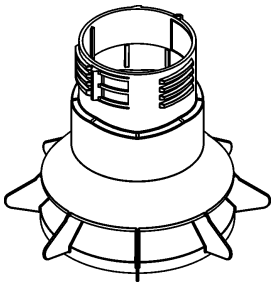
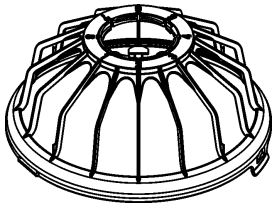
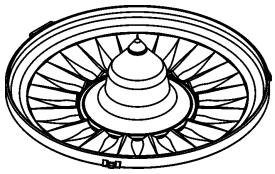
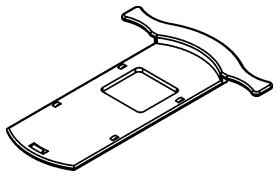
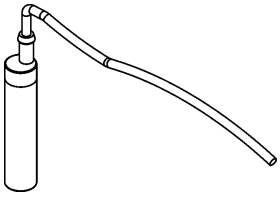
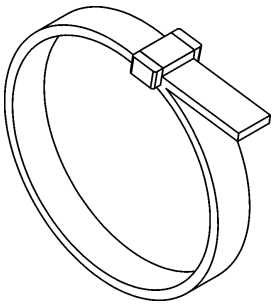
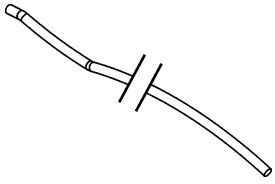
√ =suitable

4.3.1 Single components feed- and control pan Fluxx 360 rearing

Components			Pos. numbers of single components	1	2	3	4	5	7	7	8	9	10	11	12
				tube adapter for tube d45 FXB360	compression springr D-207 J-01	holding pin for tube adapter rgigly mounted	cylinder inner for tube d45 FXB360	cylinder inner for FXB360 d45 for sensor AFS	cylinder outer for FXB360	grille 16-arm f/ FXB360	dish FXB360	slide shut-offFXB360	sensor AFS-01-60sec 90-250V	strap 360mm x 4,5mm weiß	protective hose 1500mm for sensor AFS-01 at TRU PAN
				83-01-8947	11-31-3596	11-31-3597	83-01-8946	83-03-2212	83-01-6341	83-02-5351	83-01-6343	83-02-5359	91-00-3905	99-50-3775	11-31-4106
Rearing	11-31-3815	feed pan cpl FXB360 for tube d45 BE-Aufzucht		+	+	+	+		+	+	+	+			
	11-31-3819	control pan cpl FXB360 for tube d45 BB-rearing incl sensor AFS		+	+	+		+	+	+	+	+	+	+	+

+ = standard

4.3.1.1 Drawings single parts for feed- und control pan Fluxx Breeder 360 rearing

Pos 1	Pos 2	Pos 3	Pos 4
Code No 83-01-8947	Code No 11-31-3596	Code No 11-31-3597	Code No 83-01-8946
			
Pos 5	**Pos 6**	**Pos 7**	**Pos 8**
Code No 83-03-2212	Code No 83-01-6341	Code No 83-02-5351	Code No 83-01-6343
			
Pos 9	**Pos 10**	**Pos 11**	**Pos 12**
Code No 83-02-5359	Code No 91-00-3905	Code No 99-50-3775	Code No 11-31-4106
			

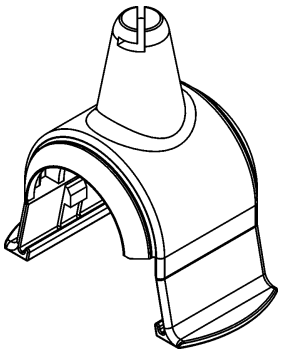
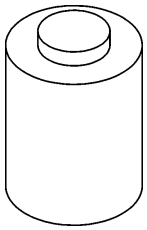
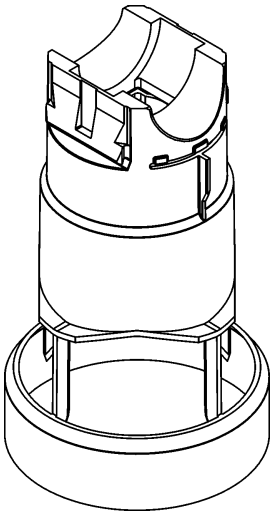
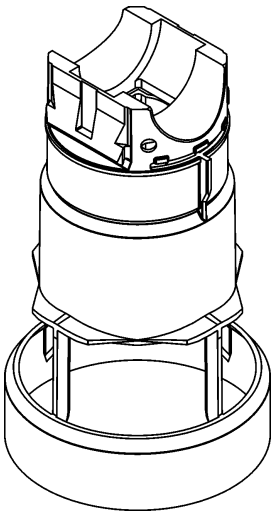
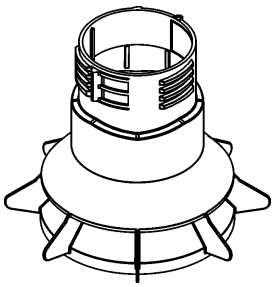
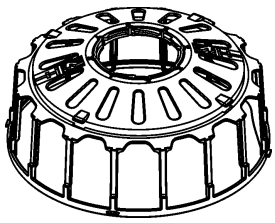
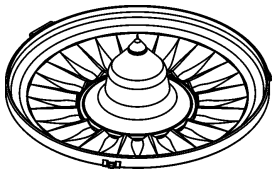
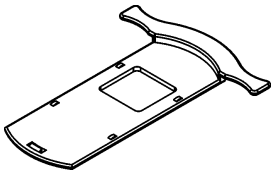
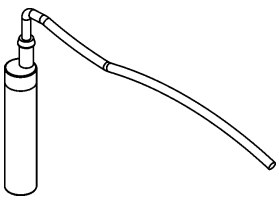
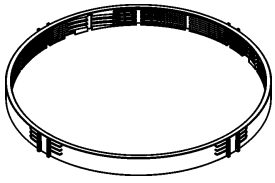
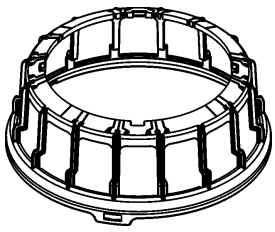
Pos numbers: see table at page 22, line 1

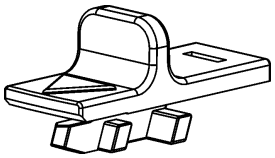
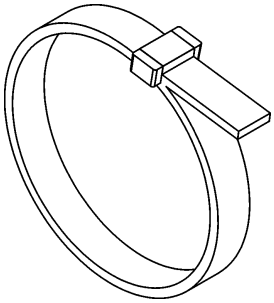
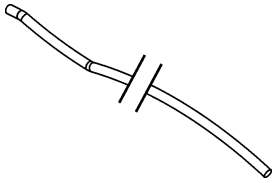
4.3.2 Single parts feed- and control pan Fluxx 360 rearing and production

		Position numbers of single components	1	2	3	4	5	7	7	8	9	10	11	12	13	14	15
		Components	83-01-8947	11-31-3596	11-31-3597	83-01-8946	83-03-2212	83-01-6341	83-01-6339	83-01-6343	83-02-5359	91-00-3905	83-01-6344	83-01-6340	83-01-6345	11-31-4106	99-50-3775
			tube adapter for tube d45 FXB360	compression spring D-207 J-01	holding pin for tube adapter rigidly mounted	cylinder inner for tube d45 FXB360	cylinder inner for FXB360 d45 for sensor AFS	cylinder outer for FXB360	grille inner for FXB 360	dish FXB360	slide shut-off FXB360	sensor AFS-01-60sec 90-250V	levelling ring FO for FXB360	grille outer for FXB360	locking slide for FXB360	protective hose 1500mm for sensor AFS-01 at TRU PAN	strap 360mm x 4,5mm white
Rearing and Production	11-31-3810	feed pan cpl FXB360 for tube d45 BB-rearing and production	+	+	+	+		+	+	+	+		+	+	+		
Rearing and Production	11-31-3809	control pan cpl. FXB360 for tuber d45 BB-rearing and production incl sensor AFS	+	+	+		+	+	+	+	+	+	+	+	+	+	+

+ = standard

4.3.2.1 Drawings single components feed- and control pans Fluxx Breeder 360 rearing and production

Pos 1	**Pos 2**	**Pos 3**	**Pos 4**
Code No 83-01-8947	Code No 11-31-3596	Code No 11-31-3597	Code No 83-01-8946
			
Pos 5	**Pos 6**	**Pos 7**	**Pos 8**
Code No 83-03-2212	Code No 83-01-6341	Code No 83-01-6339	Code No 83-01-6343
			
Pos 9	**Pos 10**	**Pos 11**	**Pos 12**
Code No 83-02-5359	Code No 91-00-3905	Code No83-01-6344	Code No 83-01-6340
			

Pos 13	**Pos 14**	**Pos 15**
Code No 83-01-6345	Code No 99-50-3775	Code No 11-31-4106
		

Pos numbers: see table at page 24, line 1

4.4 Assembling a feed line

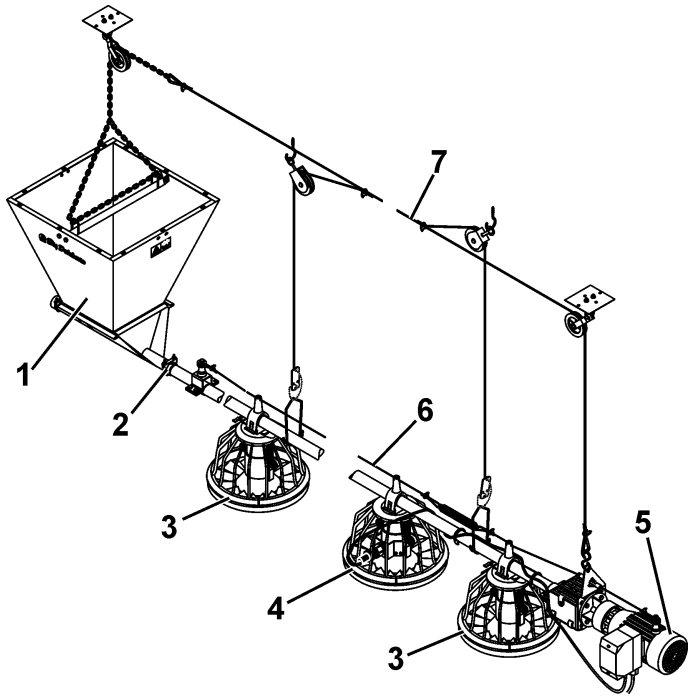


Figure 4-1: Feed line with feed hopper 1-line

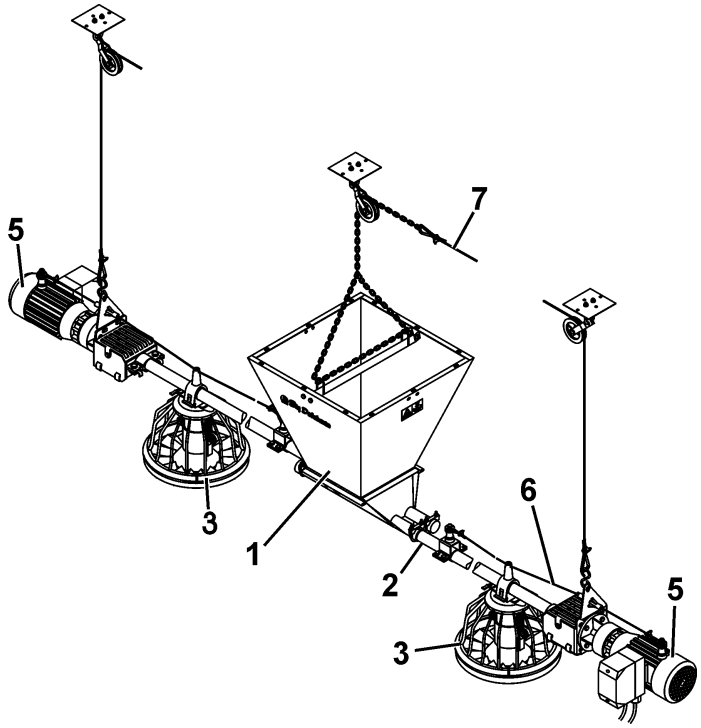


Figure 4-2: Feed line with feed hopper 2-lines central

1= Feed hopper with extension	2= Tubes with auger	3= Feed pan
4= Feed pan with sensor	5= AM drive	6= Anti-roost wire
7= Suspension		

4.5 System description

The Big Dutchman Augermatic with its different feed pans is a special pan feeding system meeting the requirements of day-old chicks as well as grown-up broilers, layers, ducks or turkeys.

Since the birds, on the one hand have the genetic predisposition to realise enormous weight gains while, on the other hand, the production of brooder eggs is an important factor as well, special demands are made regarding the feeding procedure.

4.6 Everyday operation

During daily operation, the quality of a feeding system becomes obvious. Daily work in the house should be restricted to the most important and most necessary work. Feeding should only be a "marginal" occupation to keep control times for the feeding systems as short as possible.

- Rapid height adjustment of the feeding system must be possible!
  Optimum height adjustment of the feed pans is extremely important for the birds. A too low adjustment of the feed pans leads to increased feed losses and feed soiling. If feed pans are adjusted too high, birds are impeded during feeding consumption which can lead to deformations of the skeleton.

  For the height of the feed pans, the following rule-of-thumb generally applies: Height of the birds' backs = height of the pan rim.

4.7 Cleaning, maintenance and care

- For cleaning, the feeding system has to be brought into an optimum working position.

  For fast and efficient cleaning with a high-pressure cleaner, the feeding system has to be brought to an optimum working height by means of a winch.

- The feed pans should have a cleaning position.

  When the feed pans are in their cleaning position, make sure that the holes in the Augermatic tubes are closed so that water cannot intrude.

  The feed pans and the entire feeding system is so stable, that cleaning with a high-pressure cleaner is possible without any damages.

- The expenditure for maintenance and care of the feeding has to be as small as possible.

  Drives are equipped with good, solid gear motors which hardly need any maintenance. A possible oil change has to be carried out according to the producer's instructions (see sticker on the gear motor).

  Further measures of maintenance and care except for cleaning have to be restricted to some checks as the adjustment of the control sensors, practicability of the drive motors and the winch system.

4.8 System layout

Keeping to and taking into consideration of the layout parameters ensures optimum adaptation of the feeding system to the respective building. This will avoid to the biggest possible extent a short supply of feed to certain areas of the house.

- The maximum length of a feed line depends on the type of installation.
- The distance between two feed lines is max. 6 metres.
  The optimum range for the birds is approximately 2,5 m on each side of the feed line.
- Number of birds per feed pan

  The number of birds per feed pan depends on the management system and on the birds' final weight.

5 General planning instructions

	Calculation of the respective feed pans: Number of tubes x number of holes/tube less 1 control pan per line.

Passage height with raised feeding system

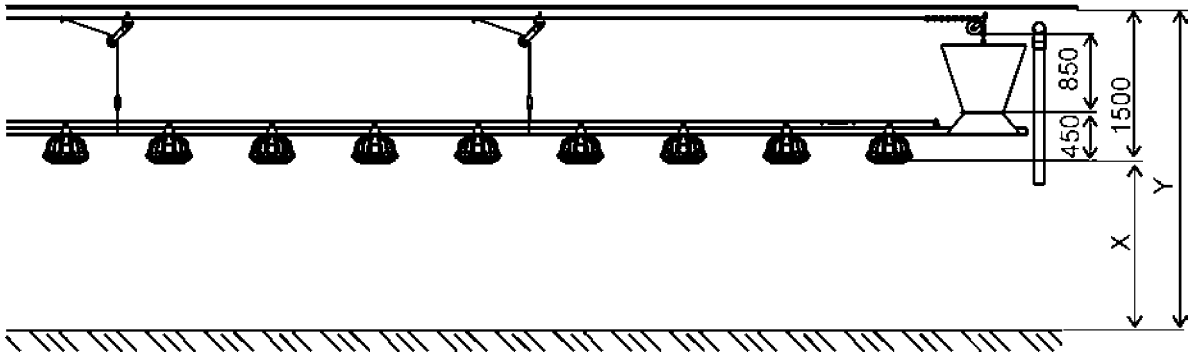


Figure 5-1: passage height

All dimensions in mm

The dimension 1500 is an approximate value and depens on the hook length.

X = passage height (ceiling height - 1500mm)

Y = ceiling height

5.1 Planning instructions for AUGERMATIC Big Pan 330/Plus

Für broilers, pullets and layers.

5.1.1 Planning aids for evaluating the total lifting load for suspended lines

Basic unit tube 2-holes with feed pans + feed:	13,2 kg/pc
Basic unit tube 3-holes with feed pans + feed:	15,9 kg/pc
Basic unit tube 4-holes with feed pans + feed:	18,3 kg/pc
Feed hopper + feed:	90,0 kg/pc
Drive	20,0 kg/pc

If halving of loads is applied, only half of the calculated total weight has to be considered for selecting the cable winch. .

5.1.2 Planning aid for evaluating the number of lines and pans

In general:

number of feed lines:	1 line per 4-6m house width

5.1.3 Recommended numbers of birds

5.1.3.1 Big Pan 330

11 31 3501 Feed pan cpl. BP330 without shut-off

11 31 3530 Feed pan cpl. BP330 with shut-off

for ad libitum feeding of broilers:	
weight range:	0-3,5 kg
number of birds per pan:	(125 : desired final weight) + 20
	e.g.: 125:1,25 kg/bird + 20 = 120 birds/pan

for rationed feeding of pullets and layers:	
weight range:	1,3-1,5 kg
number of birds per pan:	45-60 pullets
weight range:	1,8-2,2 kg
number of birds per pan:	30-45 layers

5.1.3.2 Big Pan 330-Plus

11 31 3701 Feed pan cpl. BP330-Plus without shut-off

11 31 3730 Feed pan cpl. BP330-Plus with shut-off

for ad libitum feeding of broilers or rationed feeding of pullets and layers:	
weight range:	0-3,5 kg
number of birds per pan:	(125 : desired final weight) + 20
	e.g.: 125:1,25 kg/bird + 20 = 120 birds/pan

for rationed feeding of pullets and layers:	
weight range:	1,3-1,5 kg
number of birds per pan:	45-60 pullets
weight range:	1,8-2,2 kg
number of birds per pan:	30-45 layers

for rationed feed of broilers:	
number of birds per pan:	calculate approx. 25-30 % less birds per pan

5.1.4 Drives for Augermatic BP

The permissible operating voltage as to be complied with. If voltage fluctuation or particularly low voltage is to be expected, choose the next higher power stage.

Code-No.	Description	Max. length of line (m)	Operating voltage (V)
11-31-4552	**Drive 0,37 kW 230/400V 50 Hz AM5 wo/ sensor with switch box**	**120**	**400**
	alternatives for drive 11-31-4552:		
11-31-4502	drive 0,37 kW 230V 1PH 50 Hz AM5 wo/ sensor with switch box	90	230
11-31-4512	drive 0,37 kW 230/400V 60 Hz AM5 wo/ sensor with switch box	125	400
11-31-4652	**drive 0,55 kW 230/400V 50 Hz AM5 wo/ sensor with switch box**	**145**	**360-400**
	alternatives for drive 11-31-4652:		
11-31-4602	drive 0,55 kW 230V 1PH 50Hz AM5 wo/ sensor with switch box	120	220-240
11-31-4612	drive 0,55 kW 230/400V 60 Hz AM5 wo/ sensor with switch box	150	360-400
11-31-4613	drive 0,55 kW 200V 3PH 60Hz AM5 wo/ sensor with switch box	145	200
11-31-4653	drive 0,55 kW 200V 3Ph 50 Hz AM5 wo/ sensor with switch box	145	200

5.2 Planning instructions for AUGERMATIC Fluxx

Für broilers, pullets and layers.

5.2.1 Planning aids for evaluating the total lifting load for suspended lines

With Big Pan dish (BP) at maximum feed filling:

Basic unit tube 2-holes with feed pans + feed:	15,2 kg/pc
Basic unit tube 3-holes with feed pans + feed:	18,5 kg/pc
Basic unit tube 4-holes with feed pans + feed:	22,0 kg/pc
feed hopper + feed:	90,0 kg/line
drive	20,0 kg/line

With Repromatic (RPM) at maximum feed filling:

Basic unit tube 2-holes with feed pans + feed:	14,0 kg/pc
Basic unit tube 3-holes with feed pans + feed:	16,7 kg/pc
Basic unit tube 4-holes with feed pans + feed:	19,4 kg/pc
Feed hopper + feed:	90,0 kg/line
drive	20,0 kg/line

If halving of loads is applied, only half of the calculated total weight has to be considered for selecting the cable winch. .

5.2.2 Planning aid for evaluating the number of lines and pans

In general:

number of feed lines:	1 line per 4-6m house width

5.2.3 Recommended numbers of birds

11-31-4700 Feed pan cpl FLUXX 330-14 with BP-dish

11-31-4750 Feed pan cpl FLUXX 330-5 with BP-dish

11-31-4710 Feed pan cpl FLUXX 330-14 plus with RPM-dish

11-31-4760 Feed pan cpl FLUXX 330-5 plus with RPM-dish

for ad libitum feeding of broilers:	
weight range:	0-3,5 kg
number of birds per pan:	bis 1,5 kg final weigth = 100 birds bis 2,0 kg final weight = 85 birds bis 2,5 kg final weight = 70 birds bis 3,0 kg final weight = 66 birds bis 3,5 kg final weight = 55 birds

for rationed feeding of pullets and layers	
weight range:	1,3-1,5 kg
number of birds per pan:	45-60 pullets
weight range:	1,8-2,2 kg
number of birds per pan:	30-45 layers

5.2.4 Drives for Augermatic Fluxx

The permissible operating voltage as to be complied with. If voltage fluctuation or particularly low voltage is to be expected, choose the next higher power stage.

Code-No.	Description	Max. length of line (m)	Operating voltage (V)
11-31-4552	**Drive 0,37 kW 230/400V 50 Hz AM5 wo/ sensor with switch box**	**120**	**400**
	alternatives for drive 11-31-4552:		
11-31-4502	drive 0,37 kW 230V 1PH 50 Hz AM5 wo/ sensor with switch box	90	230
11-31-4512	drive 0,37 kW 230/400V 60 Hz AM5 wo/ sensor with switch box	125	400
11-31-4652	**drive 0,55 kW 230/400V 50 Hz AM5 wo/ sensor with switch box**	**145**	**360-400**
	alternatives for drive 11-31-4652:		
11-31-4602	drive 0,55 kW 230V 1PH 50Hz AM5 wo/ sensor with switch box	120	220-240
11-31-4612	drive 0,55 kW 230/400V 60 Hz AM5 wo/ sensor with switch box	150	360-400
11-31-4613	drive 0,55 kW 200V 3PH 60Hz AM5 wo/ sensor with switch box	145	200
11-31-4653	drive 0,55 kW 200V 3Ph 50 Hz AM5 wo/ sensor with switch box	145	200

5.3 Planning instructions for AUGERMATIC Multi Pan 330

For turkeys, broilers and ducks

5.3.1 Planning aids for evaluating the total lifting load for suspended lines

Basic unit tube 2-holes with feed pans + feed:	14,7 kg/pc
Basic unit tube 3-holes with feed pans + feed:	18,3 kg/pc
Basic unit tube 4-holes with feed pans + feed:	21,6 kg/pc
Feed hopper + feed:	90,0 kg/pc
drive	20,0 kg/pc

If halving of loads is applied, only half of the calculated total weight has to be considered for selecting the cable winch. .

5.3.2 Planning aid for evaluating the number of lines and pans

In general:

number of feed lines:	1 line per 4-6m house width

5.3.3 Recommended numbers of birds

5.3.3.1 Multi Pan330 - Plus

11 31 3565 Feed pan cpl. MP330-Plus with shut-off and RPM-dish

for ad libitum feeding of broilers, turkeys and ducks	
weight range:	0-2,0 kg
number of birds per pan:	(125 / desired final weight) + 20 e.g.: (125:1,25 kg/bird) + 20 = 120 birds/pan
weight range:	2,0 kg -7,0 kg
number of birds per pan:	95-(5 x desired final weight) z.B.: 95-(5x5kg/bird) = 70 birds/pan
weight range:	7,0 kg -12,0 kg
number of birds per pan:	(250 / desired final weight) + 25 z.B.: (250 / 10,0 kg/bird) + 25 = 50 birds/pan

for rationed feeding:	
number of birds per pan:	calculate approx. 25-30 % less birds per pan

5.3.3.2 Multi Pan 330

11 31 3570 Feed pan cpl. MP330 without shutt-off with MP-dish

11 31 3560 Feed pan cpl. MP330 without shut-off with MP-dish

for ad libitum feeding of turkeys and ducks:	
weight range:	0-2,5 kg
number of birds per pan:	(125 : desired final weight) + 20 e.g.: 125:1,25 kg/bird + 20 = 120 birds/pan

11 31 3555 feed pan cpl. MP330 with shut-off and BP-dish

for ad libitum feeding of broilers, turkeys and ducks:	
weight range:	0-2,0 kg
number of birds per pan:	(125 / desired final weight) + 20 z.B.: (125:1,25 kg/bird) + 20 = 120 birds/pan
weight range:	2,0 kg -7,0 kg
number of birds per pan:	95-(5 x desired final weight) z.B.: 95-(5x5kg/bird) = 70 birds/pan
weight range:	7,0 kg -12,0 kg
number of birds per pan:	(250 / desired final weight) + 25 z.B.: (250 / 10,0 kg/bird) + 25 = 50 birds/pan

5.3.4 Drives for Augermatic Multi Pan

The permissible operating voltage as to be complied with. If voltage fluctuation or particularly low voltage is to be expected, choose the next higher power stage.

Code-No.	Description	Max. length of line (m)	Operating voltage (V)
11-31-4552	**Drive 0,37 kW 230/400V 50 Hz AM5 wo/ sensor with switch box**	**120**	**400**
	alternatives for drive 11-31-4552:		
11-31-4502	drive 0,37 kW 230V 1PH 50 Hz AM5 wo/ sensor with switch box	90	230
11-31-4512	drive 0,37 kW 230/400V 60 Hz AM5 wo/ sensor with switch box	125	400
11-31-4652	**drive 0,55 kW 230/400V 50 Hz AM5 wo/ sensor with switch box**	**145**	**360-400**
	alternatives for drive 11-31-4652:		
11-31-4602	drive 0,55 kW 230V 1PH 50Hz AM5 wo/ sensor with switch box	120	220-240
11-31-4612	drive 0,55 kW 230/400V 60 Hz AM5 wo/ sensor with switch box	150	360-400
11-31-4613	drive 0,55 kW 200V 3PH 60Hz AM5 wo/ sensor with switch box	145	200
11-31-4653	drive 0,55 kW 200V 3Ph 50 Hz AM5 wo/ sensor with switch box	145	200

5.4 Planning instructions for AUGERMATIC Fluxx Breeder 360

For broiler breeders.

5.4.1 Planning aids for evaluating the total lifting load for suspended lines

Basic unit tube 2-holes with feed pans + feed:	14,2 kg/pc
Basic unit tube 3-holes with feed pans + feed:	17,8 kg/pc
Basic unit tube 4-holes with feed pans + feed:	21,8 kg/pc
drive (all types)	20,0 kg/pc
Feed hopper 1 line + feed:	90,0 kg/pc
Feed hopper 2 line + feed:	90,0 kg/pc
Hopper extension 48 ltr.:	32,0 kg/pc

If halving of loads is applied, only half of the calculated total weight has to be considered for selecting the cable winch. .

5.4.2 Recommended numbers of birds

5.4.2.1 Fluxx Breeder rearing (FXB360AZ)

For rearing of broiler breeders (1. day of life up to 20. week of age max.). Males and females can be fed together or separately as requested.

Day-old chicks:	16,5 birds / pan
10. week:	16 birds / pan
20. week:	15 birds / pan

5.4.2.2 Fluxx Breeder rearing and production (FXB360)

For rearing of broiler breeders (0 to 18. week of age) with following laying phase (approx. 18. to 64. week of age). (= "day-old-to-death")

Day-old chicks:	16,5 birds / pan
10. week:	16 birds / pan
20. week:	15 birds / pan

5.4.3 Feed quantities in the pans

The following feed quantities grammes per pan are applicable to the FXB360 rearing/production as well as for FXB360/rearing

5.4.3.1 Feed quantities in grammes per pan with non-flooded pan

	Position of the outer cylinder with non-flooded pan								
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Density	**750 kg/m³**	502	540	569	601	646	721	756	831
	650 kg/m³	435	468	493	521	560	625	655	720
	550 kg/m³	368	396	417	441	474	529	554	609

5.4.3.2 Feed quantities in grammes per pan with flooded pan

	Position of the outer cylinder with flooded pan								
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Density	**750 kg/m³**	817	847	882	978	1065	1133	1290	1402
	650 kg/m³	708	734	764	848	923	982	1118	1215
	550 kg/m³	599	621	646	718	781	831	946	1028

5.4.4 Dimensions of eating window with Fluxx Breeder 360 rearing - production

Possible combination of eating window width and eating window height

	Width (mm)										
		34	**38**	**40**	**43**	**44**	**45**	**46**	**47**	**48**	**50**	**53**
Height (mm)	**55**	√	√	√	√	√	√	√	√	√	√	√
	61	√	√	√	√	√	√	√	√	√	√	√
	67	√	√	√	√	√	√	√	√	√	√	√
	73	√	√	√	√	√	√	√	√	√	√	**AZ**

√ = adjustment is possible

AZ= Dimensions of eating windows in case of rearing

5.4.5 Drives for Augermatic Fluxx Breeder 360 (FXB360 / FXB360 AZ)

The permissible operating voltage as to be complied with. If voltage fluctuation or particularly low voltage is to be expected, choose the next higher power stage.

Code-No.	Description	Max. length (m)	Operating voltage (V)
11-03-3752	drive 0,55 kW 230/400V 50 Hz AM5 Rapid Rooster without sensor	60	230/400
11-03-3702	drive 0,75 kW 230V 1PH 50 Hz AM5 Rapid Rooster without sensor	60	230
	For central alignment: 2x per line		
11-03-3752	drive 0,55 kW 230/400V 50 Hz AM5 Rapid Rooster without sensor	2x60	230/400
11-03-3702	drive 0,75 kW 230V 1PH 50 Hz AM5 Rapid Rooster without sensor	2x60	230

5.5 Planning instructins for AUGERMATIC Male Pan

For males of broiler breeders

5.5.1 Planning aids for evaluating the total lifting load for suspended lines

Basic unit tube 2-holes with feed pans + feed:	11,1 kg/pc
Basic unit tube 3-holes with feed pans + feed:	14,7 kg/pc
Basic unit tube 4-holes with feed pans + feed:	18,3 kg/pc
Drive (all types)	20,0 kg/line
Feed hopper 1 line + feed:	90,0 kg/line
Feed hopper 2 lines + feed:	90,0 kg/line
Hopper extension:	32,0 kg/line

If halving of loads is applied, only half of the calculated total weight has to be considered for selecting the cable winch. .

5.5.2 Planning aid for evaluating the number of lines and pans

In general:

Numer of feed lines:	1 line per 6-9m house width.

5.5.3 Recommended numbers of birds

11 31 3585 Feed pan cpl. MalePan with shut-off and BP-dish

11 31 3590 Feed pan cpl. MalePan-plus with shut-off and RPM-dish

for restricted feeding of broiler breeder males:	
Number of birds per pan:	7-9 birds/pan (MalePan) 7-8 birds/pan (MalePan plus)

5.5.4 Drives for Augermatic Male Pan

The permissible operating voltage as to be complied with. If voltage fluctuation or particularly low voltage is to be expected, choose the next higher power stage.

Male Pan with daily lowering of the filled feed pans:

Code-No.	Description	Max. length of line (m)	Operating voltage (V)
11-31-4552	**Drive 0,37 kW 230/400V 50 Hz AM5 wo/ sensor with switch box**	**120**	**400**
	For central alignment: 2x per line		
11-31-4552	drive 0,37 kW 230/400V 50 Hz AM5 wo/ sensor with switch box	2x120	400
	Alternatives for drive 11-31-4552:		
11-31-4502	drive 0,37 kW 230V 1PH 50 Hz AM5 wo/ sensor with switch box	90	230
11-31-4512	drive 0,37 kW 230/400V 60 Hz AM5 wo/ sensor switch box	125	400
11-31-4652	**Drive 0,55 kW 230/400V 50 Hz AM5 wo/ sensor with switch box**	**145**	**360-400**
	For central alignment: 2x per line		
11-31-4652	drive 0,55 kW 230/400V 50 Hz AM5 wo/ sensor with switch box	2x145	360-400
	Alternatives for drive 11-31-4652:		
11-31-4602	drive 0,55 kW 230V 1PH 50Hz AM5 wo/ sensor with switch box	120	220-240
11-31-4612	drive 0,55 kW 230/400V 60 Hz AM5 wo/ sensor with switch box	150	360-400

Code-No.	Description	Max. length of line (m)	Operating voltage (V)
11-31-4613	drive 0,55 kW 200V 3PH 60Hz AM5 wo/ sensor with switch box	145	200
11-31-4653	drive 0,55 kW 200V 3Ph 50 Hz AM5 wo/ sensor with switch box	145	200

Male Pan without daily lowering of the filled feed pans

(with Rapid Rooster drive)

Code-No.	Description	Max. length of line (m)	Operating voltage (V)
11-03-3752	drive 0,55 kW 230/400V 50 Hz AM5 Rapid Rooster without sensor	75	230/400
11-03-3702	drive 0,75 kW 230V 1PH 50 Hz AM5 Rapid Rooster without sensor	75	230
	For central alignment: 2x per line		
11-03-3752	drive 0,55 kW 230/400V 50 Hz AM5 Rapid Rooster without sensor	2x75	230/400
11-03-3702	drive 0,75 kW 230V 1PH 50 Hz AM5 Rapid Rooster without sensor	2x75	230

6 Technical data

Lower part and upper part of feed hopper:	content approx. 115 liter / 75 kg
Extension for feed hopper:	content approx. 38 liter / 25 kg
Drive unit with gear motor:	0,37/ 0,55 kW, 230/400V 50 Hz, 3 phases, 325 rpm
Conveying capacity:	approx. 450 kg/h
Size of pellets:	up to 4 mm

BIG PAN 330 and BIG PAN PLUS:	
Material:	polypropylene, recyclable
Rim height BIG PAN 330:	76 mm
Rim height BIG PAN Plus:	61 mm
Pan diameter:	330 mm

FLUXX:	
Material:	polypropylene, recyclable
Rim height BIG PAN dish:	76 mm
Rim height RPM-dish:	51 mm
Pan diameter:	330 mm

MULTI PAN and MULTI PAN PLUS:	
Material:	polypropylene, recyclable
Rim height MULTI PAN with MP-dish:	46 mm
Rim height MULTI PAN with BP-dish:	76 mm
Rim height MULTI PAN and BP-dish with collar:	132 mm
Rim height MULTI PAN and RPM-dish:	46 mm
Rim height MULTI PAN and RPM-dish with collar:	102 mm
Pan diameter without collar:	330 mm
Pan diameter with collar:	430 mm

MALE PAN and MALE PAN PLUS:	
Material:	polypropylene, recyclable
Rim height MALE PAN with BP-dish:	76 mm
Rim height MALE PAN PLUS and RPM-dish:	46 mm
Pan diameter without collar:	330 mm

FLUXX Breeder 360 (rearing):	
Material:	polypropylen, recyclable
Rim heigt:	67,5 mm
Pan diameter:	366 mm

FLUXX Breeder 360 (rearing and production):	
Material:	polypropylene, recyclable
Rim height:	67,5 - 85,5 mm
Pan diameter:	366 mm

During feeding, the **Big Dutchman Augermatic** systems creates a sound level < 70 dB (A).

6.1 Dimensions of feed pans

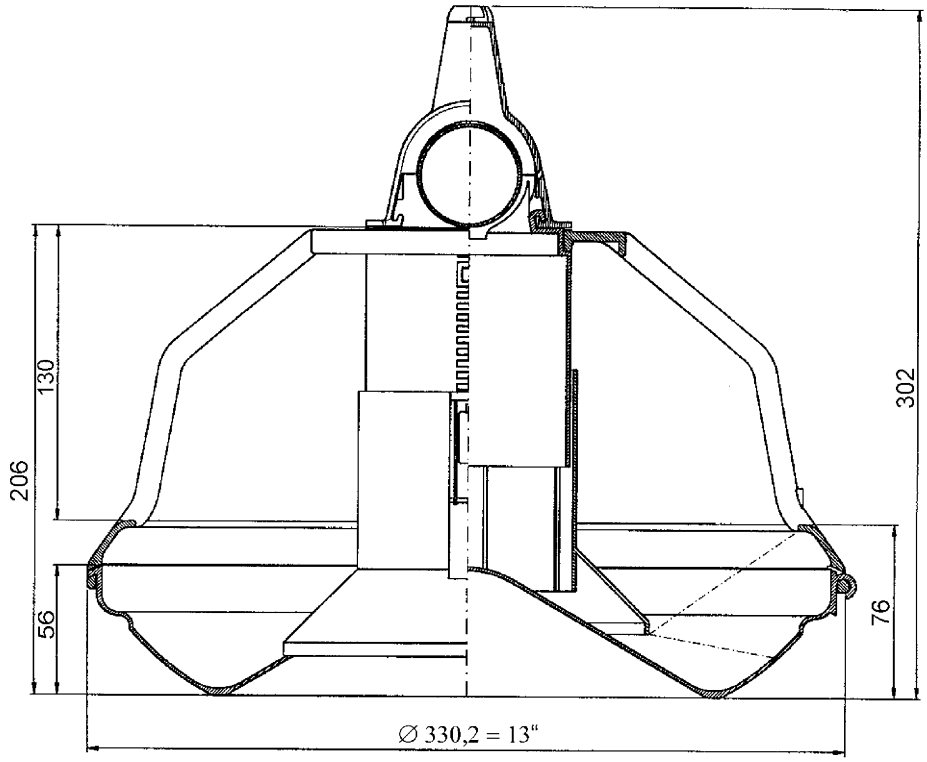


Figure 6-1: 11-31-3501 BP330 without shut-off

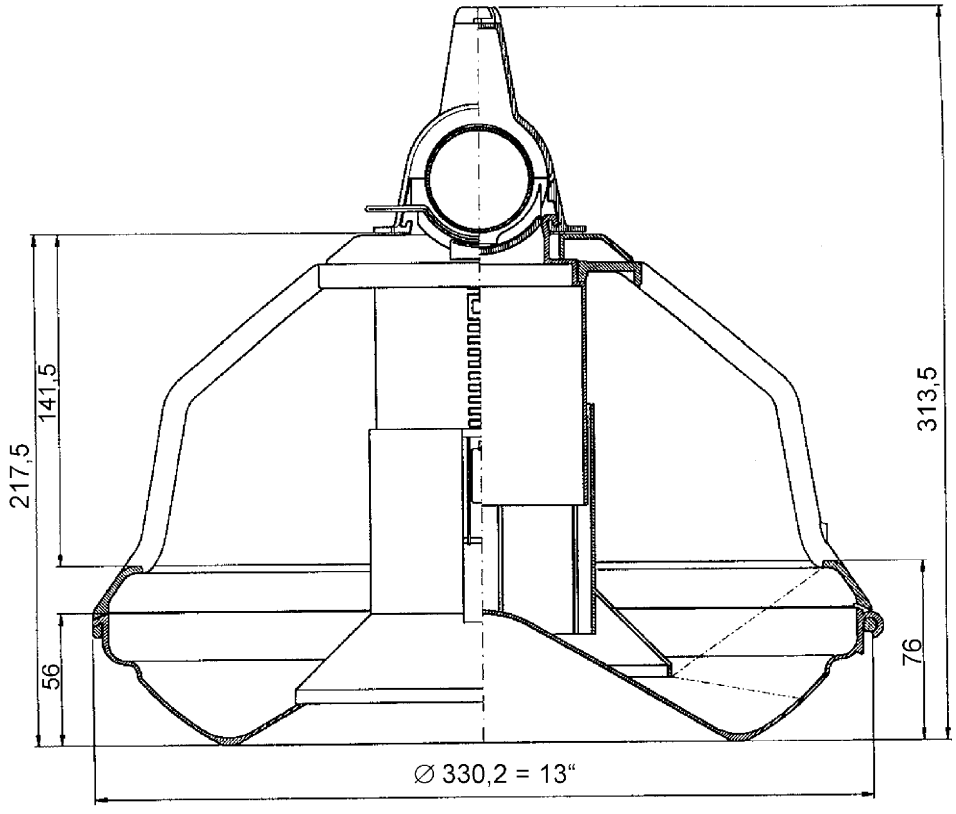


Figure 6-2: 11-31-3530 BP330 with shut-off

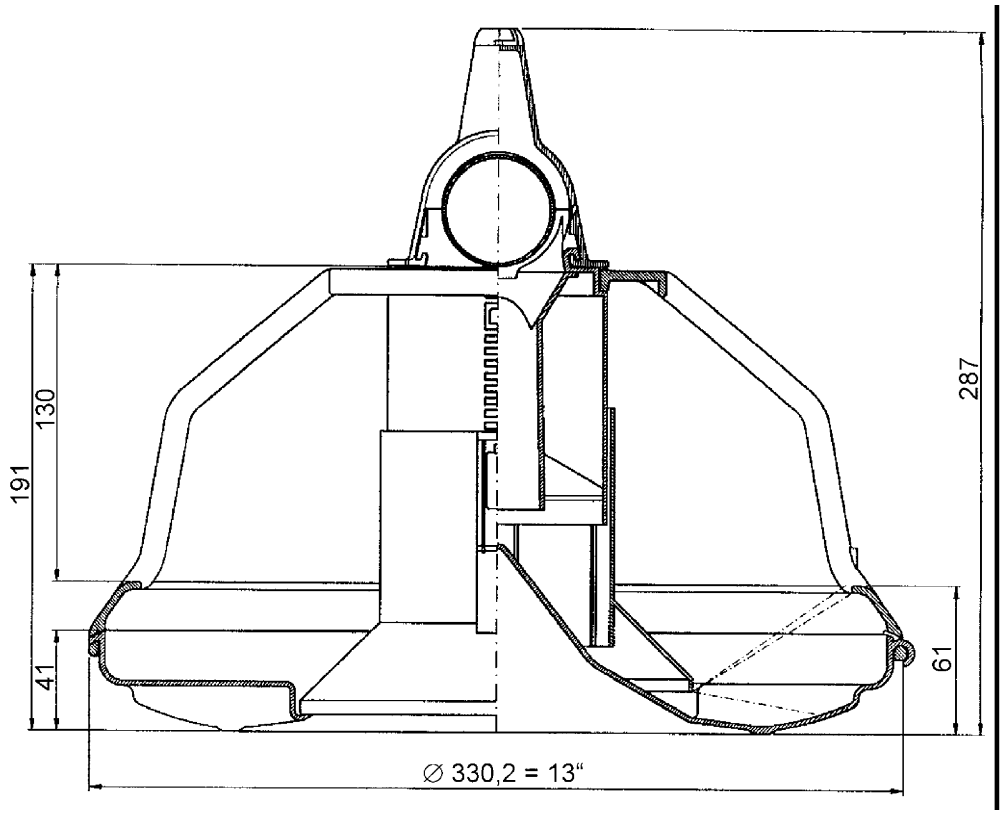


Figure 6-3: 11-31-3701 BP330-Plus without shut-off

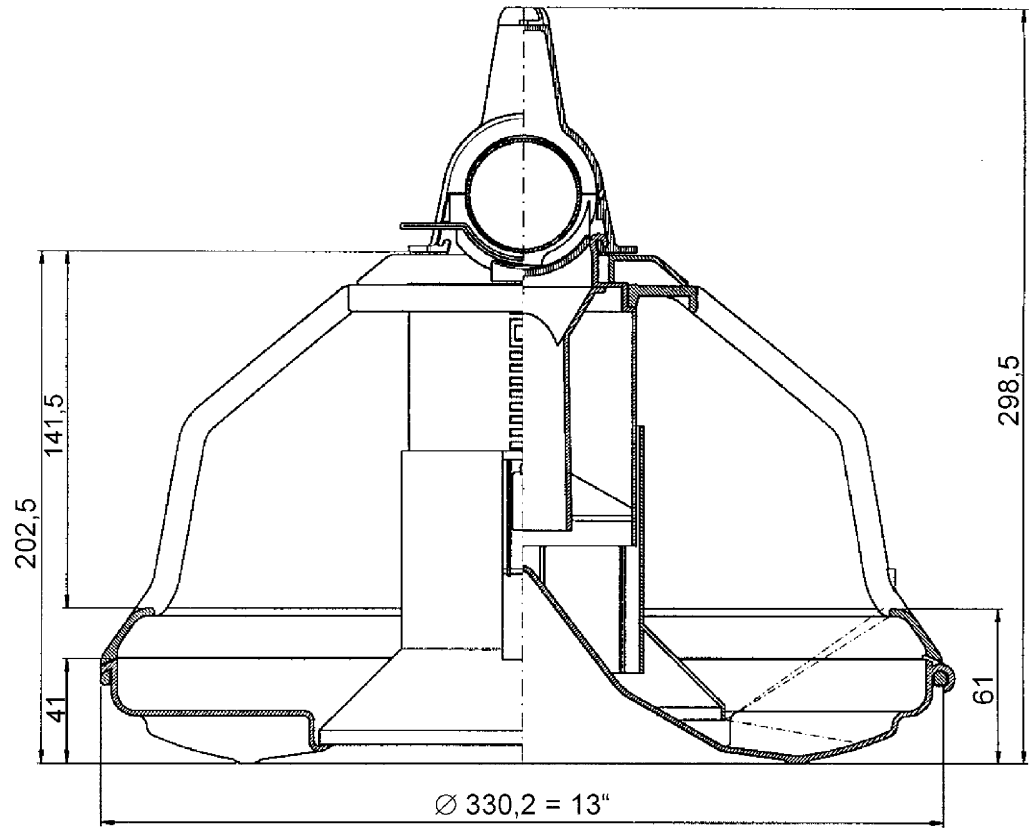


Figure 6-4: Abb. 741.07 11-31-3730 BP330-Plus with shut-off

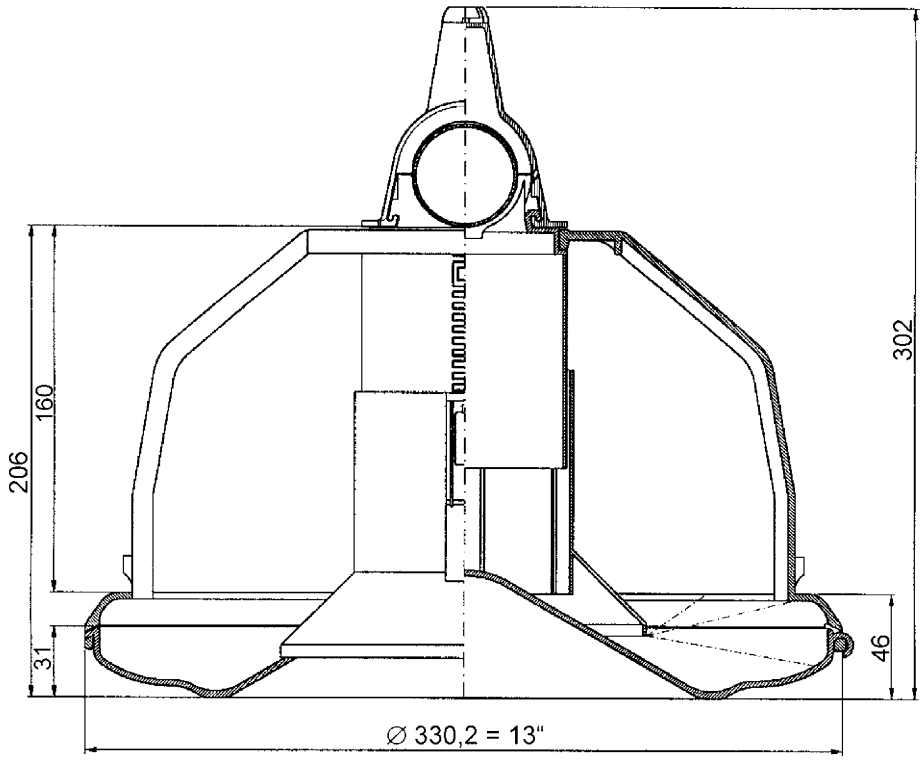


Figure 6-5: 11-31-3570 MP330 without shut-off with MP-dish

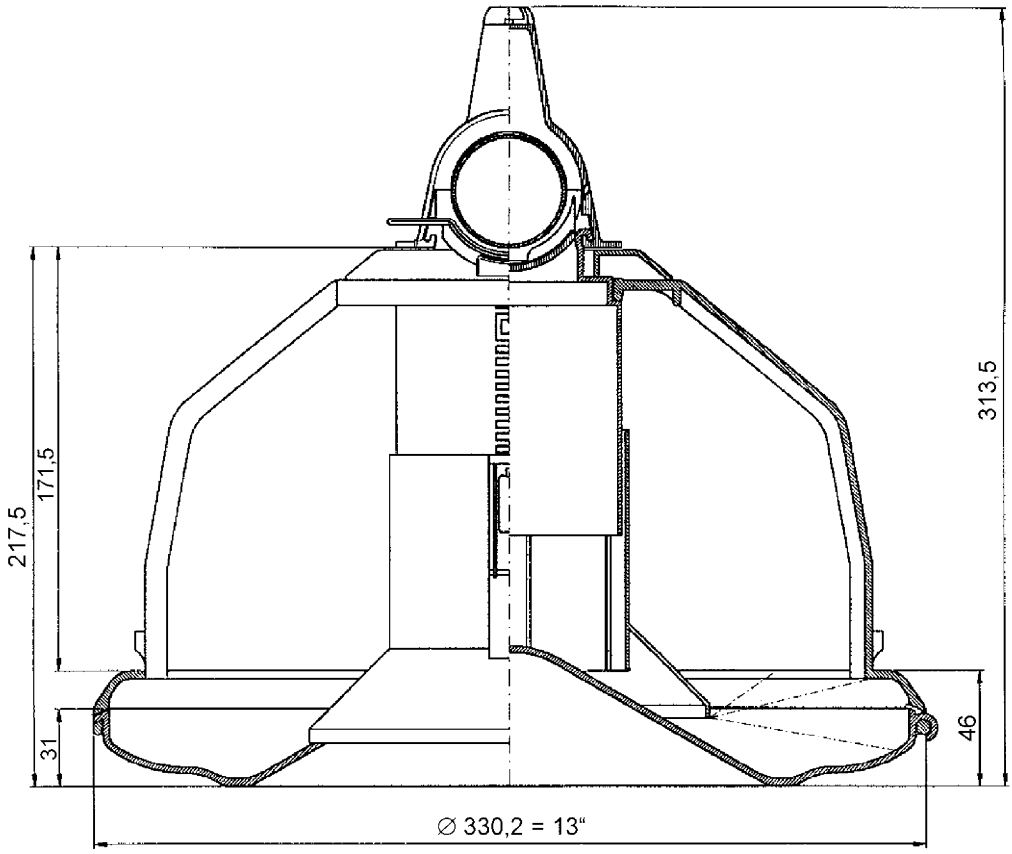


Figure 6-6: 11-31-3560 MP330 with shut-off and MP-dish

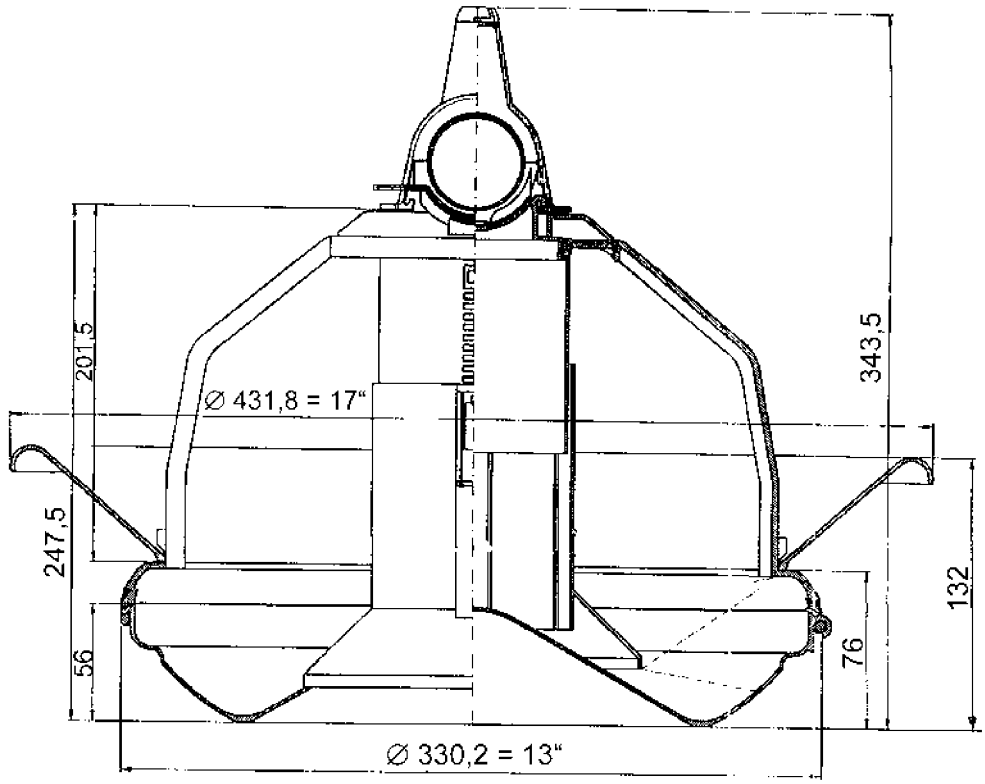


Figure 6-7: 11-31-3555 MP330 with shut-off and BP-dish, feed saving collar = optional

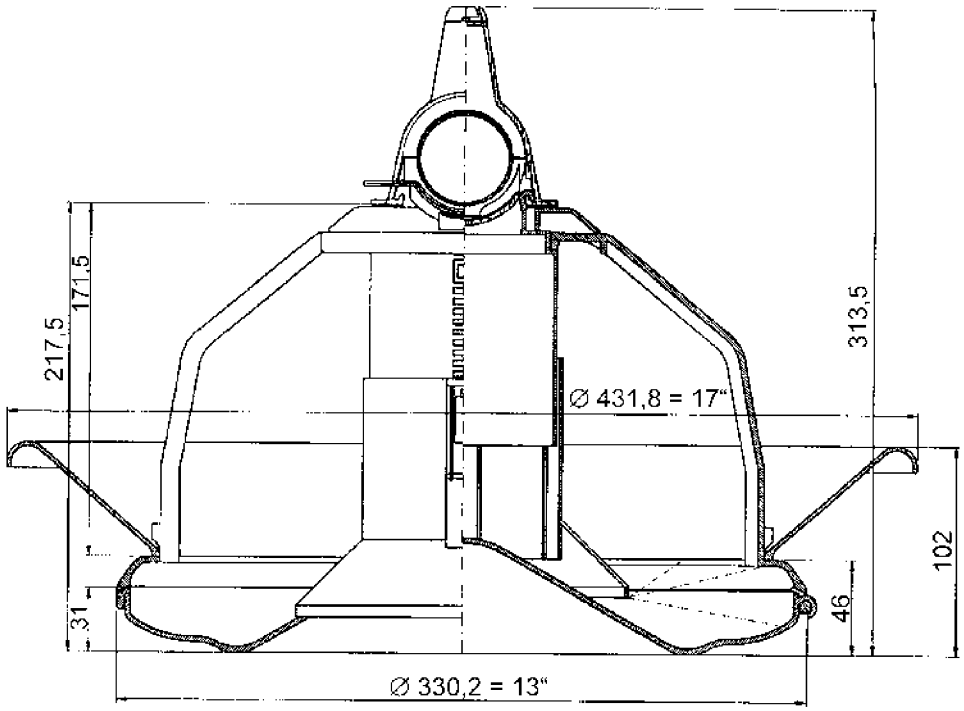


Figure 6-8: 11-31-3565 MP330 plus with shut-off and rpm-dish, feeding saving collar = optional

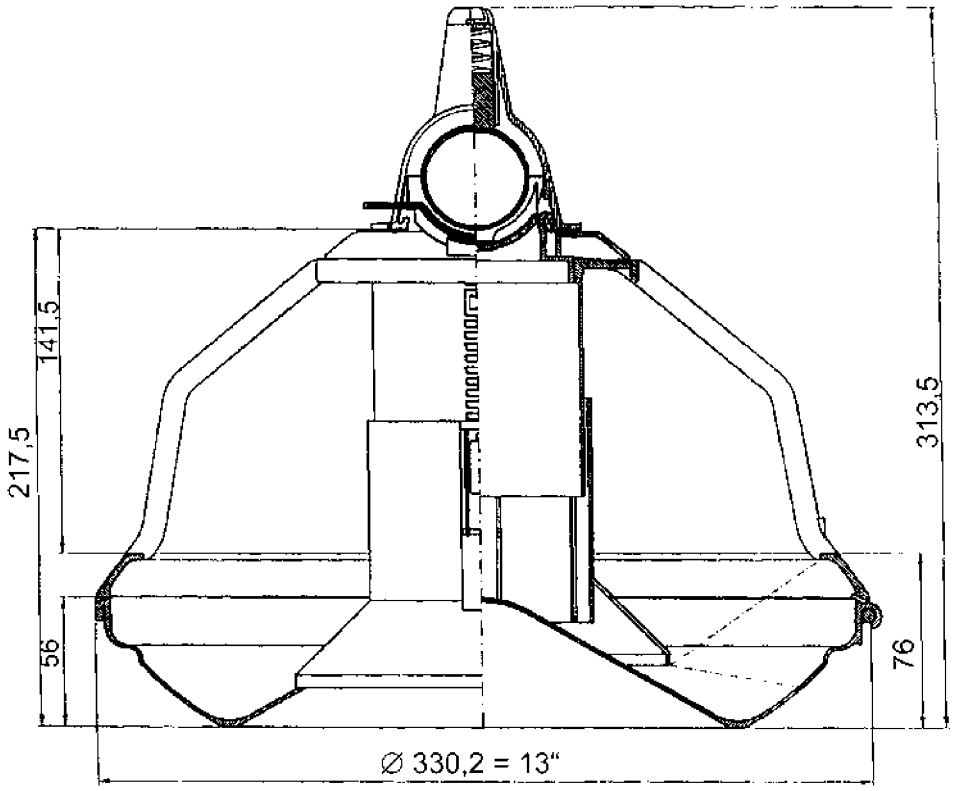


Figure 6-9: 11-31-3585 MalePan with shut-off and BP-dish

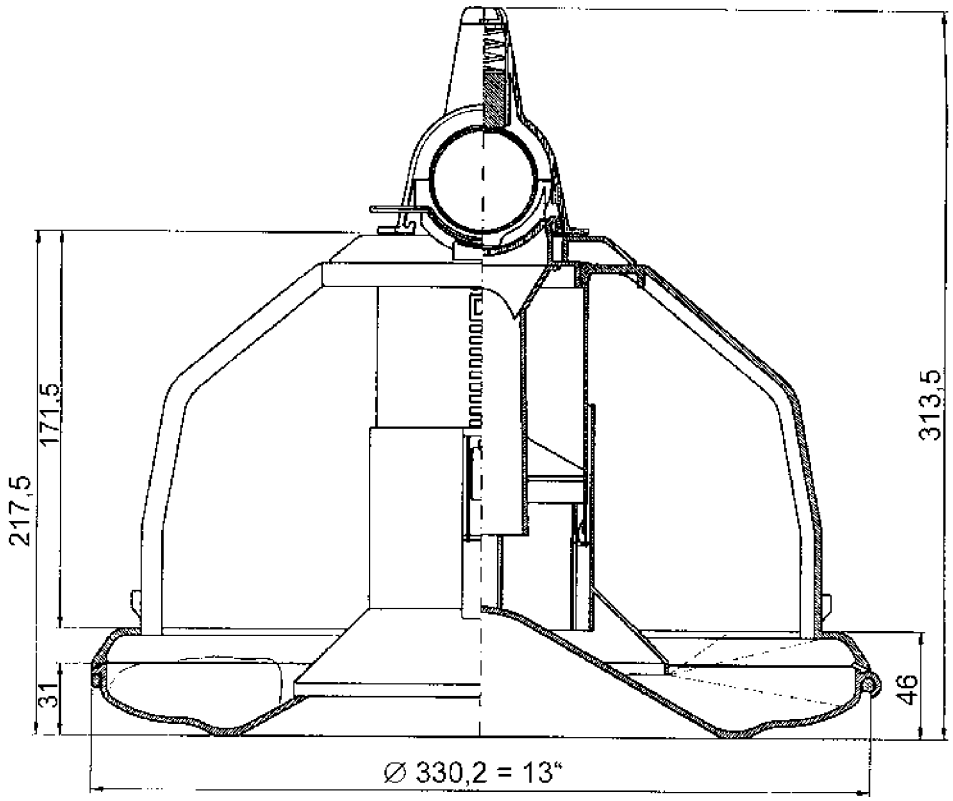
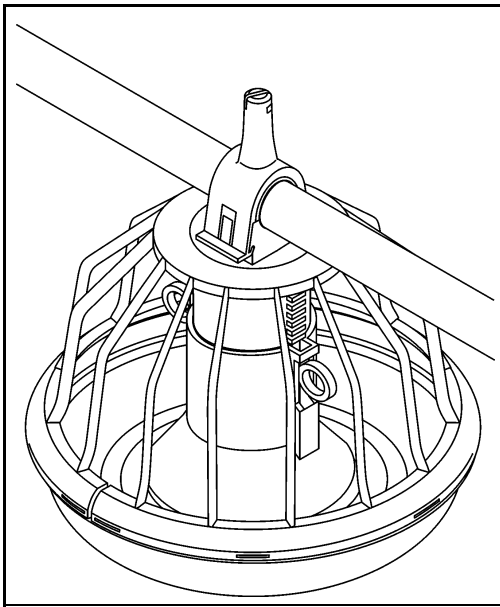


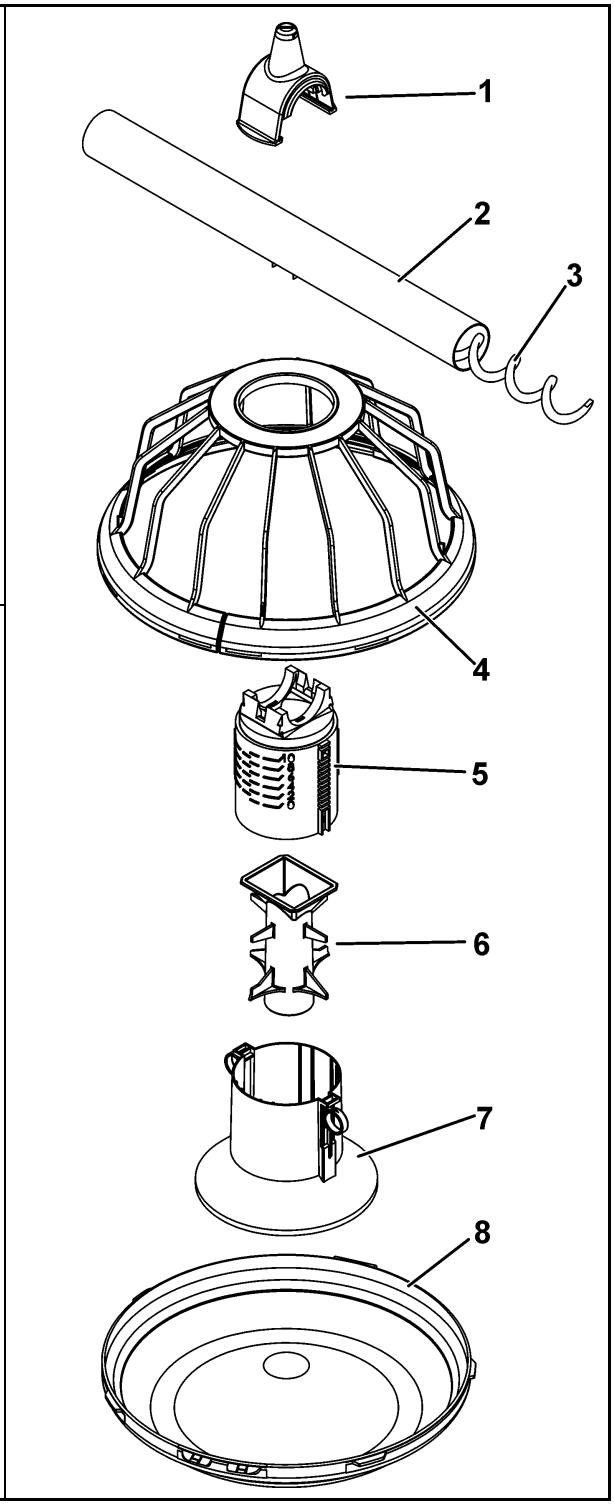
Figure 6-10: 11-31-3590 MalePan plus with shut-off and RPM-dish

7 Parts lists for feed and control pans

7.1 Big Pan 330

7.1.1 Feed pan cpl BP330 without shut-off (11-31-3501)



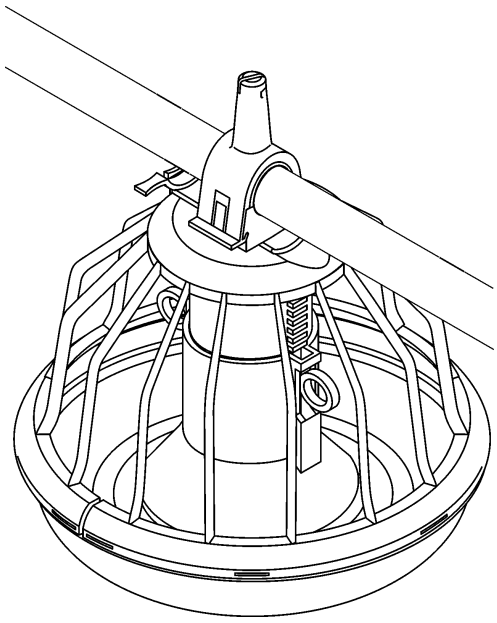


1. 11 31 3515
   Tube adapter for BP/MP330
2. *11 31 3522
   Tube 45x1,25-3050 2-holes BP330
   11 31 3523
   Tube 45x1,25-3050 3-holes BP330
   11 31 3524
   Tube 45x1,25-3050 4-holes BP330
3. *11 31 3238
   Auger HD AM
4. 11 31 3512
   Grille f/feedpan BP330
5. 11 31 3513
   Cylinder inner for "BP/MP330 wo/shut-off"
6. **11 31 3568
   Volume reducing insert white MP/RPM330
7. 11 31 3514
   Cylinder outer for "BP/MP/RPM330/ MalePan"
8. 11 31 3511
   Dish BP330

* do not belong to fed pan cpl.
** available as an optional extra

Figure 7-1: Feed pan BP330 without shut-off

7.1.2 Feed pan cpl BP330 with shut-off (11 31 3530)



1. 11 31 3515
   Tube adapter for BP/MP330
2. *11 31 3522
   Tube 45x1,25-3050 2holes BP330
   11 31 3523
   Tube 45x1,25-3050 3holes BP330
   11 31 3524
   Tube 45x1,25-3050 4holes BP330
3. *11 31 3238
   Auger HD AM
4. 11 31 3536
   Slide shut off BP/MP330
5. 11 31 3537
   Guide ring for shut off BP/MP330
6. 11 31 3512
   Grille f/feed pan BP330
7. 11 31 3533
   Cylinder inner for "BP/MP330 with shut-off"
8. **11 31 3568
   Volume reducing insert white MP/RPM330
9. 11 31 3514
10. Cylinder outer for "BP/MP/RPM330/ MalePan"
11. 11 31 3511
    Dish BP330

* do not belong to feed pan cpl.

** available as an optional extra

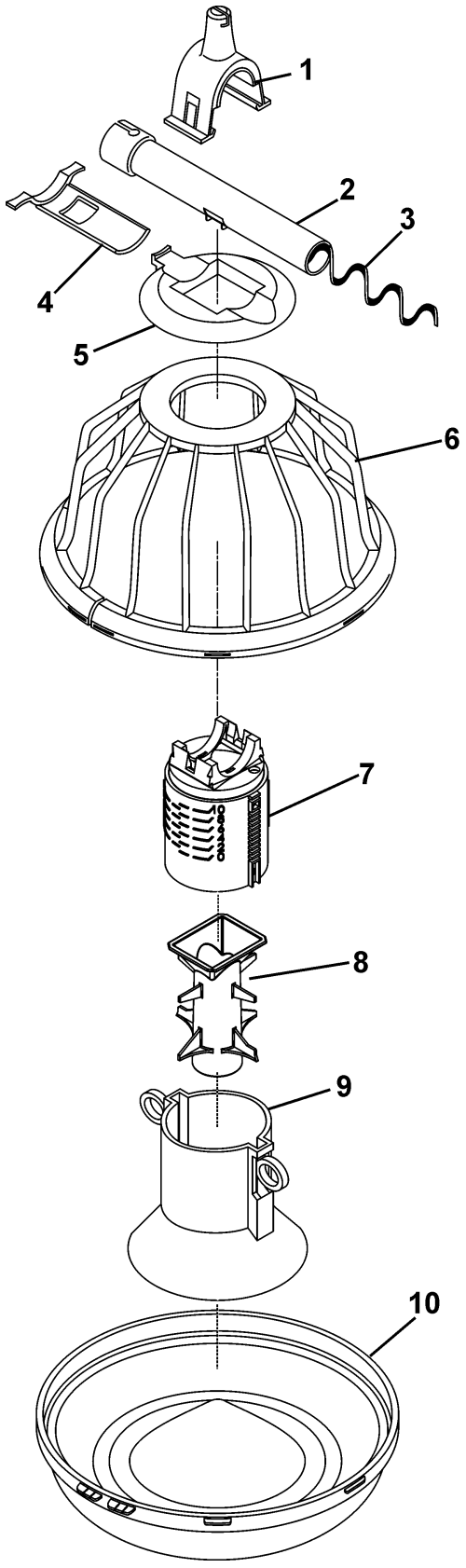
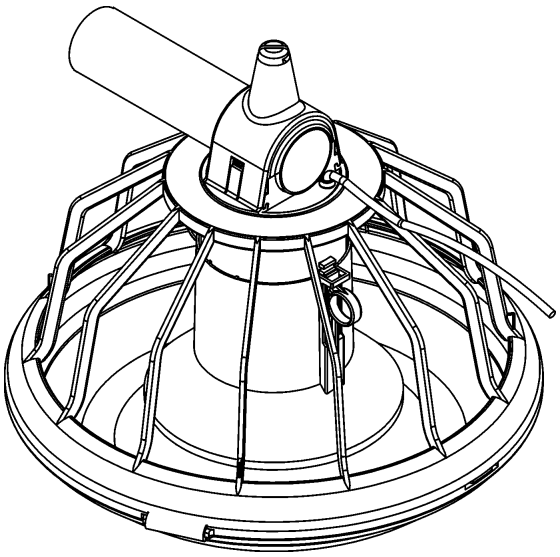


Figure 7-2: Feed pan BP330 with shut-off

7.1.3 Control pan cpl. BP330 incl. sensor AFS (11 31 3552)



1. 11 31 3515
   Tube adapter for BP/MP330
2. *11 31 3522
   Tube 45x1,25-3050 2holes BP330
   11 31 3523
   Tube 45x1,25-3050 3holes BP330
   11 31 3524
   Tube 45x1,25-3050 4holes BP330
3. *11 31 3238
   Auger HD AM
4. 11 31 3512
   Grille f/feed pan BP330
5. 11 31 3516
   Cylinder inner for "BP/MP330 without shut-off for sensor AFS
6. 91 00 3905
   Sensor AFS-01-60sec 90-250V
7. 11 31 3514
   Cylinder outer for "BP/MP/RPM330/ MalePan"
8. 11 31 3511
   dish BP330

* do not belong to feed pan cpl.

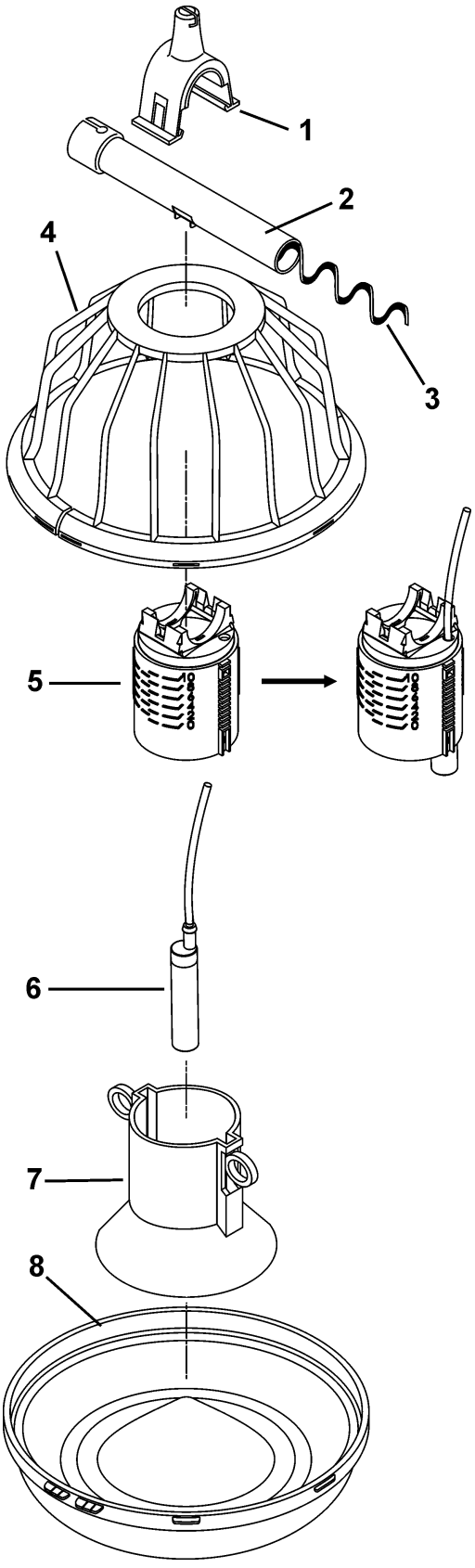
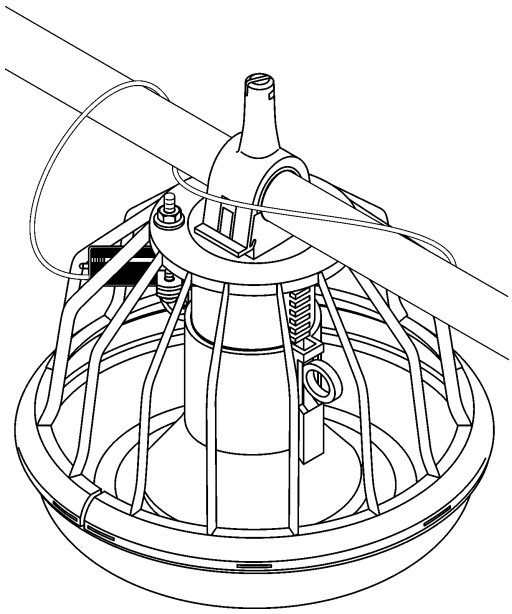
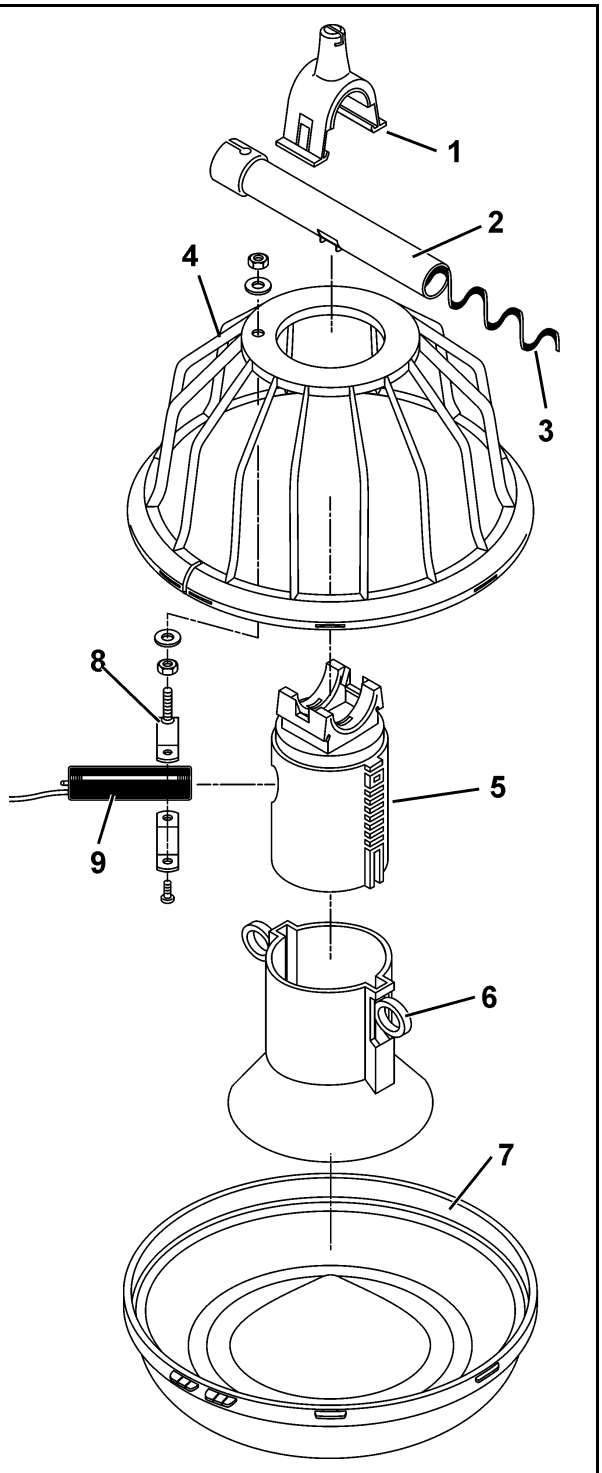


Figure 7-3: Control pan BP330 incl. sensor AFS

7.1.4 Control pan BP330 incl Sensor MS45R (11 31 3553)



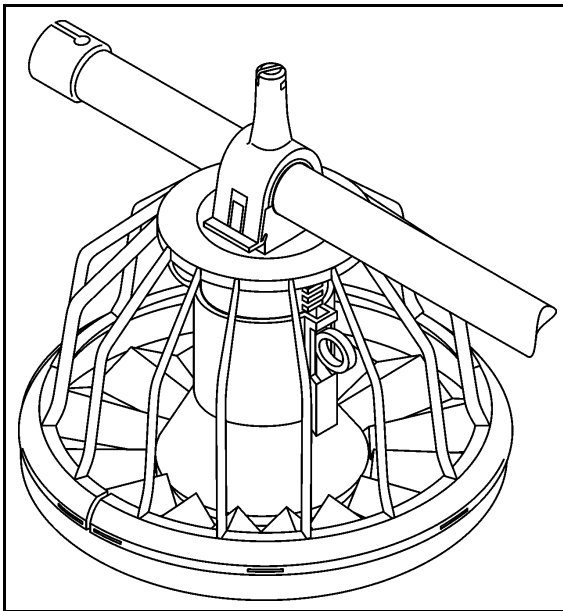


1. 11 31 3515
   Tube adapter for BP/MP330
2. *11 31 3522
   Tube 45x1,25-3050 2holes BP330
   11 31 3523
   Tube 45x1,25-3050 3holes BP330
   11 31 3524
   Tube 45x1,25-3050 4holes BP330
3. *11 31 3238
   Auger HD AM
4. made from 11 31 3512
   Grille f/feed pan BP330
5. made from: 11 31 3513
   Cylinder inner for "BP/MP330 without shut-off"
6. 11 31 3514
   Cylinder outer for "BP/MP/RPM330/ MalePan"
7. 11 31 3511
   dish BP330
8. 11 31 3572
   Support cpl for sensor DOL-33R- BP330
9. 60-40-0754
   Sensor MS-45R 220V threaded

* do not belong to feed pan cpl.

Figure 7-4: Control pan BP330 incl Sensor MS45R

7.1.5 Feed pan cpl. BP330-Plus without shut-off (11 31 3701)



1. 11 31 3515
   Tube adapter for BP/MP330
2. *11-31-3523
   Tube 45x1,25-3050 3holes BP330
   11-31-3522
   Tube 45x1,25-3050 2holes BP330
3. *11 31 3238
   Auger HD AM
4. 11 31 3512
   Grille for feed pan BP330
5. 11 31 3513
   Cylinder inner for "BP/MP330 without shut-off"
6. 11 31 3518
   Volume reducing insert orange BP330-Plus
7. 11 31 3514
   Cylinder outer for "BP/MP/RPM330/ MalePan"
8. 11 31 3711
   dish RPM330

* do not belong to feed pan cpl.

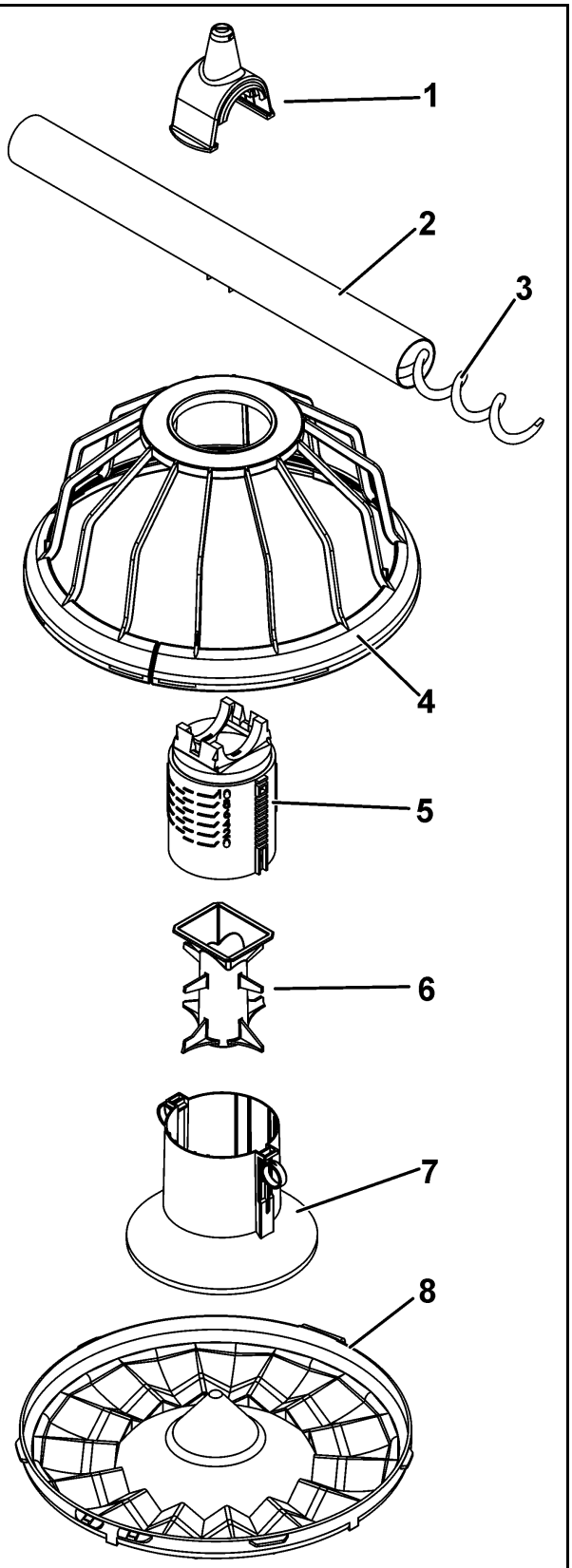
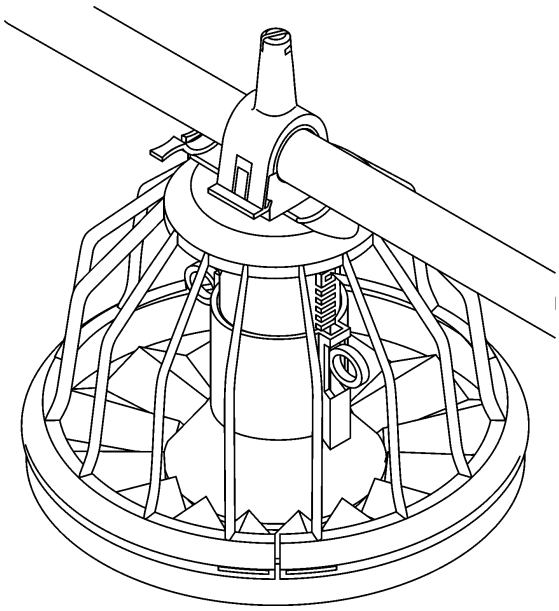


Figure 7-5: Feed pan BP330-Plus without shut-off

7.1.6 Feed pan cpl BP330-Plus with shut-off (11 31 3730)



1. 11 31 3515
   Tube adapter for BP/MP330
2. *11-31-3523
   Tube 45x1,25-3050 3holes BP330
   11-31-3522
   Tube 45x1,25-3050 2holes BP330
3. *11 31 3238
   Auger HD AM
4. 11 31 3536
   Slide shut off BP/MP330
5. 11 31 3537
   Guide ring for shut off BP/MP330
6. 11 31 3512
   Grille f/feed pan BP330
7. 11 31 3533
   Cylinder inner for "BP/MP330 with shut-off"
8. 11 31 3518
   Volume reducing insert orange BP330-Plus
9. 11 31 3514
   Cylinder outer for "BP/MP/RPM330/ MalePan"
10. 11 31 3711
    dish RPM330

* do not belong to feed pan cpl.

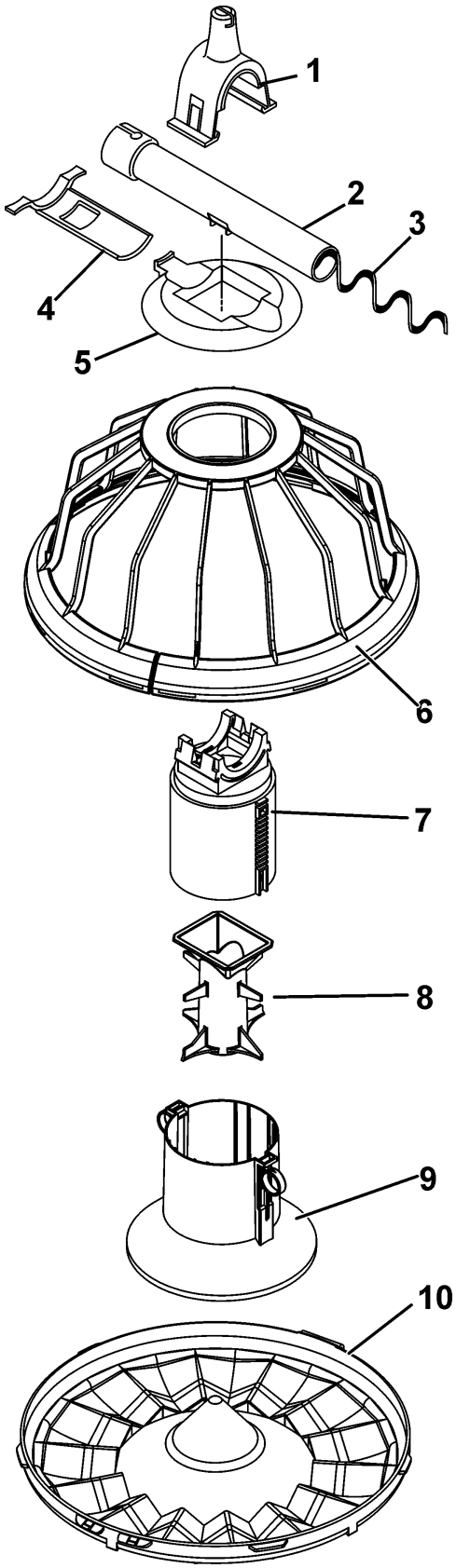
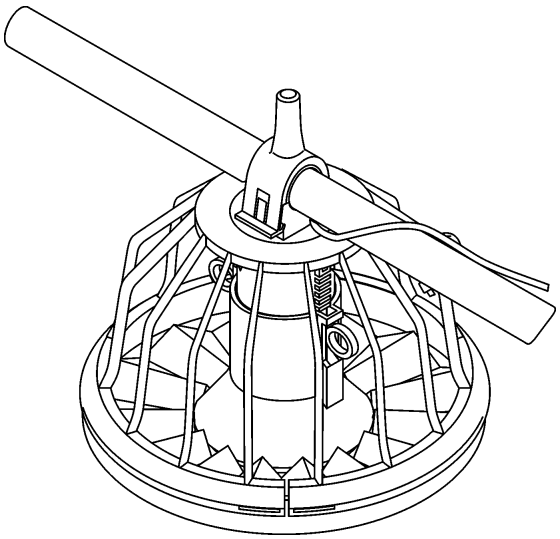
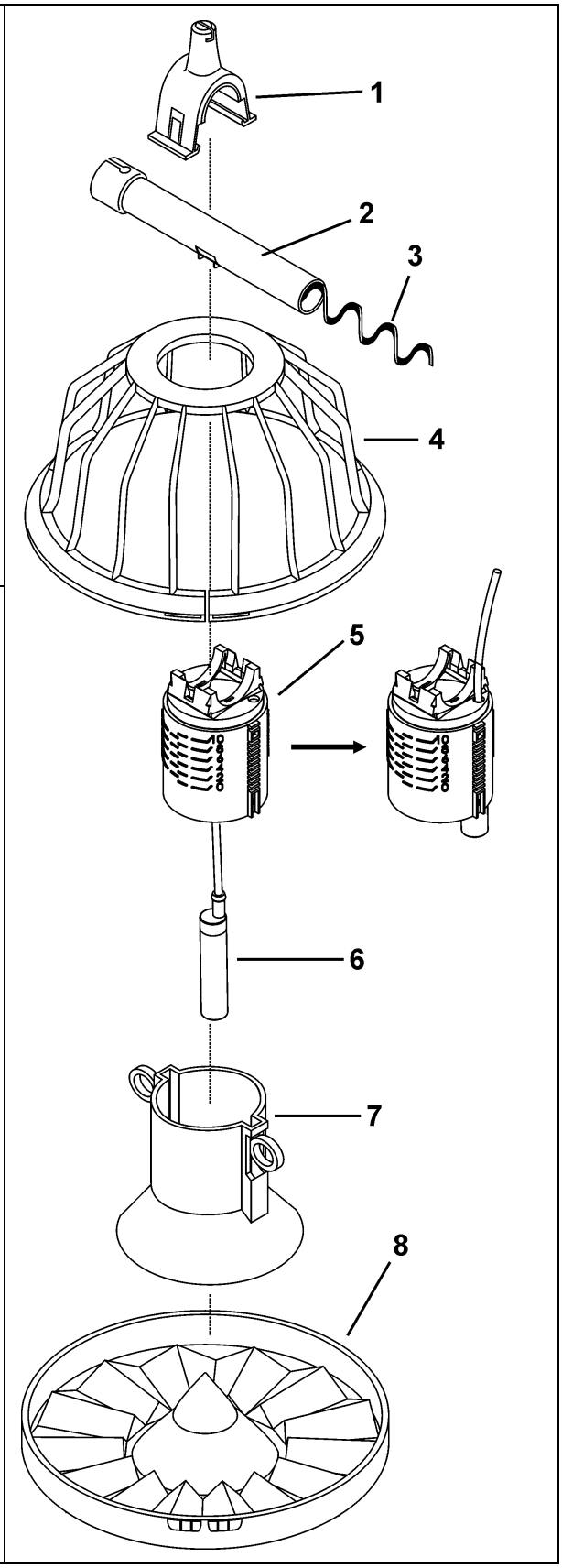


Figure 7-6: Feed pan BP330-Plus with shut-off

7.1.7 Control pan cpl. BP330-Plus incl. Sensor AFS (11 31 3732)





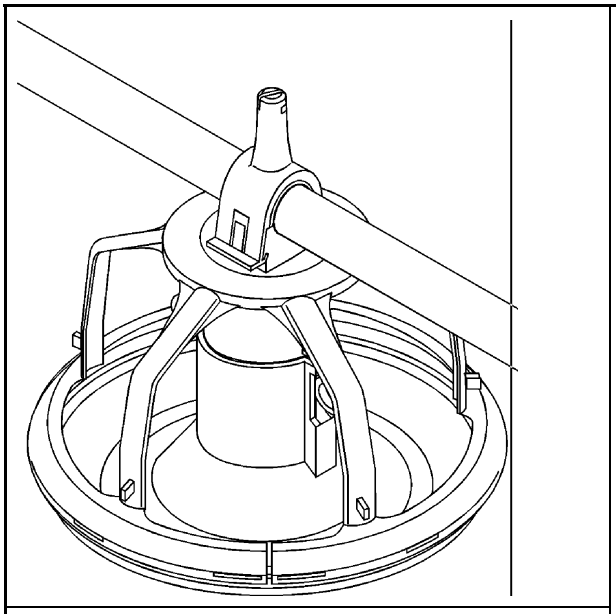
1. 11 31 3515
   Tube adapter BP/MP330
2. *11-31-3523
   Tube 45x1,25-3050 3holes BP330
   11-31-3522
   Tube 45x1,25-3050 2holes BP330
3. *11 31 3238
   Auger HD AM
4. 11 31 3512
   Grille f/feed panBP330
5. 11 31 3516
   Cylinder inner for "BP/MP330 without shut-off" for Sensor AFS
6. 91 00 3905
   Sensor AFS-01-60sec 90-250V
7. 11 31 3514
   Cylinder outer for "BP/MP/RPM330/ MalePan"
8. 11 31 3711
   dish RPM330

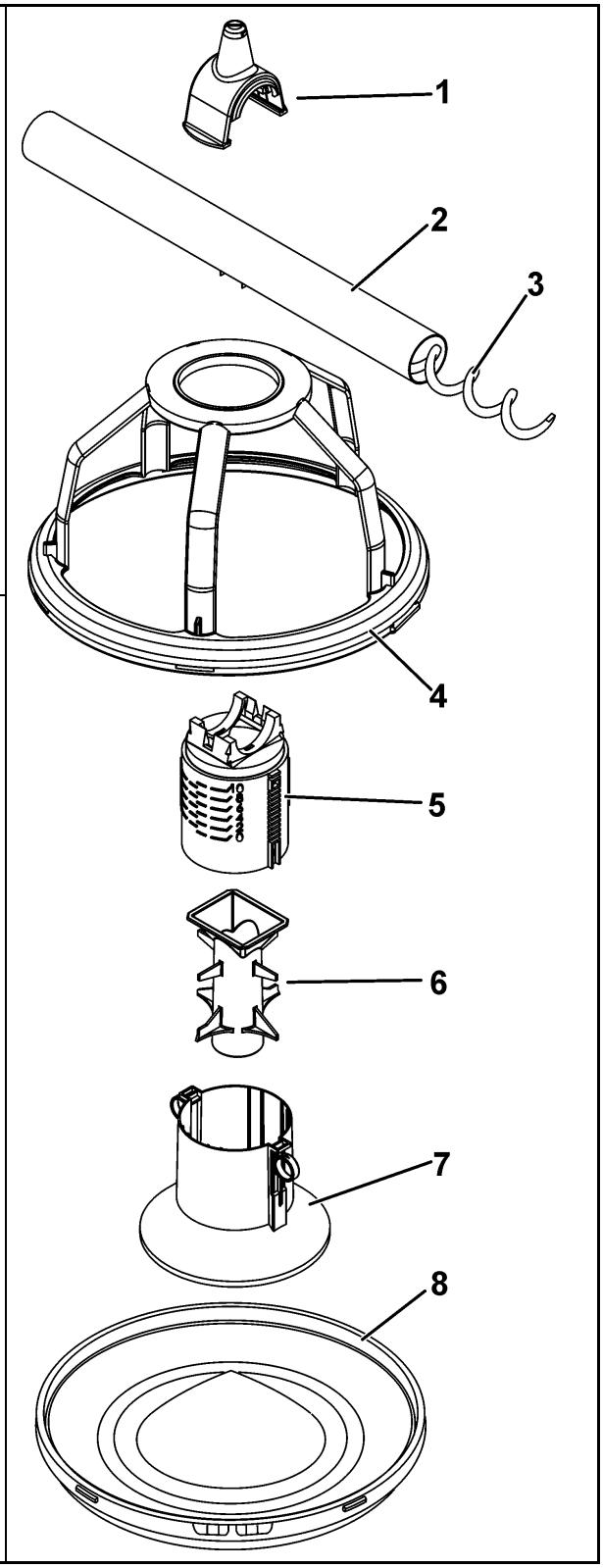
*do not belong to feed pan cpl.

Figure 7-7: Control pan BP330-Plus incl. Sensor AFS

7.2 Multi Pan 330

7.2.1 Feed pan cpl. MP330 without shut-off with MP-dish (11 31 3570)





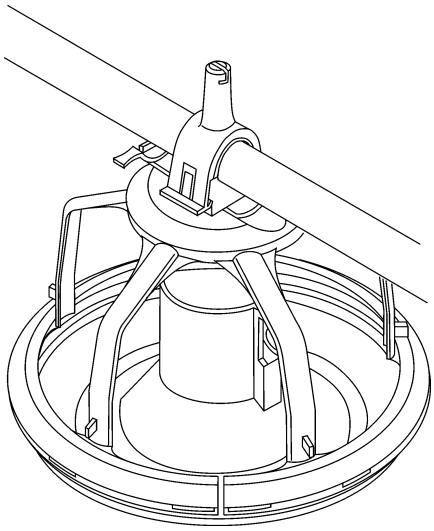
1. 11 31 3515
   Tube adapter for BP/MP330
2. *11-31-3523
   Tube 45x1,25-3050 3holes BP330
   11-31-3522
   Tube 45x1,25-3050 2holes BP330
3. *11 31 3238
   Auger HD AM
4. 11 31 3562
   Grille for feed pan MP330
5. 11 31 3513
   Cylinder inner for "BP/MP330 without shut-off"
6. **11 31 3568
   Volume reducing insert white MP/RPM330
7. 11 31 3514
   Cylinder outer for BP/MP/RPM330/MalePan
8. 11 31 3561
   dish MP330

*do not belong to feed pan cpl.

** available as an optional extra

Figure 7-8: Feed pan MP330 without shut-off with MP-dish

7.2.2 Feed pan cpl. MP330 with shut-off and MP-dish (11 31 3560)



1. 11 31 3515
   Tube adapter for BP/MP330
2. *11-31-3523
   Tube 45x1,25-3050 3holes BP330
   11-31-3522
   Tube 45x1,25-3050 2holes BP330
3. *11 31 3238
   Auger HD AM
4. 11 31 3536
   Slide shut-off BP/MP330
5. 11 31 3537
   Guide ring for shut-off BP/MP330
6. 11 31 3562
   Grille for feed pan MP330
7. 11 31 3533
   Cylinder inner for "BP/MP330 with shut-off"
8. **11 31 3568
   Volume reducing insert white MP/RPM330
9. 11 31 3514
   Cylinder outer for BP/MP/RPM330/MalePan
10. 11 31 3561
    dish MP330

* do not belong to feed pan.
** available as optional extra

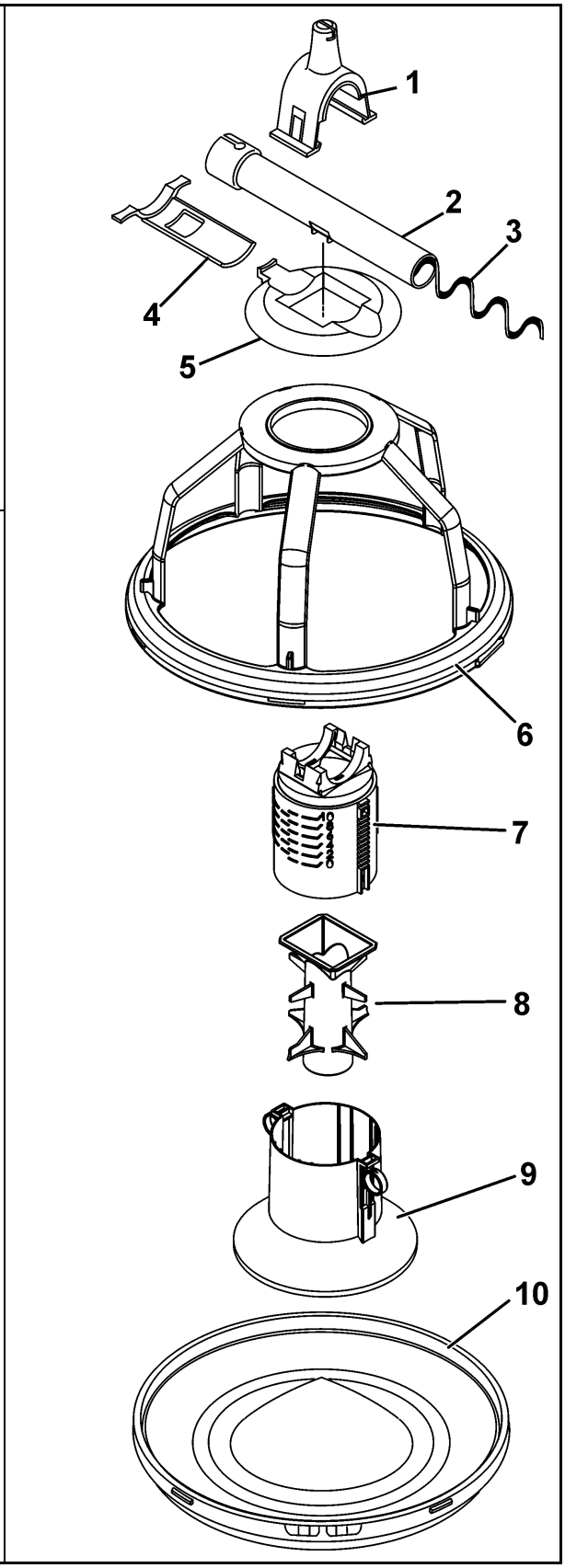
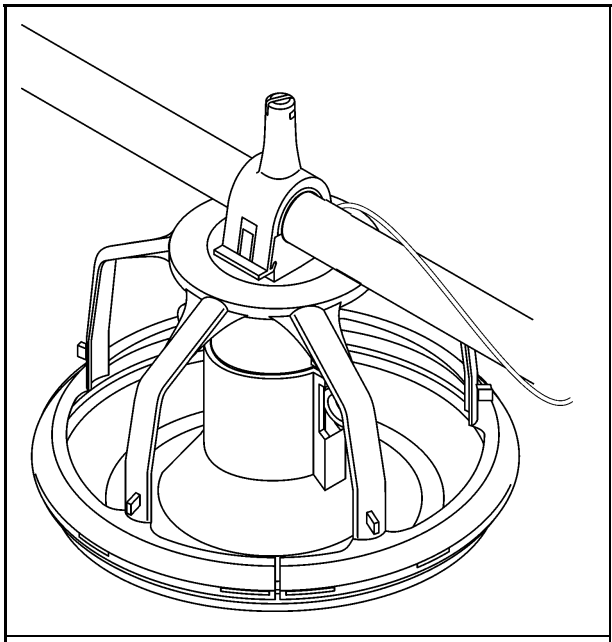


Figure 7-9: Feed pan MP330 with shut-off and MP-dish

7.2.3 Control pan cpl. MP330 incl. Sensor AFS (11 31 3573)



1. 11 31 3515
   Tube adapter for BP/MP330
2. *11-31-3523
   Tube 45x1,25-3050 3holes BP330
   11-31-3522
   Tube 45x1,25-3050 2holes BP330
3. *11 31 3238
   Auger HD AM
4. 11 31 3562
   Grille for feed pan MP330
5. 11 31 3516
   Cylinder inner for "BP/MP330 without shut-off" für Sensor AFS
6. 91 00 3905
   Sensor AFS-01-60sec 90-250V
7. 11 31 3514
   Cylinder outer for "BP/MP/RPM330/ MalePan"
8. 11 31 3561
   dish MP330

* do not belong to feed pan cpl.

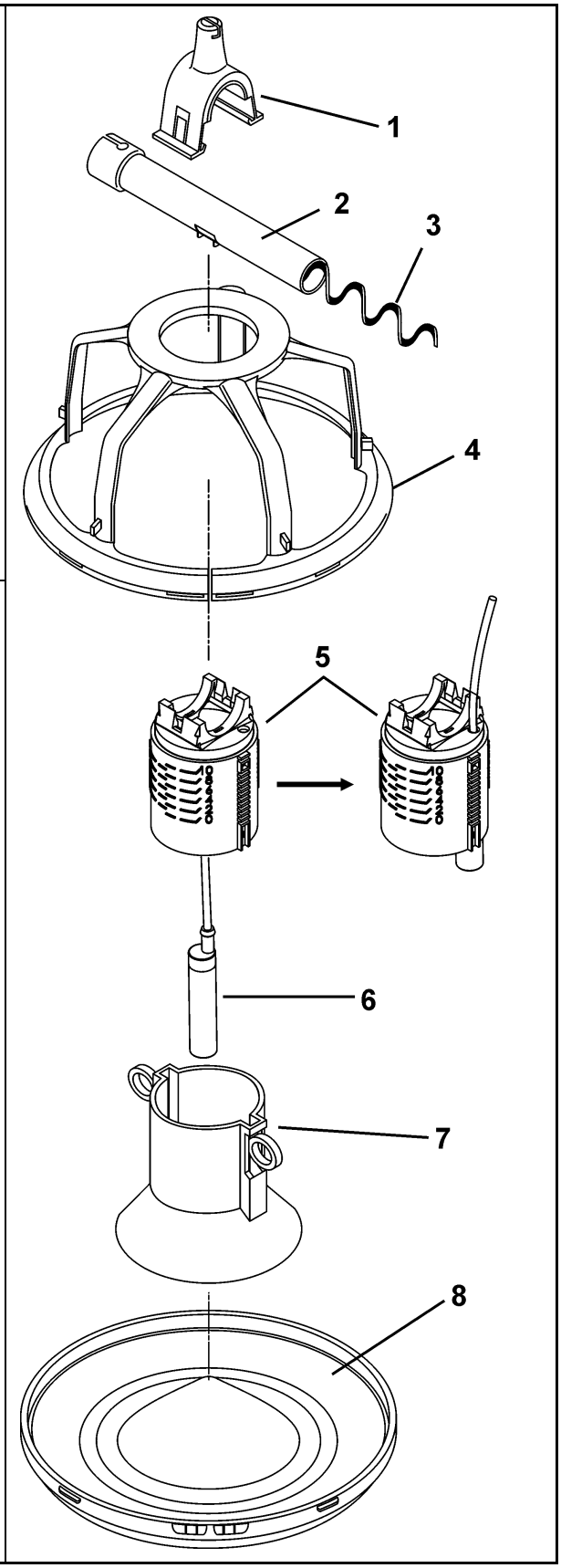
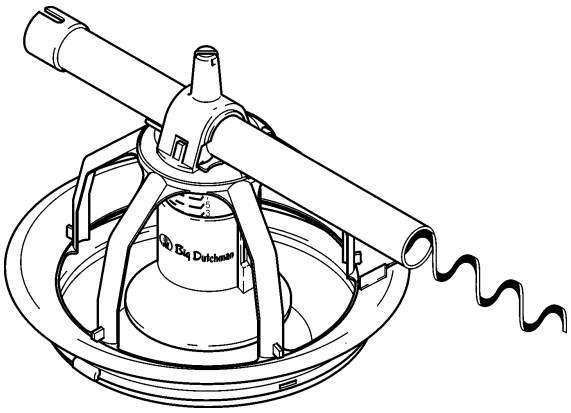


Figure 7-10: Control pan MP330 incl. Sensor AFS

7.2.4 Feed pan cpl. MP330 with shut-off and BP-dish (11 31 3555)



1. 11 31 3515
   Tube adapter for BP/MP330
2. *11-31-3523
   Tube 45x1,25-3050 3holes BP330
   11-31-3522
   Tube 45x1,25-3050 2holes BP330
3. *11 31 3238
   Auger HD AM
4. 11 31 3536
   Slide shut offBP/MP330
5. 83 00 0130
   Guide ring for shut off MalePan
6. **11 31 3569
   Feed saving collar MP330
7. 11 31 3562
   Grille for feed pan MP330
8. 83 00 0131
   Cylinder inner für MalePan with shut-off
9. **11 31 3568
   Volume reducing insert white MP/RPM330
10. 11 31 3514
    Cylinder outer for BP/MP/RPM330/Male Pan
11. 11 31 3511dish BP 330

* do not belong to feed pan cpl..
** available as an optional extra

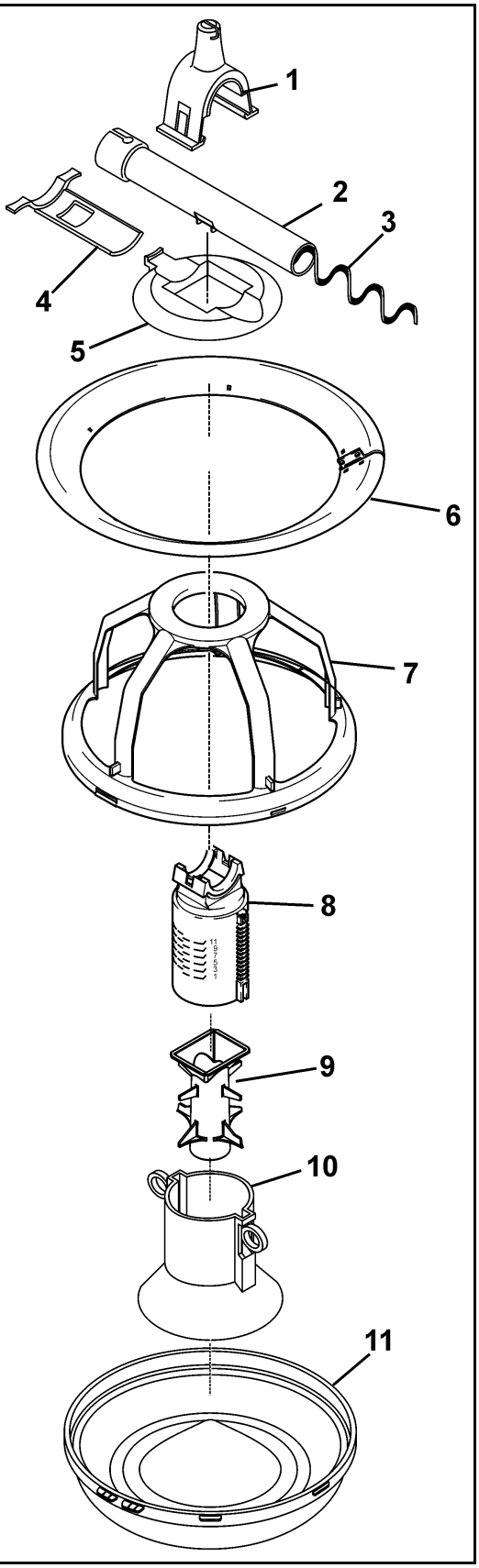
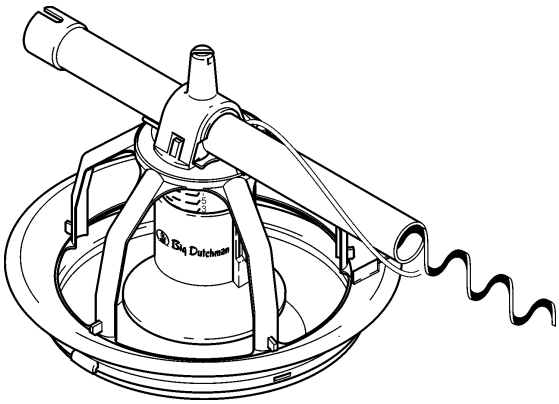


Figure 7-11: Feed pan MP330 with shut-off and BP-dish

7.2.5 Control pan cpl. MP330 w/ BP-dish incl Sensor AFS (11-31-3557)



1. 11 31 3515
   Tube adapter for BP/MP330
2. *11-31-3523
   Tube 45x1,25-3050 3holes BP330
   11-31-3522
   Tube 45x1,25-3050 2holes BP330
3. *11 31 3238
   Auger HD AM
4. 11 31 3536
   Slide shut off BP/MP330
5. 83 00 9502
   Guide ring for shut off f/sensor AFS
6. **11 31 3569
   Feed saving collar MP330
7. 11 31 3562
   Grille for feed pan MP330
8. 83 00 9503
   Cylinder inner for MalePan with shut-off f/ sensor AFS
9. 91 00 3905
   Sensor AFS-01-60sec 90-250V
10. 11 31 3514
    Cylinder outer for BP/MP/RPM330/Male Pan
11. 11 31 3511
    Dish BP330

* Do not belong to feed pan cpl.

** available as an optional extra

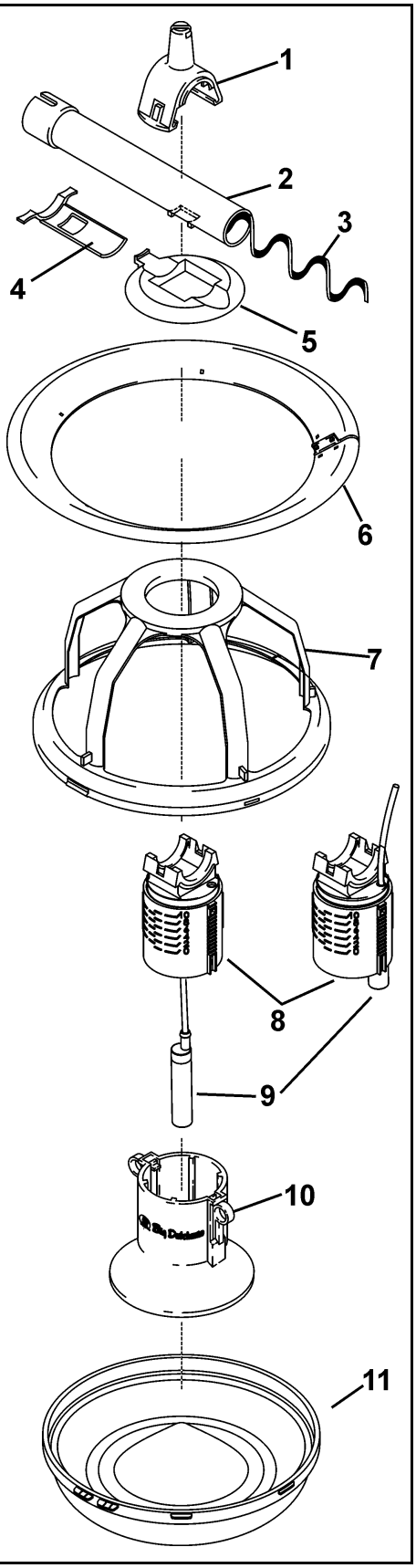
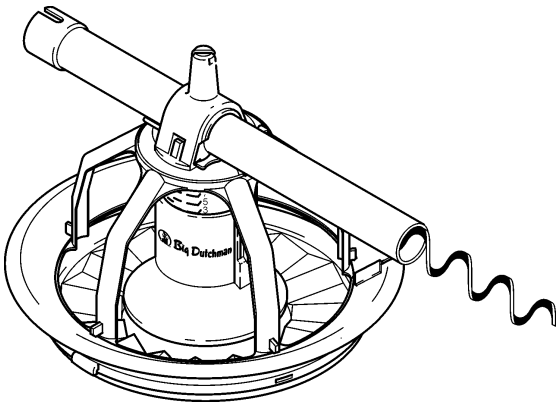


Figure 7-12: Control pan MP330 w/ BP-dish incl. sensor AFS

7.2.6 Feed pan cpl MP330 plus w/ shut-off a. RPM-dish (11-31-3565)



1. 11 31 3515
   Tube adapter for BP/MP330
2. *11-31-3523
   Tube 45x1,25-3050 3holes BP330
   11-31-3522
   Tube 45x1,25-3050 2holes BP330
3. *11 31 3238
   Auger HD AM
4. 11 31 3536
   Slide shut off BP/MP330
5. 83 00 0130
   Guide ring for shut off MalePan
6. **11 31 3569
   Feed saving collar MP330
7. 11 31 3562
   Grille for feed panMP330
8. 83 00 0131
   Cylinder inner for MalePan with shut-off
9. 11 31 3568
   Volume reducing insert white MP/RPM330
10. 11 31 3514
    Cylinder outer for BP/MP/RPM330/MalePan
11. 11 31 3711
    Dish RPM330

* do not belong to feed pan cpl.
** available as an optional extra

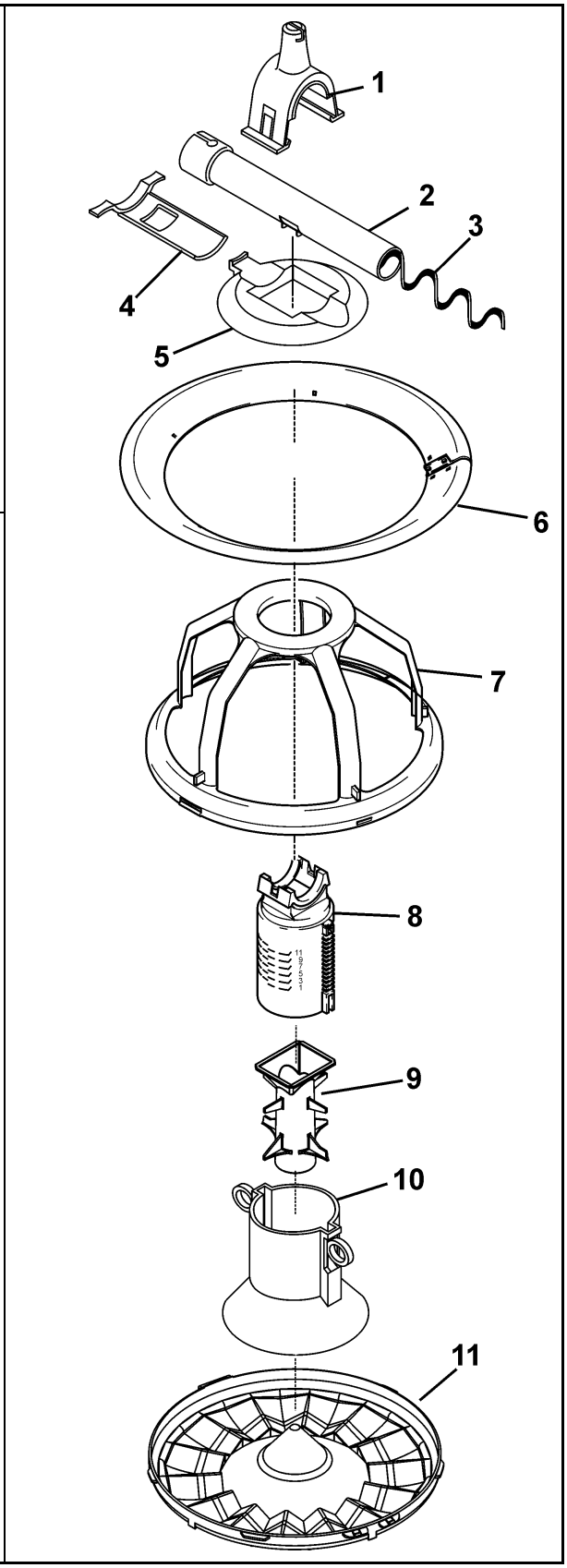
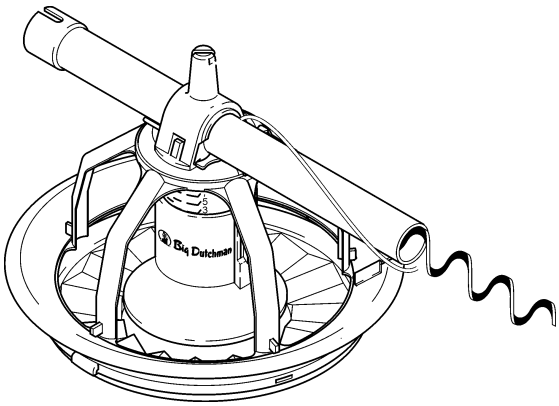
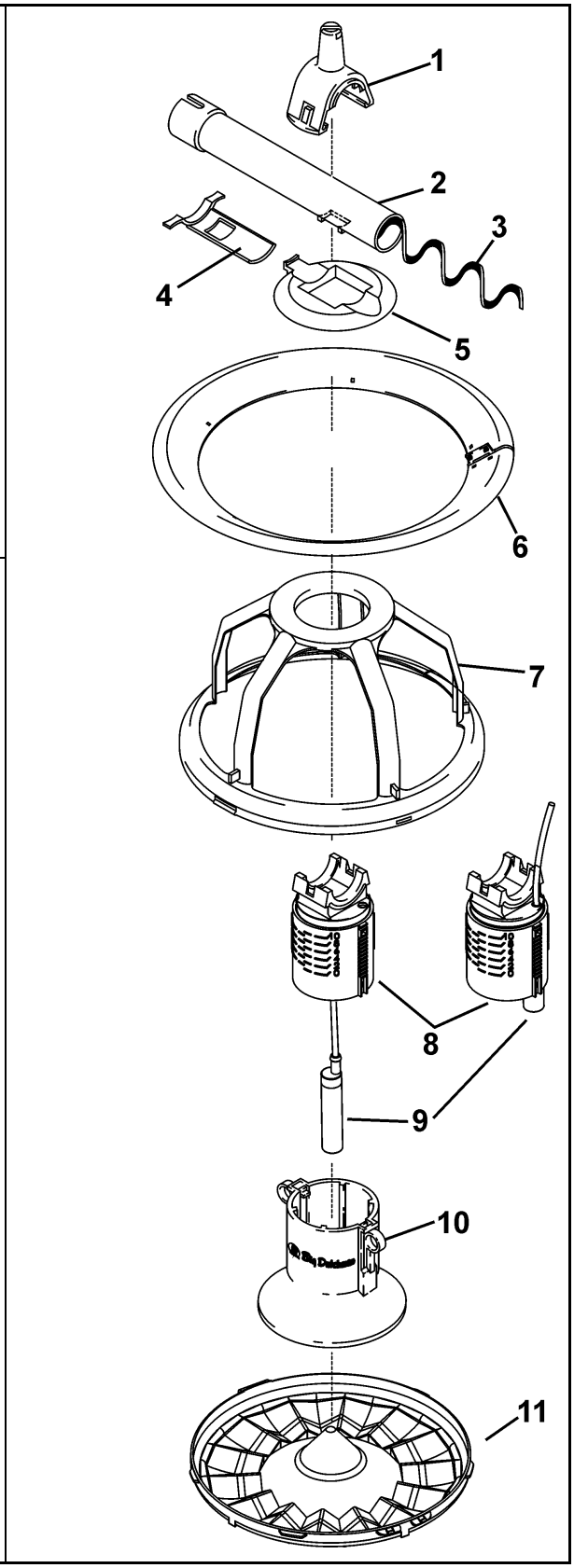


Figure 7-13: Feed pan MP330 plus with shut off and with RPM-dish

7.2.7 Control pan cpl MP330-plus w/ RPM-dish incl. Sensor AFS (11 31 3567)





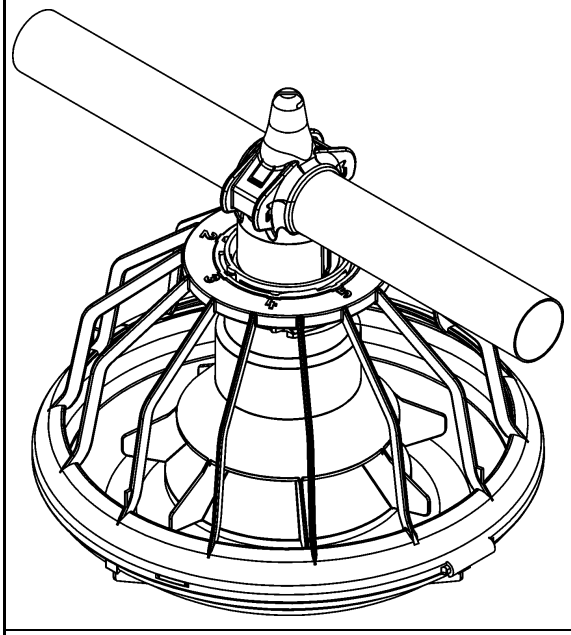
1. 11 31 3515
   Tube adapter for BP/MP330
2. *11-31-3523
   Tube 45x1,25-3050 3holes BP330
   11-31-3522
   Tube 45x1,25-3050 2holes BP330
3. *11 31 3238
   Auger HD AM
4. 11 31 3536
   Slide shut off BP/MP330
5. 83 00 9502
   Guide ring for shut off f/sensor AFS
6. **11 31 3569
   Feed saving collar MP330
7. 11 31 3562
   Grille for feed pan MP330
8. 83 00 9503
   Cylinder inner for MalePan with shut-off f/ sensor AFS
9. 91 00 3905
   Sensor AFS-01-60sec 90-250V
10. 11 31 3514
    Cylinder outer for BP/MP/RPM330/Male Pan
11. 11 31 3711
    Dish RPM330

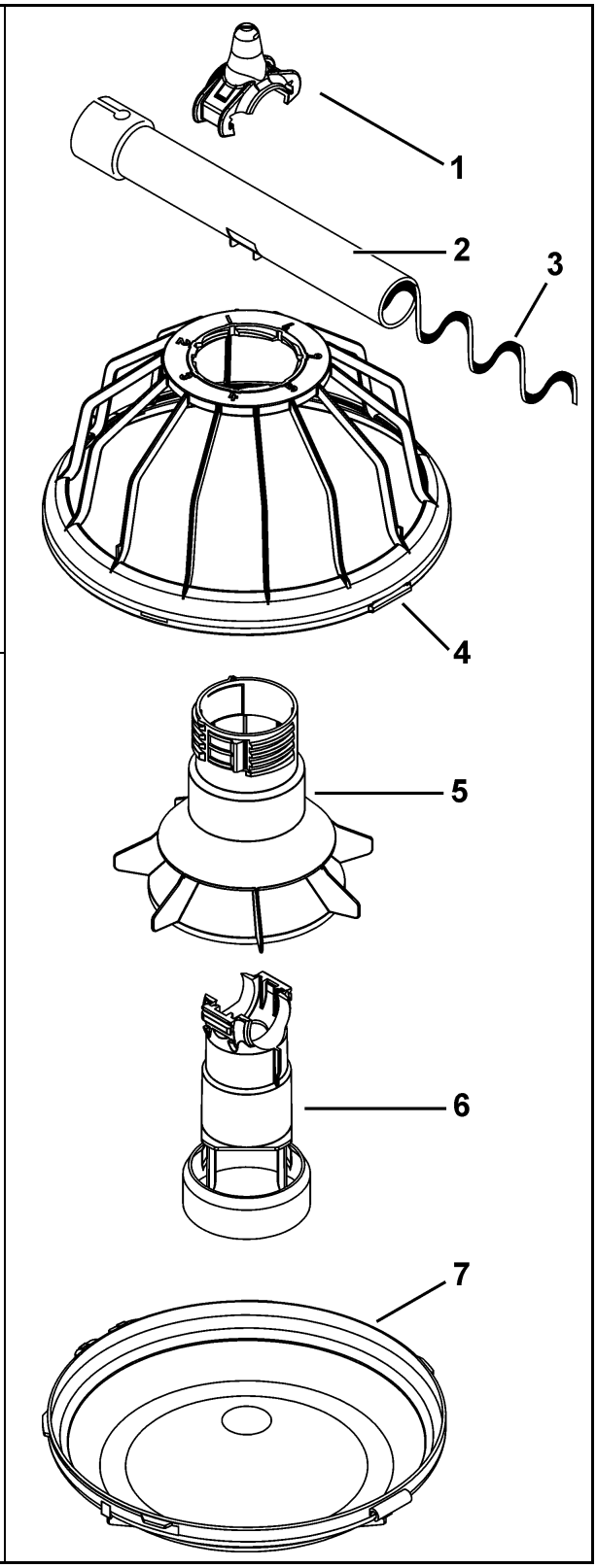
* do not belong to feed pan cpl.
** available as an optional extra

Figure 7-14: Control pan MP330-plus with RPM-dish incl. sensor AFS

7.3 Fluxx 330

7.3.1 Feed pan cpl. FLUXX 330-14 with BP-dish (11-31-4700)



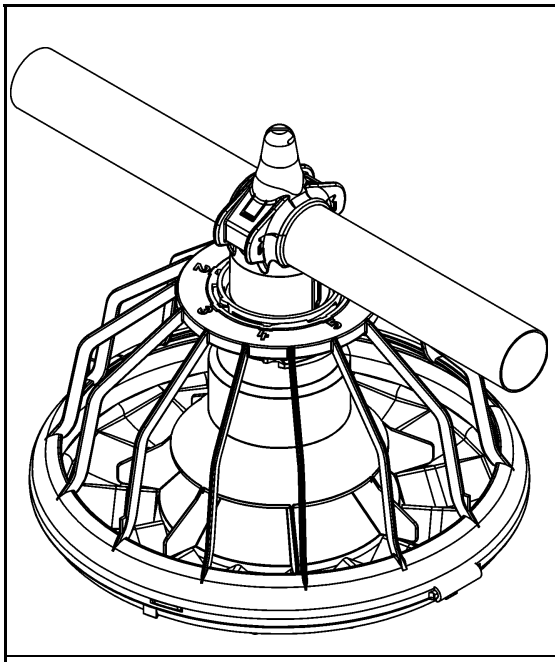


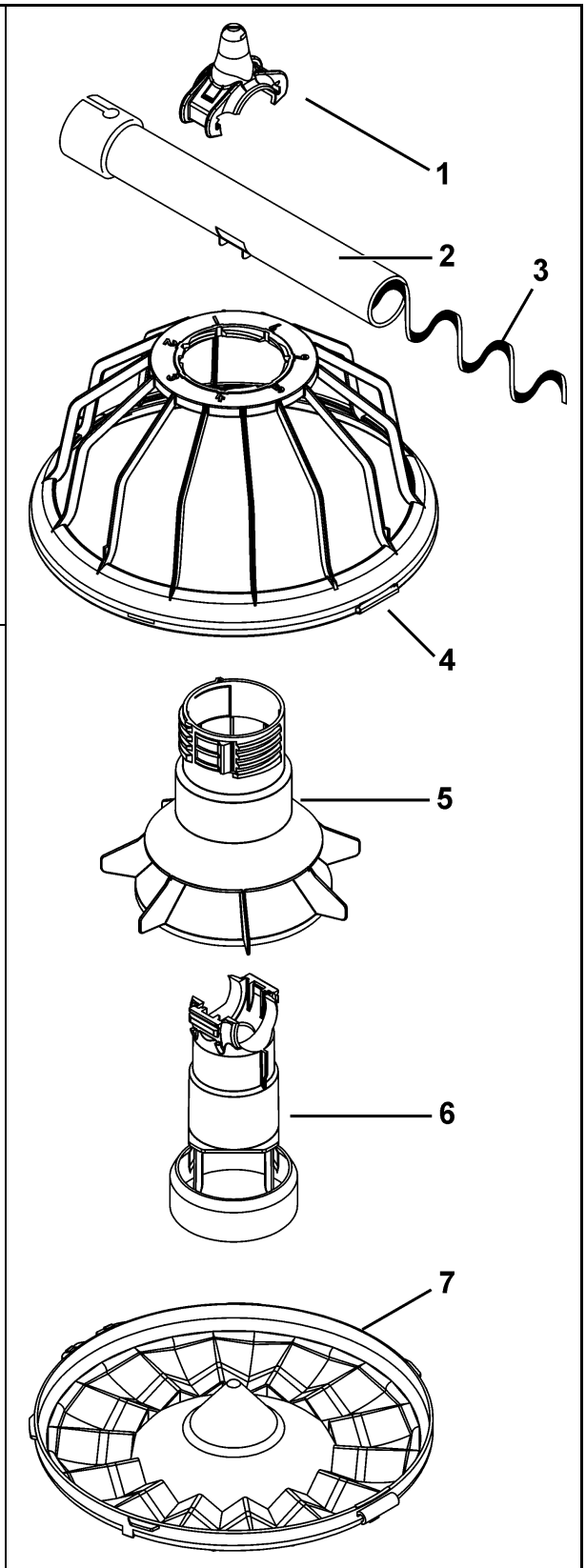
1. 83-00-8718
   Tube adapter for FLUXX 330
2. *11 31 3522
   Tube 45x1,25-3050 2holes BP330
   11 31 3523
   Tube 45x1,25-3050 3holes BP330
   11 31 3524
   Tube 45x1,25-3050 4holes BP330
3. *11 31 3238
   Auger HD AM
4. 83-00-8545
   Grille 14-arm f/feed pan ?BP/FLUXX 330
5. 83-00-8717
   Cylinder outer for FLUXX 330
6. 83-00-8716
   Cylinder inner for FLUXX 330
7. 11-31-3511
   Dish BP330

* do not belong to feed pan cpl.

Figure 7-15: Feed pan FLUXX 330-14 with BP-dish

7.3.2 Feed pan cpl. FLUXX 330-14 plus with RPM-dish (11-31-4710)



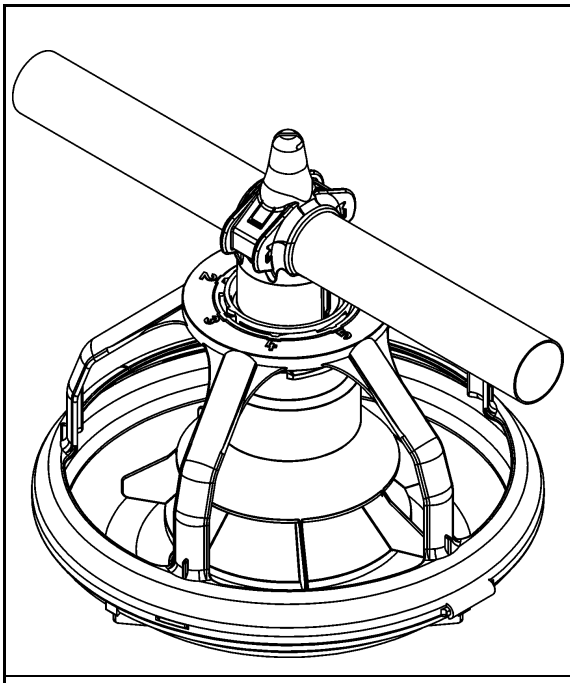


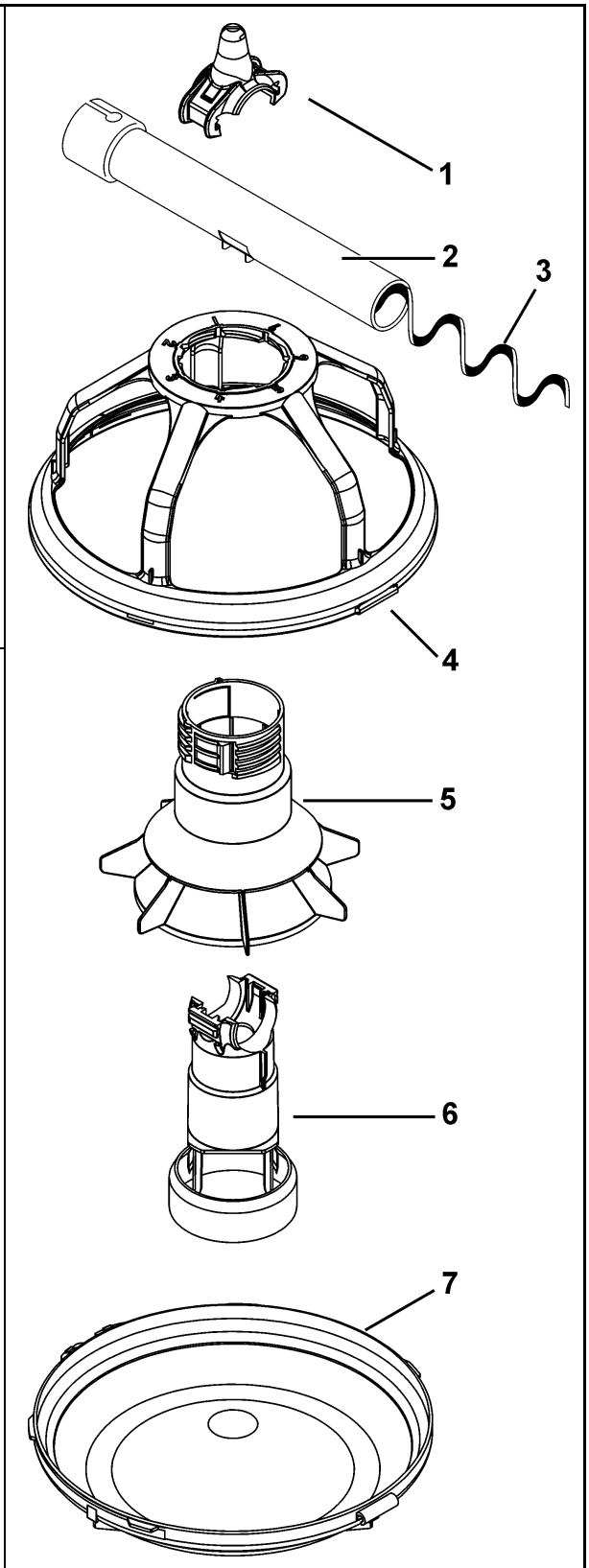
1. 83-00-8718
   Tube adapter for FLUXX 330
2. *11 31 3522
   Tube 45x1,25-3050 2holes BP330
   11 31 3523
   Rohr 45x1,25-3050 3holes BP330
   11 31 3524
   Tube 45x1,25-3050 4holes BP330
3. *11 31 3238
   Auger HD AM
4. 83-00-8545
   Grille 14-arm f/feed pan BP/FLUXX 330
5. 83-00-8717
   Cylinder outer for FLUXX 330
6. 83-00-8716
   Cylinder inner for FLUXX 330
7. 11-31-3711
   Dish RPM330

* do not belong to feed pan cpl.

Figure 7-16: Feed pan FLUXX 330-14 plus with RPM-dish

7.3.3 Feed pan cpl. FLUXX 330-5 with BP-dish (11-31-4750)



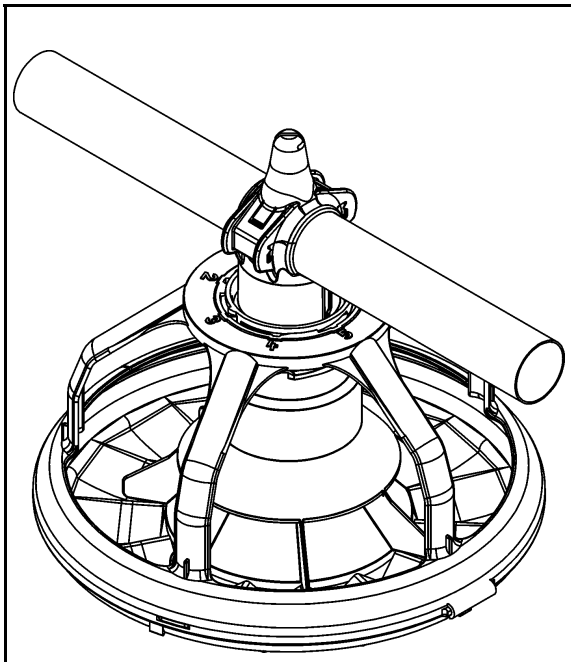


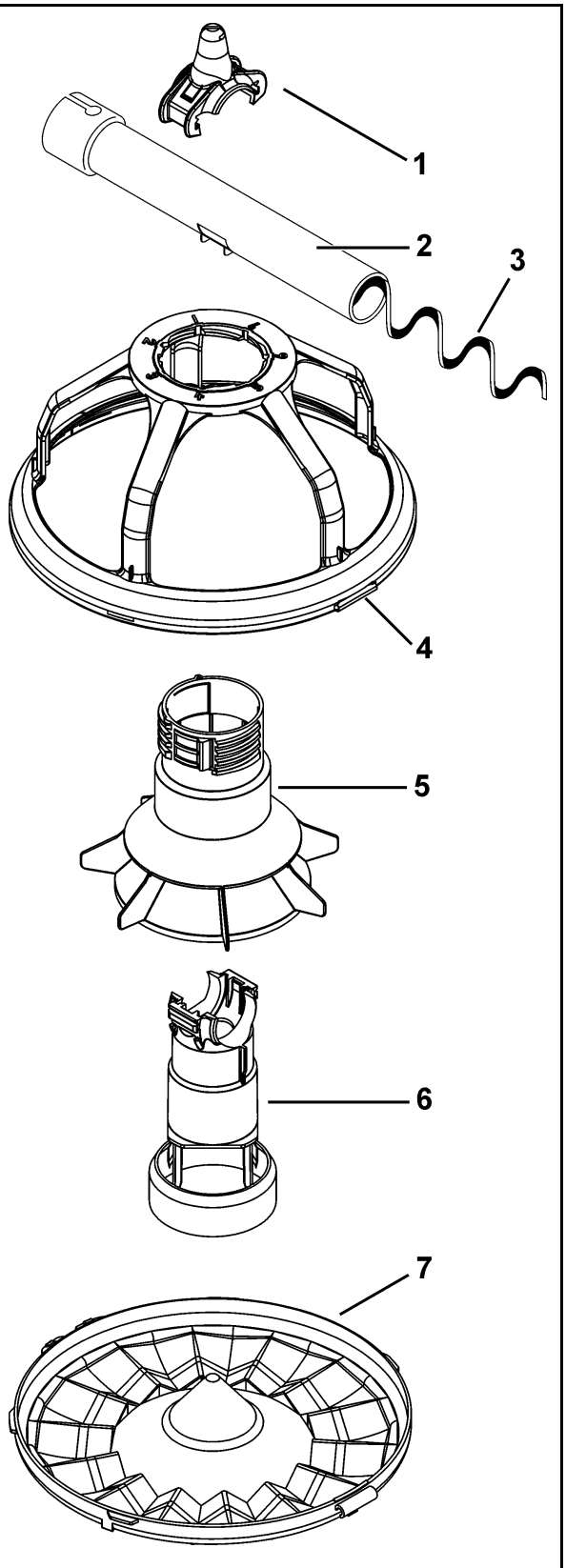
1. 83-00-8718
   Tube adapter for FLUXX 330
2. *11 31 3522
   Tube 45x1,25-3050 2holes BP330
   11 31 3523
   Tube 45x1,25-3050 3holes BP330
   11 31 3524
   Tube 45x1,25-3050 4holes BP330
3. *11 31 3238
   Auger HD AM
4. 83-00-8530
   Grille 5-arm f/feed pan BP/FLUXX 330
5. 83-00-8717
   Cylinder outer for FLUXX 330
6. 83-00-8716
   Cylinder inner for FLUXX 330
7. 11-31-3511
   Dish BP330

* do not belong to feed pan cpl

Figure 7-17: Feed pan FLUXX 330-5 with BP-dish

7.3.4 Feed pan cpl. FLUXX 330-5 plus with RPM-dish(11-31-4760)





1. 83-00-8718
   Tube adapter for FLUXX 330
2. *11 31 3522
   Tube 45x1,25-3050 2holes BP330
   11 31 3523
   Tube 45x1,25-3050 3holes BP330
   11 31 3524
   Tube 45x1,25-3050 4holes BP330
3. *11 31 3238
   Auger HD AM
4. 83-00-8530
   Grille 5-arm f/feed pan
5. 83-00-8717
   Cylinder outer for FLUXX 330
6. 83-00-8716
   Cylinder inner for FLUXX 330
7. 11-31-3711
   Dish RPM330

* do not belong to feed pan cpl.

Figure 7-18: Feed pan FLUXX 330-5 plus with RPM-dish

7.3.5 Control pan FLUXX 330-14 w/BP-dish incl. sensor AFS (11 31 4709 pictured)

7.3.6 Control pan FLUXX 330-14 w/RPM-dish incl. sensor AFS (11 31 4719)

7.3.7 Control pan FLUXX 330-5 w/BP-dish incl. sensor AFS (11 31 4759)

7.3.8 Control pan FLUXX 330-5 w/RPM-dish incl. sensor AFS (11 31 4769)

1. 83-00-8718
   Tube adapter for FLUXX 330
2. *11 31 3522
   Tube 45x1,25-3050 2holes BP330
   11 31 3523
   Tube 45x1,25-3050 3holes BP330
   11 31 3524
   Tube 45x1,25-3050 4holes BP330
3. *11 31 3238
   Auger HD AM
4. 83-00-8530
   Grille 5-arm f/feed pan ?BP/FLUXX 330
   or:
   83-00-8545
   Grille 14-arm f/feed pan BP/FLUXX 330
   (pictured)
5. 83-00-8717
   Cylinder outer for FLUXX 330
6. 83-00-8779
   Cylinder inner for FLUXX 330 for sensor AFS
7. 91-00-3905
   Sensor AFS-01-60sec 90-250V
8. 11-31-3711
   Dish RPM330
   or:
   11-31-3511
   Dish BP330 (pictured)

* do not belong to feed pan cpl.

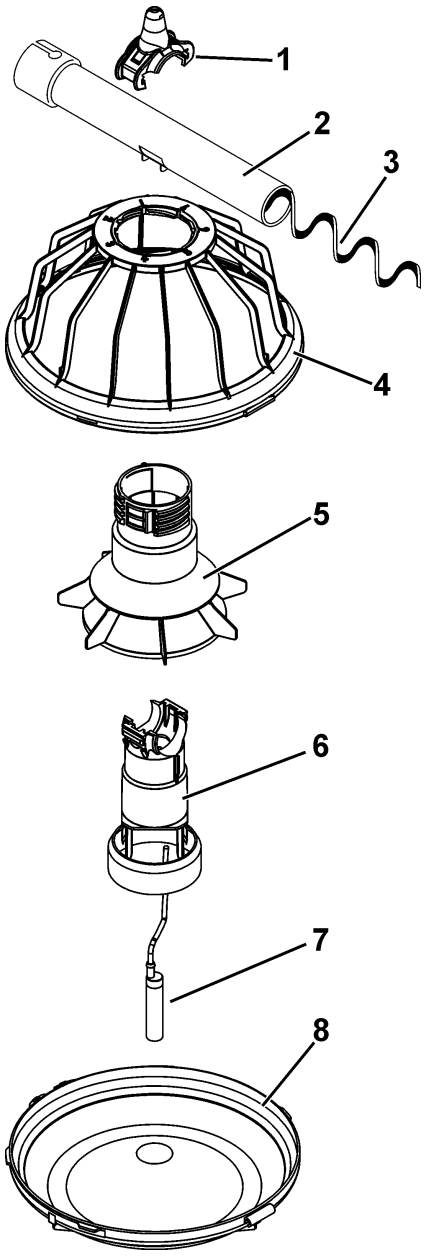
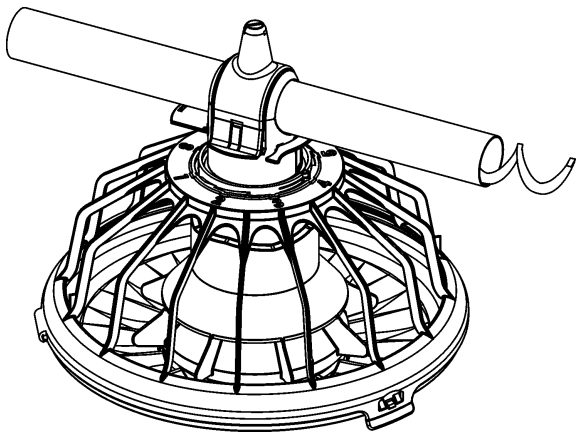
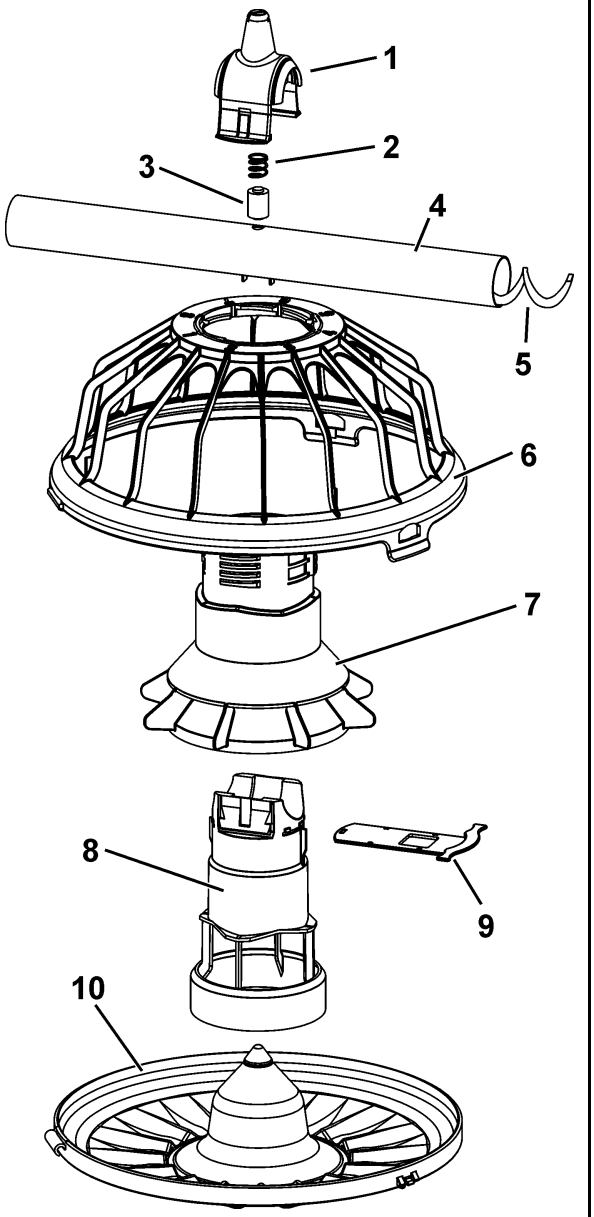


Figure 7-19: Control pan FLUXX 330-14 w/BP-dish incl. sensor AFS

7.4 Fluxx Breeder 360

7.4.1 Feed pan cpl. FXB360 for tube dia 45 BB-rearing(11-31-3815)



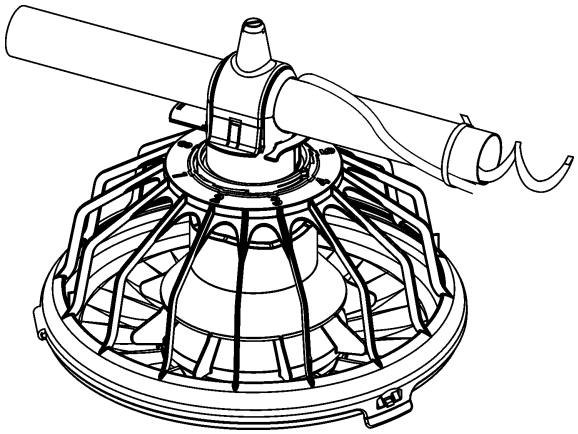


1. 83 01 8947
   Tube adapter for tube dia 45 FXB 360
2. 11 31 3596
   Compression spring D-207 J-01
3. 11 31 3597
   Holding pin for tube adapter rigidly mounted
4. *11-03-3723
   Tube 45x1,25-3050 3holes Male-Pan
   11-03-3722
   Tube 45x1,25-3050 2holes Male-Pan
5. *11 31 3238
   Auger HD AM
6. 83 02 5351
   Grille 16arm for FXB360
7. 83 01 6341
   Cylinder outer for FXB360
8. 83 01 8946
   Cylinder inner for tube dia 45 FXB360
9. 83 02 5359
   Slide shut-off FXB 360
10. 83 01 6343
    Dish for FXB360

* do not belong to feed pan cpl.

Figure 7-20: Feed pan FXB360 BB-rearing

7.4.2 Control pan cpl. FXB360 for tube dia 45 BB-rearing with sensor AFS (11-31-3819)



1. 83 01 8947
   tube adapter for tube dia 45 FXB 360
2. 11 31 3596
   Compression spring D-207 J-01
3. 11 31 3597
   Holding pin for tube adapter rigidly mounted
4. *11-03-3723
   Tube 45x1,25-3050 3holes Male-Pan
   11-03-3722
   Tube 45x1,25-3050 2holes Male-Pan
5. *11 31 3238
   Auger HD AM
6. 83 02 5359
   Slide shut-off FXB 360
7. 83 02 5351
   Grille 16arm for FXB360
8. 83 03 2212
   Cylinder inner for FXB360 d45 f/ sensor AFS
9. 83 01 6341
   Cylinder outer for FXB360
10. 83 01 6343
    Dish for FXB360
11. 91-00-3905
    Sensor AFS-01-60sec 90-250V

* do not belong to feed pan cpl.

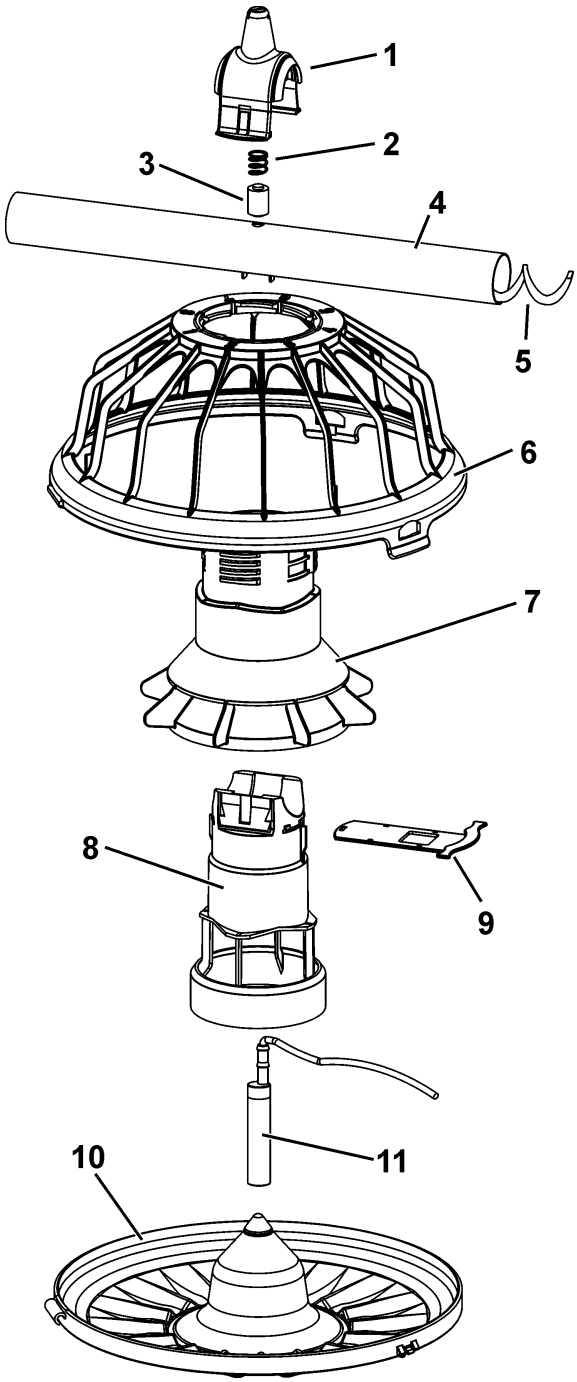
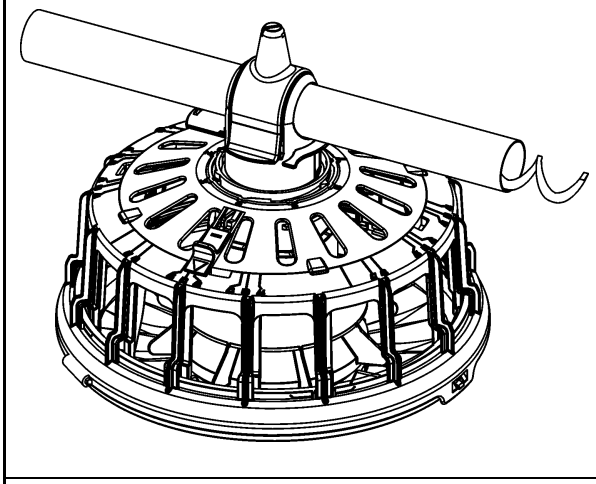


Figure 7-21: Control pan FXB360 BB-rearing with sensor AFS

7.4.3 Feed pan cpl. FXB360 for tube dia 45 BB-rearing and production (11-31-3810)



1. 83 01 8947
   Tube adapter for tube dia 45 FXB 360
2. 11 31 3596
   Compression spring D-207 J-01
3. 11 31 3597
   Holding pin for tube adapter rigidly mounted
4. *11-03-3723
   Tube 45x1,25-3050 3holes Male-Pan
   11-03-3722
   Tube 45x1,25-3050 2holes Male-Pan
5. *11 31 3238
   Auger HD AM
6. 83 01 6345
   Locking slide FXB360
7. 83 01 6340
   Grille outer for FXB360
8. 83 01 6344
   Levelling ring FO for FXB360
9. 83 01 6339
   Grille inner for FXB360
10. 83 01 6341
    Cylinder outer for FXB360
11. 83 01 8946
    Cylinder inner for tube dia 45 FXB360
12. 83 02 5359
    Slide shut-offFXB 360
13. 83 01 6343
    Dish for FXB360

* do not belong to feed pan cpl.

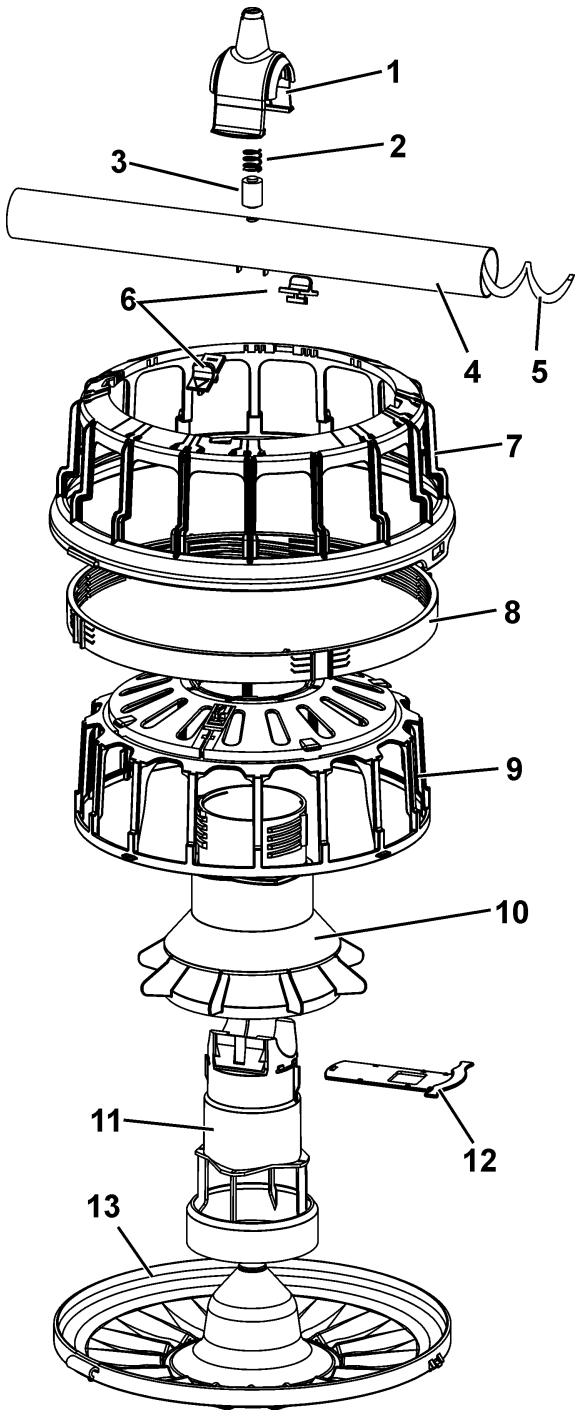
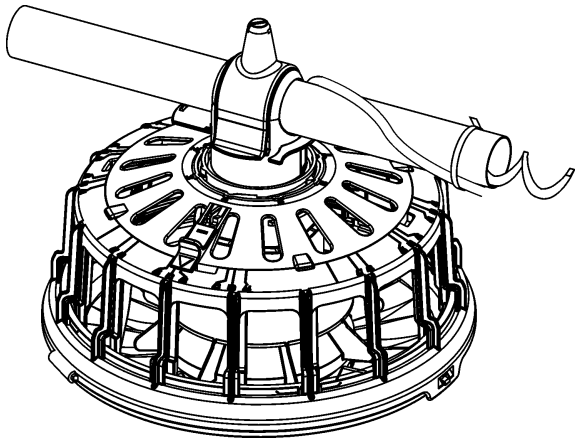


Figure 7-22: Feed pan FXB360 BB-rearing and production

7.4.4 Control pan cpl. FXB360 for tube dia 45 BB-rearing and production with sensor AFS (11-31-3809)



1. 83 01 8947
   Tube adapter for tube dia 45 FXB 360
2. 11 31 3596
   Compression springD-207 J-01
3. 11 31 3597
   Holding pin for tube adapter rigidly mounted
4. *11-03-3723
   Tube 45x1,25-3050 3holes Male-Pan
   11-03-3722
   Tube 45x1,25-3050 2holes Male-Pan
5. *11 31 3238
   Auger HD AM
6. 83 01 6345
   Locking slide FXB360
7. 83 01 6340
   Grille outer for FXB360
8. 83 01 6344
   Levelling ring FO for FXB360
9. 83 01 6339
   Grille inner for FXB360
10. 83 01 6341
    Cylinder outer for FXB360
11. 83 03 2212
    Cylinder inner for FXB360 d45 f/ sensor AFS
12. 83 02 5359
    Slide shut-off FXB 360
13. 83 01 6343
    Dish for FXB360
14. 91-00-3905
    Sensor AFS-01-60sec 90-250V

* do not belong to feed pan cpl.

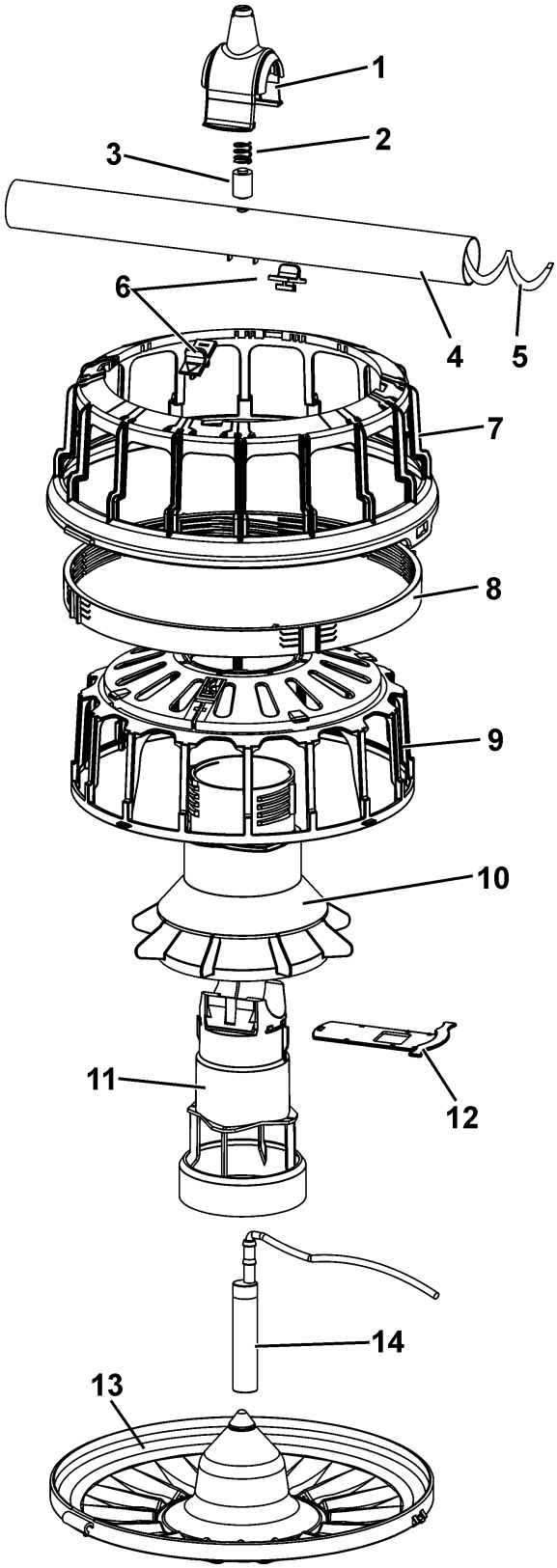
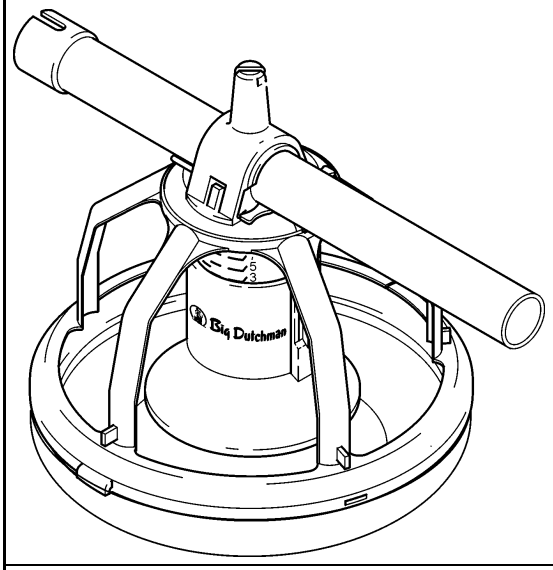
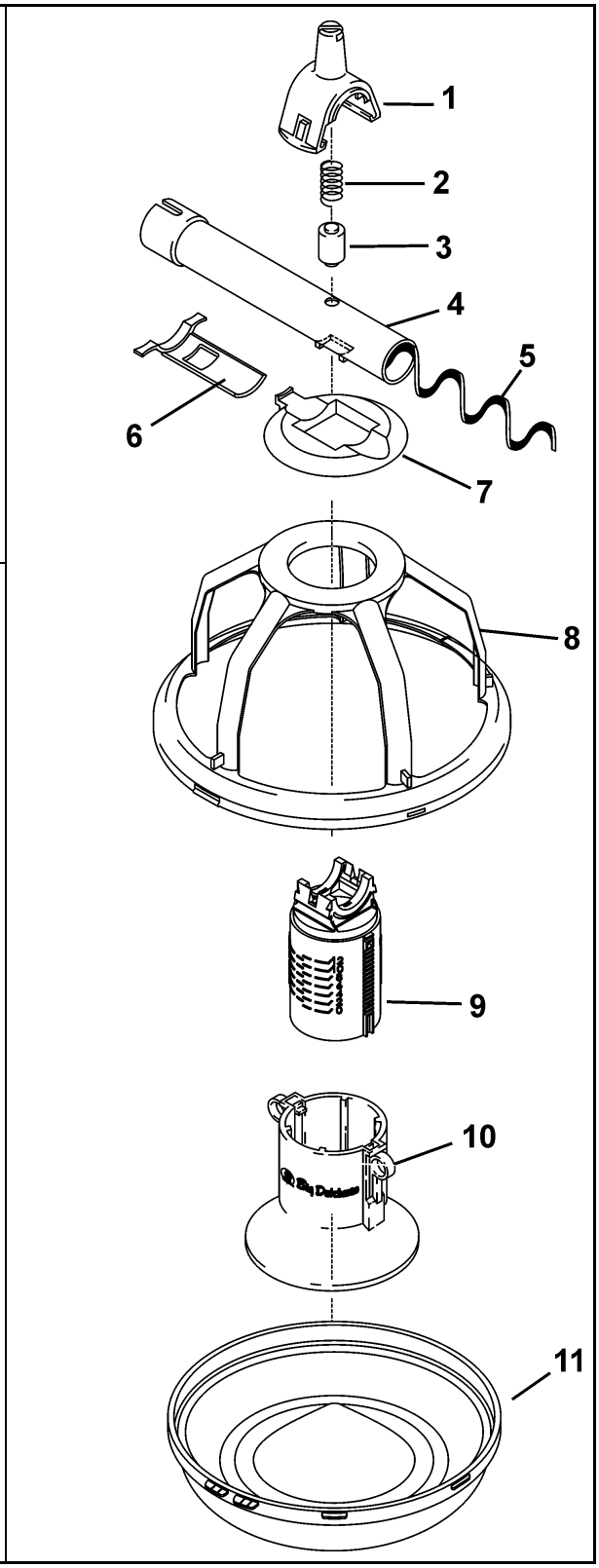


Figure 7-23: Control panFXB360 BB-rearing and production with sensor AFS

7.5 MalePan

7.5.1 Feed pan cpl. MalePan with shut-off and BP-dish (11 31 3585)



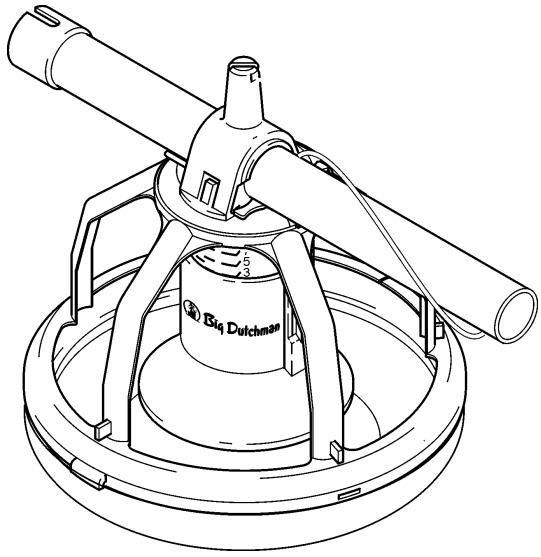


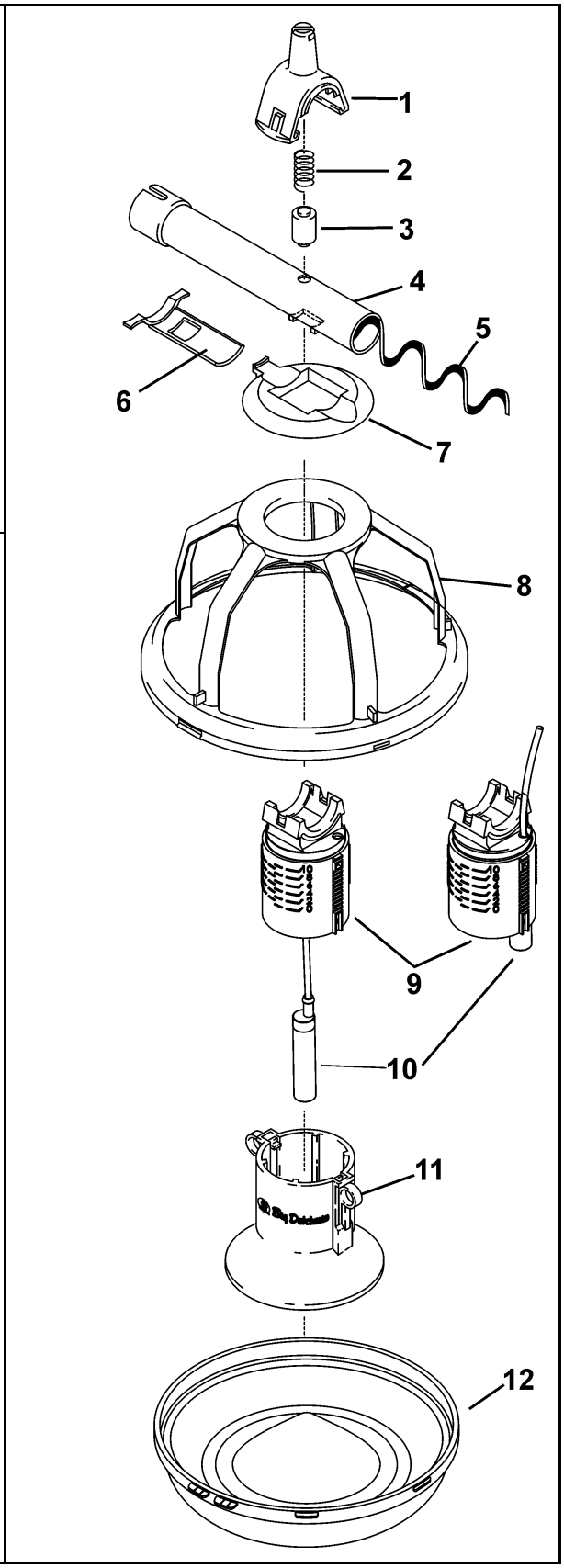
1. 11 31 3587
   Tube adapter PA for rigid MalePan
2. 11 31 3596
   Compression spring D-207 J-01
3. 11 31 3597
   Holding pin for tube adapter rigidly mounted
4. *11-03-3723
   Tube 45x1,25-3050 3holesMale-Pan
   11-03-3722
   Tube 45x1,25-3050 2holes Male-Pan
5. *11 31 3238
   Auger HD AM
6. 11 31 3536
   Slide shut-off BP/MP330
7. 83 00 0130
   Guide ring for shut-off MalePan
8. 11 31 3562
   Grille for feed pan MP330
9. 83 00 0131
   Cylinder inner for MalePan mit Schieber
10. 11 31 3514
    Cylinder outer for BP/MP/RPM330/MalePan
11. 11 31 3511
    dish BP330

* do not belong to feed pan cpl.

Figure 7-24: Feed pan MalePan with shut-off and with BP-dish

7.5.2 Control pan cpl. MalePan w/BP-dish incl. sensor AFS (11 31 3588)



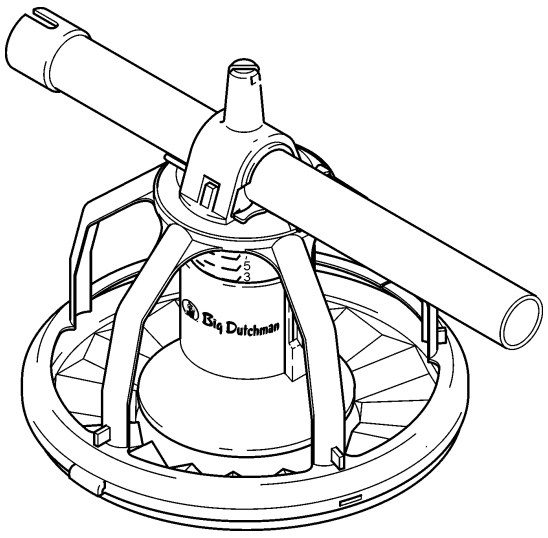


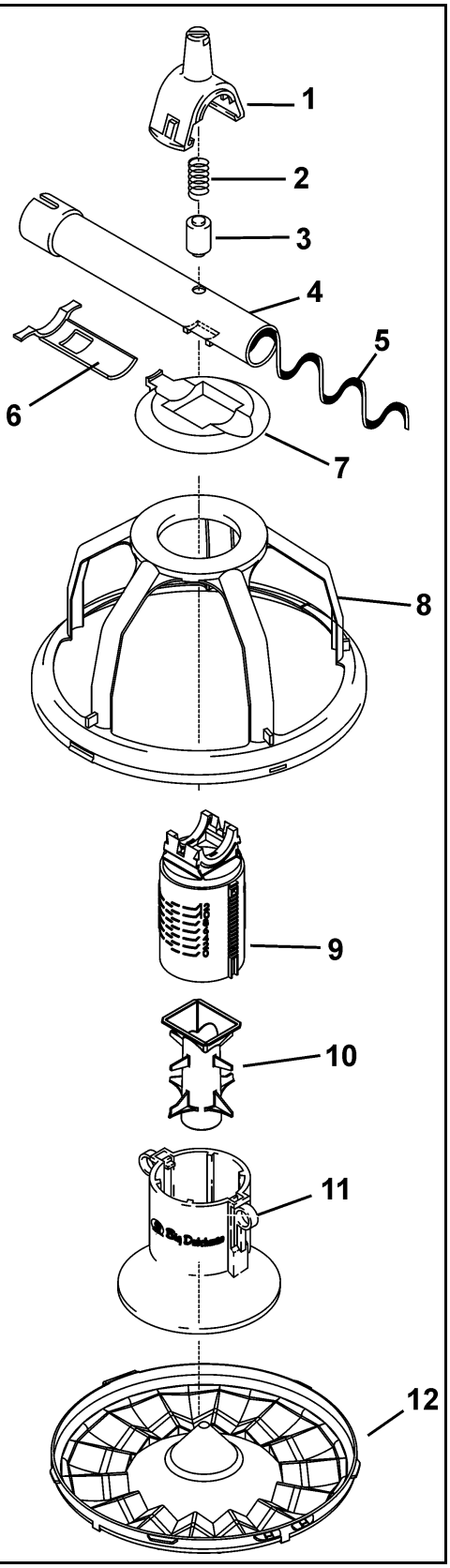
1. 11 31 3587
   Tube adapter PA for rigid MalePan
2. 11 31 3596
   Compression spring D-207 J-01
3. 11 31 3597
   Holding pin for tube adapter rigidly mounted
4. *11-03-3723
   Tube 45x1,25-3050 3holes Male-Pan
   11-03-3722
   Tube 45x1,25-3050 2holes Male-Pan
5. *11 31 3238
   Auger HD AM
6. 11 31 3536
   Slide shut-off BP/MP330
7. 83 00 9502
   Guide ring for shut-off for sensor AFS
8. 11 31 3562
   Grille for feed pan MP330
9. 83 00 9503
   Cylinder inner for MalePan with shut-off for sensor AFS
10. 91 00 3905
    Sensor AFS-01-60sec 90-250V
11. 11 31 3514
    Cylinder outer for BP/MP/RPM330/MalePan
12. 11 31 3511
    Dish BP330

* do not belong to feed pan cpl.

Figure 7-25: Control pan MalePan with BP-dish incl. sensor AFS

7.5.3 Feed pan cpl. MalePan plus with shut-off and RPM-dish (11 31 3590)



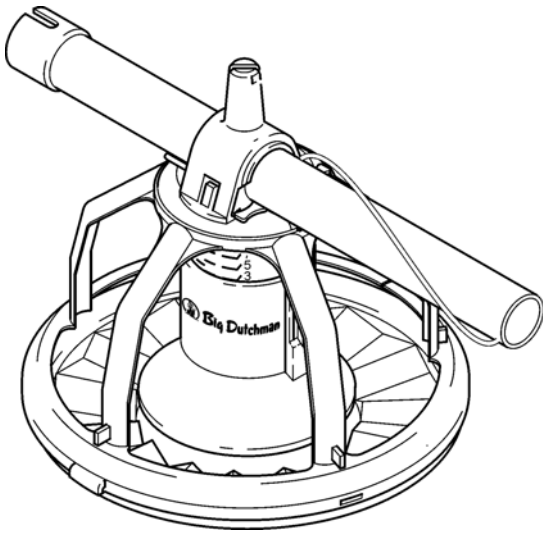


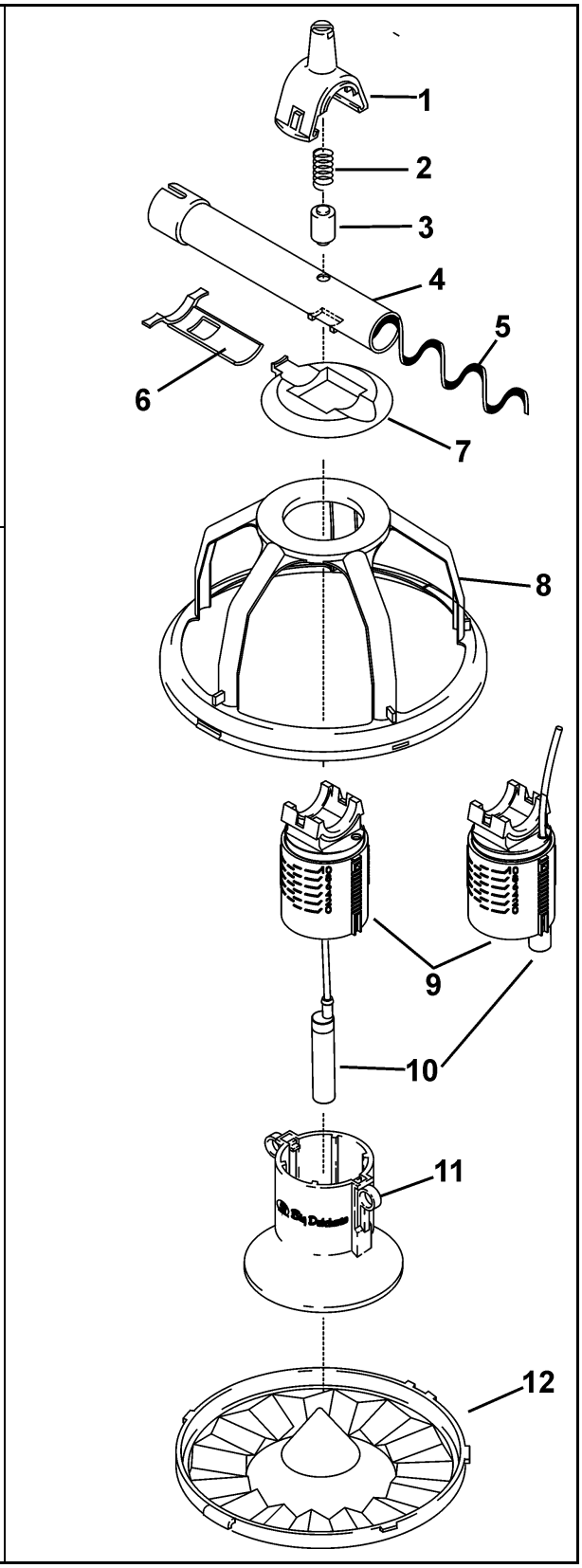
1. 11 31 3587
   Tube adapter PA for rigid MalePan
2. 11 31 3596
   Compression springD-207 J-01
3. 11 31 3597
   Holding pin for tube adapter rigidly mounted
4. *11-03-3723
   Tube 45x1,25-3050 3holes Male-Pan
   11-03-3722
   Tube 45x1,25-3050 2holes Male-Pan
5. *11 31 3238
   Auger HD AM
6. 11 31 3536
   Slide shut-off BP/MP330
7. 83 00 0130
   Guide ring for shut off MalePan
8. 11 31 3562
   Grille für feed pan MP330
9. 83 00 0131
   Cylinder inner for MalePan with shut-off
10. 11 31 3568
    Volume reducing insert white MP/RPM330
11. 11 31 3514
    Cylinder outer for BP/MP/RPM330/MalePan
12. 11 31 3711
    Dish RPM330

* do not belong to fee dpan cpl.

Figure 7-26: Feed pan MalePan plus with shut off and with RPM-dish

7.5.4 Control pan cpl. MalePan plus w/RPM-dish incl. sensor AFS (11 31 3595)





1. 11 31 3587
   Tube adapter PA for rigid MalePan
2. 11 31 3596
   Compression spring D-207 J-01
3. 11 31 3597
   Holding pin for tube adapter rigidly mounted
4. *11-03-3723
   Tube 45x1,25-3050 3holes Male-Pan
   11-03-3722
   Tube 45x1,25-3050 2holes Male-Pan
5. *11 31 3238
   Auger HD AM
6. 11 31 3536
   Slide shut-off BP/MP330
7. 83 00 9502
   Guide ring for shut off f/ Sensor AFS
8. 11 31 3562
   Grille for feed pan MP330
9. 83 00 9503
   Cylinder inner for MalePan shut-off f/sensor AFS
10. 91 00 3905
    Sensor AFS-01-60sec 90-250V
11. 11 31 3514
    Cylinder outer for BP/MP/RPM330/MalePan
12. 11 31 3711
    Dish RPM330

* do not belong to feed pan cpl.

Figure 7-27: Control pan MalePan plus with RPM-dish incl. sensor AFS

8 Parts lists for self feeders

8.1 Self feeder 30 l, Empa 2, Code-No. 20 00 3930

This self feeder is designed for manual or restricted feeding of adult males from 2.5 to 4.5 kg live weight in broiler breeder production houses (laying).

Turkeys of 5 to 6 weeks of age with a live weight of 2 to 2.5 kg can be fed up to their maximum weight as well.

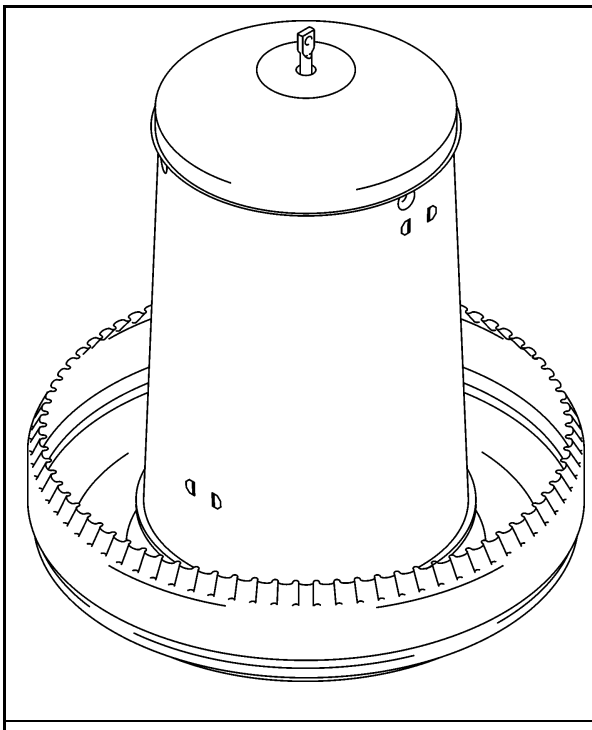
Recommended number of birds per Empa 2 self feeder:

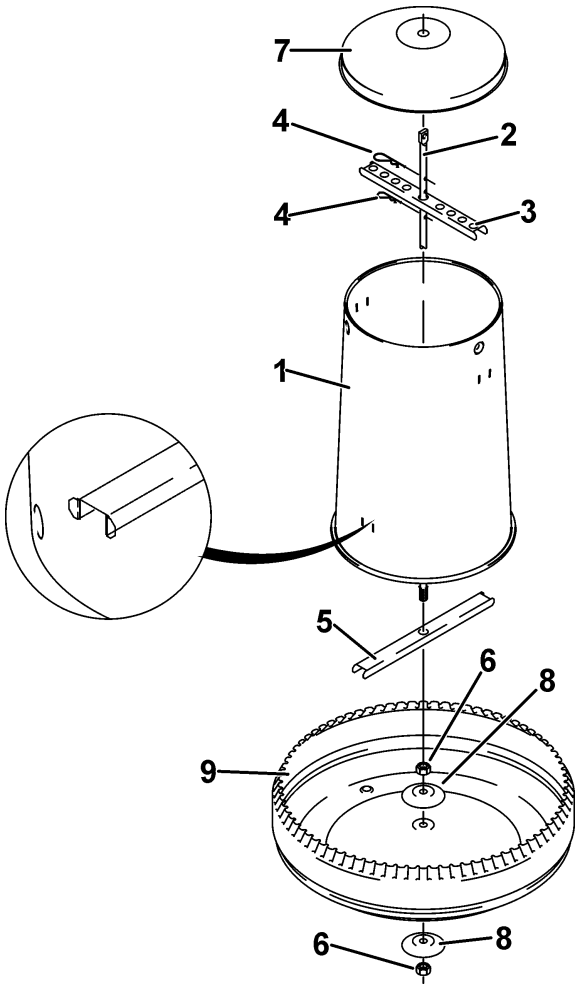
	birds / feeder	feeding method
Broiler breeder males production phase from week 16/18 onwards	16	restricted
Turkeys up to 12 kg	51	ad libitum
Turkeys up to 20 kg	33	ad libitum

In case of higher bird weights for growing/production, the number of birds per feeder has to be reduced.

Technical data:

Contents approx.:	30 l
Pan diameter:	510 mm
Height of pan rim:	120 mm





1. 20 00 3932
   Upper part for Empa 2+3
2. 20 00 3933
   Shaft for Empa 2+3
3. 20 00 3934
   Bracket short for Empa 2+3
4. 99 50 3808
   Spring cotter 3 mm
5. 20 00 3935
   Bracket long for Empa 2+3
6. 99 20 1032
   Hexagon nut M 12 DIN 555
7. 20 00 3936
   Cover PVC for Empa 2
8. 20 00 3938
   Washer flat for Empa 2
9. 20 00 3931
   Dish Empa 2 dia 51 cm / depth 12 cm

Figure 8-1: Self feeder 30 l, Empa 2 (Code No: 20 00 3930)

8.2 Self feeder 30 l, Empa 3, Code-No. 20 00 3940

Due to its more shallow feed plate with a smaller diameter, this self feeder is particularly suited for layers up 2.2 kg live weight and for rearing broiler breeder males up to week 16/18.

Recommended number of birds per Empa 3 self feeder:

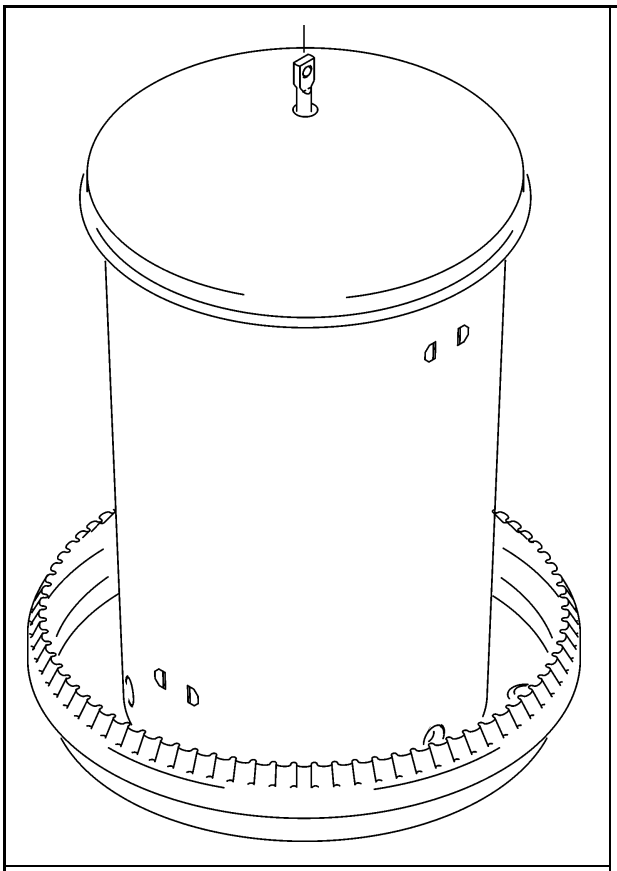
	birds / feeder	feeding method
Broiler breeder males rearing phase up to week 16/18	17	restricted
Layers up to 1,5 kg LW*	104	ad libitum
Layers up to 2,2 kg LW*	92	ad libitum

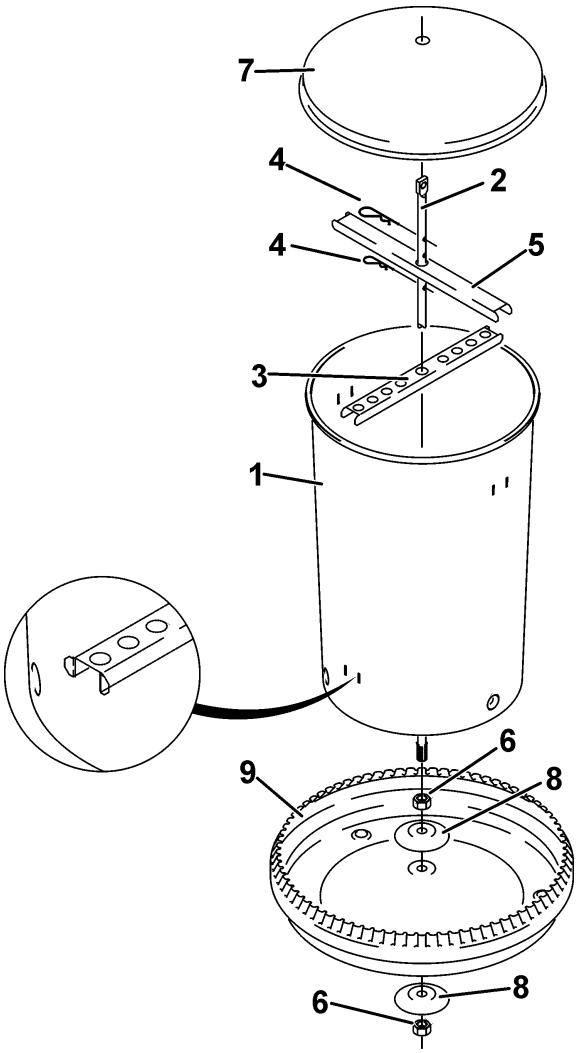
LW* = live weight

In case of higher bird weights for growing / production, the number of birds per feeder has to be reduced.

Technical data:

Contents approx.:	30 l
Pan diameter:	375 mm
Height of pan rim:	70 mm





1. 20 00 3932
   Upper part for Empa 2+3
2. 20 00 3933
   Shaft for Empa 2+3
3. 20 00 3934
   Bracket short for Empa 2+3
4. 99 50 3808
   Spring cotter 3 mm
5. 20 00 3935
   Bracket long for Empa 2+3
6. 99 20 1032
   Hexagon nut M 12 DIN 555
7. 20 00 3946
   Cover galv for Empa 3
8. 20 00 3947
   Washer conic for Empa 3
9. 20 00 3941
   Dish Empa 3 dia 37,5 cm / depth 7 cm

Figure 8-2: Self feeder 30 l, Empa 3 (Code No: 20 00 3940)

8.3 Self feeder 30 l, Empa 4, Code-No. 20 00 3950

The Empa 4 self feeder is designed for manual or restricted feeding of adult males from 2.5 to 4.5 kg live weight in broiler breeder production houses (laying). Turkeys aged 5 to 6 weeks of 2 to 2.5 kg live weight can be fed up to their maximum weight as well.

Turkey/ Broiler-Breeder-Males: Recommended number of birds per feeder:

	birds / feeder	Feeding method
Broiler Breeder-Males Production phase from week 16./18. onwards	16	restrictive
Turkeys up to 12 kg LW*	51	ad libitum
Turkeys up to 20 kg LW*	33	ad libitum

LW* = live weight

Due to its shallow feed plate, the Empa 4 self feeder can also be used for layers up to 2.2 kg live weight and for rearing broiler breeder males up to week 16/18.

Recommended number of birds per Empa 4 feeder:

Layers/ Broiler-Breeder-Males: Recommended number of birds per feeder

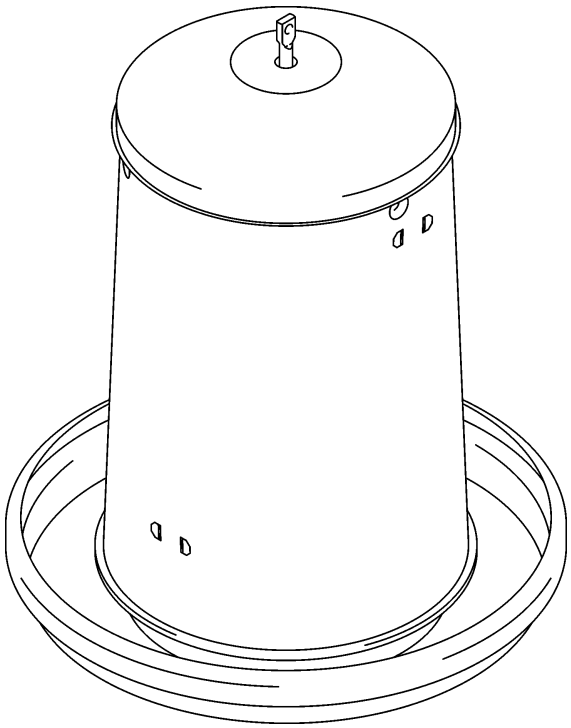
	birds / feeder	feeding method
Broiler-Breeder-Males Rearing phase up to week 16./18.	17	restricted
Layers up to 1,5 kg LW	104	ad libitum
Layers up to 2,2 kg LW*	92	ad libitum

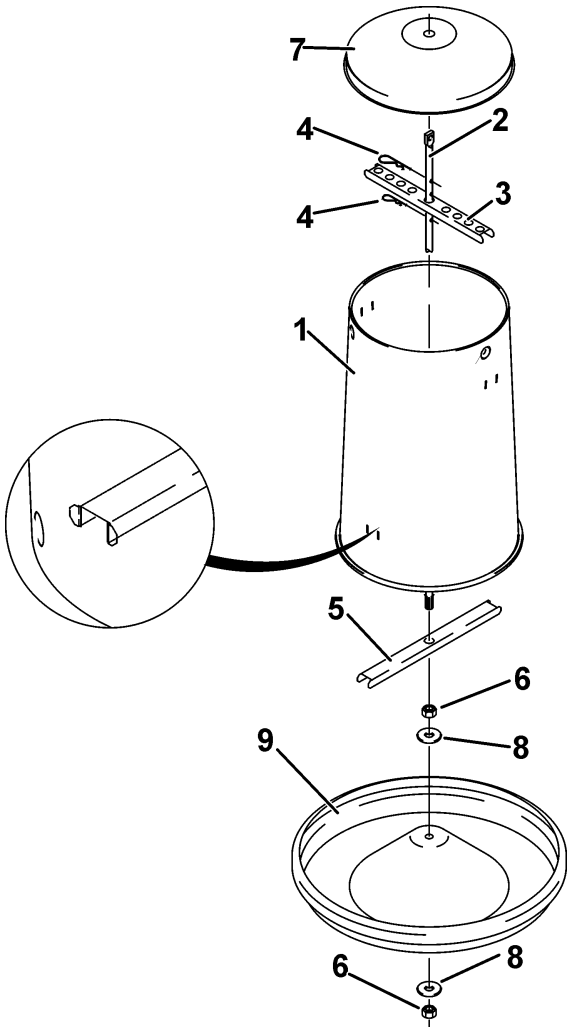
LW* = live weight

In case of higher bird weights for growing / production, the number of birds per feeder has to be reduced.

Technical date:

Contents approx.:	30 l
Pan diameter:	410 mm
Height of pan rim:	80 mm





1. 20 00 3932
   Upper part for Empa 2+3
2. 20 00 3933
   Shaft for Empa 2+3
3. 20 00 3934
   Bracket short for Empa 2+3
4. 99 50 3808
   Spring cotter 3 mm
5. 20 00 3935
   Bracket long for Empa 2+3
6. 99 20 1032
   Hexagon nut M 12 DIN 555
7. 20 00 3936
   Cover PVC for Empa 2
8. 99 20 1150
   Washer A13,0x37x3
9. 20 00 3951
   Dish Empa 4 plastic dia 41cm / depth 8cm

Figure 8-3: Self feeder 30 l, Empa 4 (Code No: 20 00 3950)

8.4 Self feeder 12 l Picorett FRC, Code-No. 11 31 3080

The Picorett FRC self feeder 12 l is suitable for rearing birds, particularly poults in a poult ring.

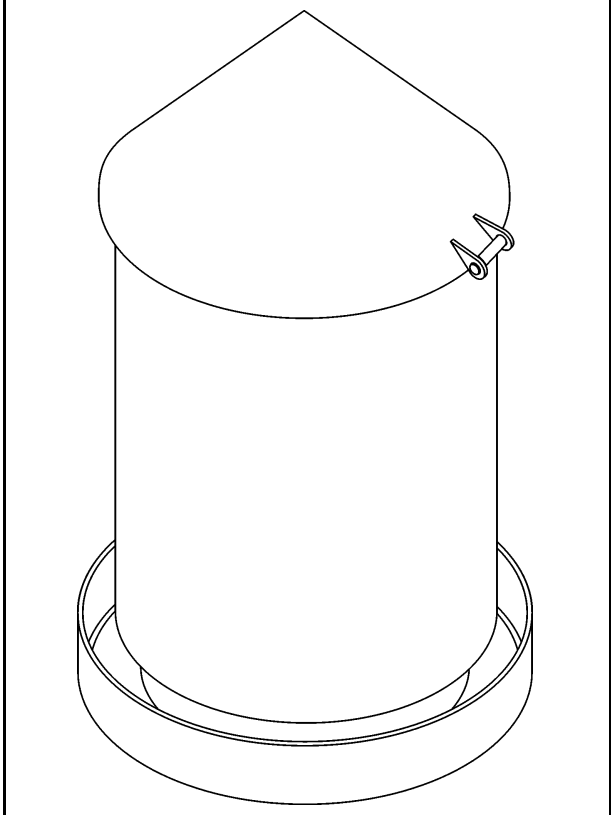
After rearing in the poult ring, the Picorett FRC self feeder 12 l can be connected to the Augermatic system instead of a feed pan and thus filled automatically.

The Picorett FRC self feeder 12 l has the following advantages:

- Less poult losses
  The low pan rim even allows day-old-poults easy access to the feed.
- Less feed losses
  The feed level can be adapted to the birds' age and the flowability of the feed.
- Increased feed conversion
  The poults do not stand nor sleep in the pans. The feed does not get soiled. A cover protects the feed against dust, preventing the birds from entering the feed hopper.

Technical data:

Contents approx.:	12 l
Pan diameter:	360 mm
Height of pan rim:	45 mm
Total height without cover:	280 mm
Total height with cover:	370 mm



1. Coverl
2. Feed bucket
3. Adjusting spindlel
4. Lower part of self feeder
5. Plug

Assembly

- Insert square dog point of adjusting spindle (3) into the lower part of the self feeder (4) until it locks into place.
- Screw the feed bucket (2) onto the adjusting spindle (3).
- Fix the joint of the cover (1) to the hinge of the feed bucket (2).
- Insert the plug (5) into the square dog point of the adjusting spindle.

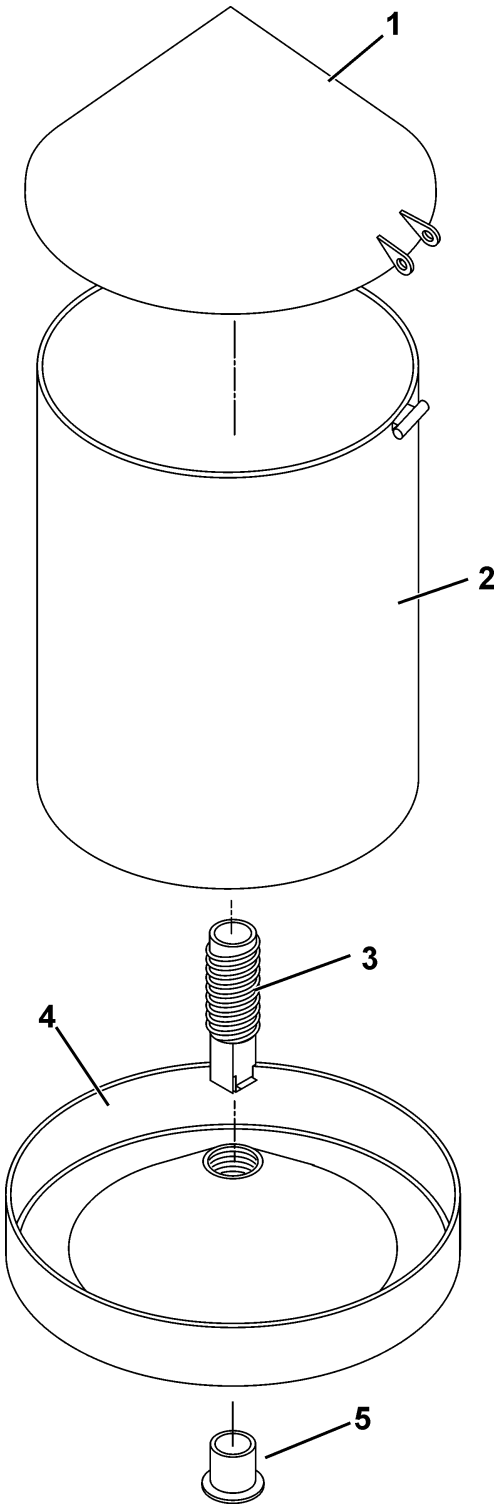
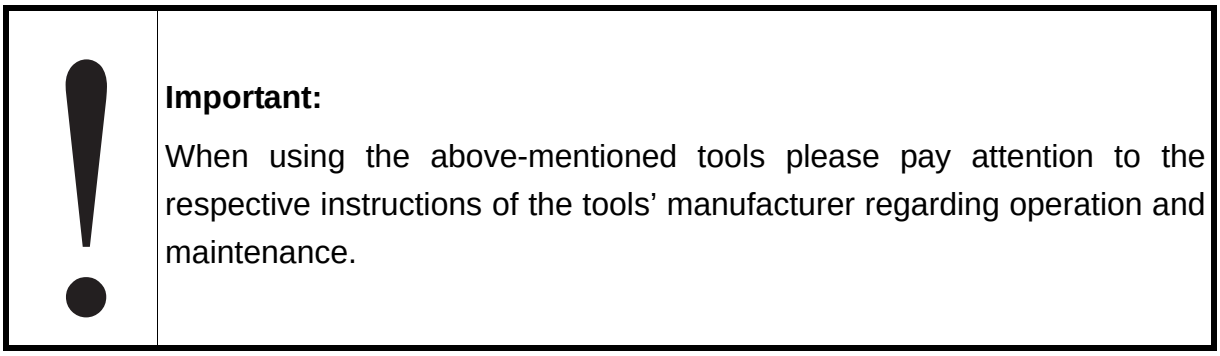


Figure 8-4: Self feeder 12 l Picorett FRC (Code No: 11 31 3080)

9 Tooling

For the assembly of the Augermatic feeding system we recommend using the following tools:

1 (each)	cross head screw driver size 2 and 3
1 (each)	open-ended /ring/socket spanner 8mm,10mm, 13 mm
1 (each)	open-ended / ring spanner 17 mm and 19 mm
1	pair of combination pliers
1	pair of side cutters and pair of bolt cutters
1	pair of pincers
1 (each)	sledge hammer 500 gr and 250 gr
1	electric drilling machine (manually operated)
1	electric disc grinder
1 (each)	twist drill dia 6, 8 and 10 mm
1	spirit level
1	metal cutting saw
1	vise-grip wrench 250-350 mm long
1	electric screw driver with fittings for head head screws M5, M6, M8



Important:

When using the above-mentioned tools please pay attention to the respective instructions of the tools' manufacturer regarding operation and maintenance.

10 Mounting instructions

Do not put these instructions aside before reading them. Even if you have already installed similar systems, there may always be things and alterations you do not yet know. Being properly informed will help you to avoid unnecessary work, troubles and abnormal expenses.

The instructions, facts and data contained in this manual have been compiled to cover the various existing types of the Augermatic feeding system.

We, therefore, request you to select and apply those paragraphs of this manual that are in relation to your specific system.

10.1 Layout of the assembly instructions

In the table of contents you can find and slect the subjects to be treated. The instructions are compiled in a chronological order.

The position numbers used in the text refer to the position of the parts in the drawings and exploded views.

In the mounting instructions the parts are marked with position numbers and an abbreviated description. They also appear, together with the code number and the name in the parts list.

Indicate the following for ordering spare parts:

- Code-No. and description of the spare part
- Invoice No. of original delivery
- In case of electric parts: current supply, e.g. 220/380V-3Ph.-50Hz.

10.2 Before starting to assemble the system

Before starting to assemble the system, check whether

- house dimensions, installation drawing and order are corresponding to one another
- the ventilation, the watering and the lighting system in the house are completely installed.

10.3 Assembly order

Start the assembly at the house walls working your way from the outside to the inside so that the inner space may be used for placing your material.

- Install the feed pans without tube adapter.
- Fix the feed pans to the tubes by means of a tube adapter. Distribute these units in the house at the predetermined places. See to it that the bulged tube ends are pointing in the direction of the feed hopper.
- Fix the feed pans and one control pan (as the last but one pan in front of the drive) to the end tube by means of a tube adapter. Distribute one unit per line at the drive side in the house. See to it that the non-bulged tube ends are pointing in the direction of the drive.
- Connect all tubes and the end tube with the feed pans of one line.
- At the feed supply side, install the lower part of the feed hopper to the last tube of the line.
- Install the drive at the other end of the line at the end tube. Fix the sensor to the control pan.
- Insert the auger, pre-tension it and fix it.
- Now install the anti-roost wire and the central flooding device in case of the TRU PAN.
- Place the upper part of the feed hopper on the lower part of the feed hopper.
- Install the suspension system and connect it to the feeder lines.
- Install the anti-roost device with the electric fencer.

11 Assembling of Augermatic components

11.1 Feed pans

11.1.1 Fixing the feed pans to the feed tubes

Installing the feed pans and fixing them to the conveying tubes is done in the same order with all different kinds of feed pans.

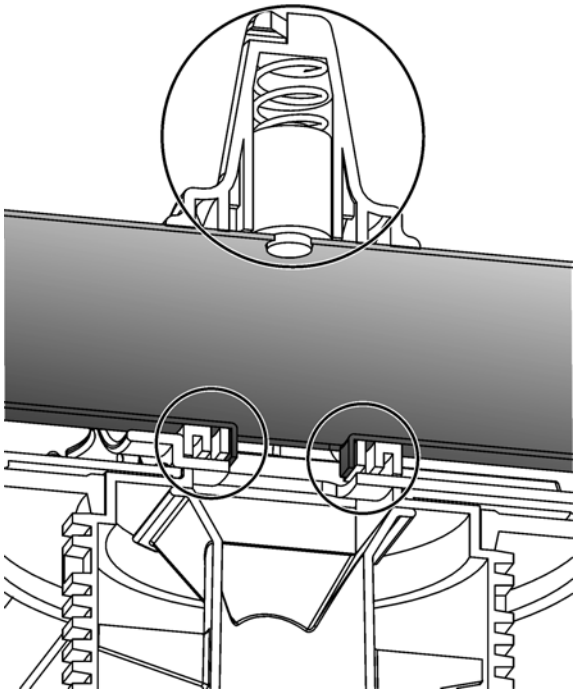
Feed pans are fixed to the conveying tubes either fixed or swinging freely. The **standard method** of fixing for Big Pan, Fluxx und Multi Pan is swinging and for Male Pan und Fluxx Breeder 360 is fixed.

The Big Pan, Fluxx and Multi Pan pans can also be installed "fixed" A "swinging fixing" has not been planned for Male Pan and Fluxx Breeder 360. a

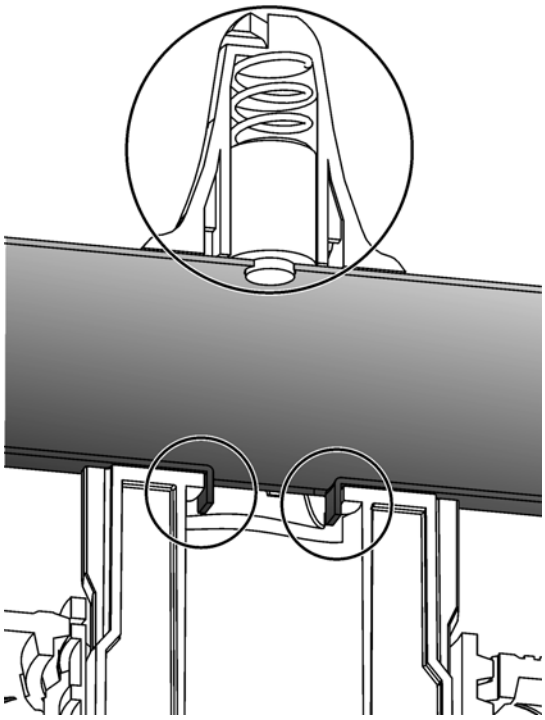
Thus:

The type of fixing has to be agreed with the customer if it has not yet been determined upon start of installation.

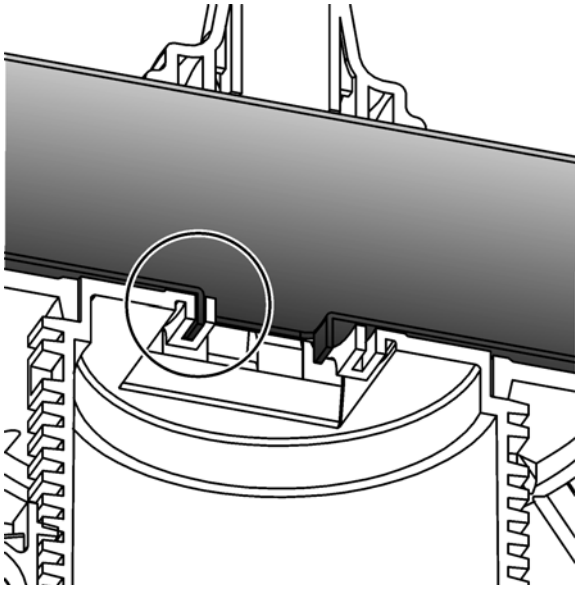
Fixing of pan /Augermatic-tube



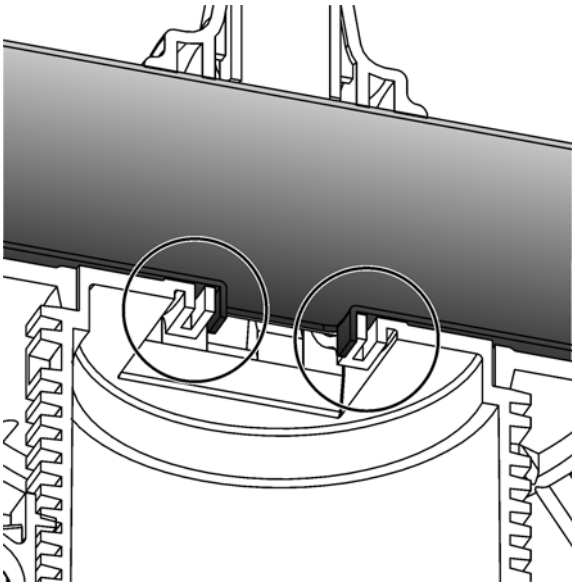
- **"fixed": Male Pan** (pan is fixed by means of holding pin and compression spring).



- "**fixed": Fluxx330 and Fluxx Breeder 360** (pan is fixed by means of holding pin and compression spring).



- **"fixed": BigPan and MultiPan** (pan is fixed by inserting one guide of the tube opening into the opening of the inner cylinder).



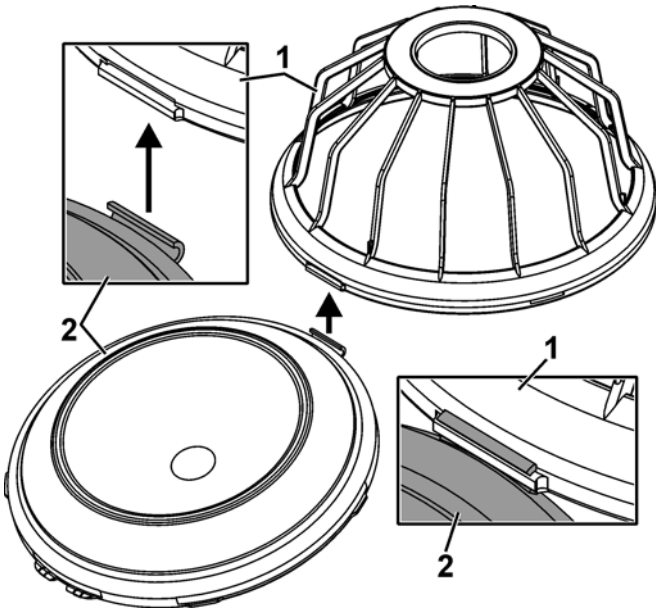
- **"swinging": BigPan, MultiPan and Fluxx 330** (for Fluxx330: see above, but without holding pin and compression spring).

11.1.2 Installing feed pans Big Pan, Multi Pan and Male Pan

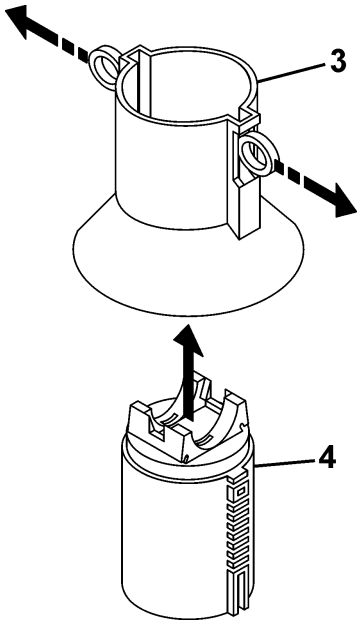
11.1.2.1 Assembling the feed pans without shut-off

Important:

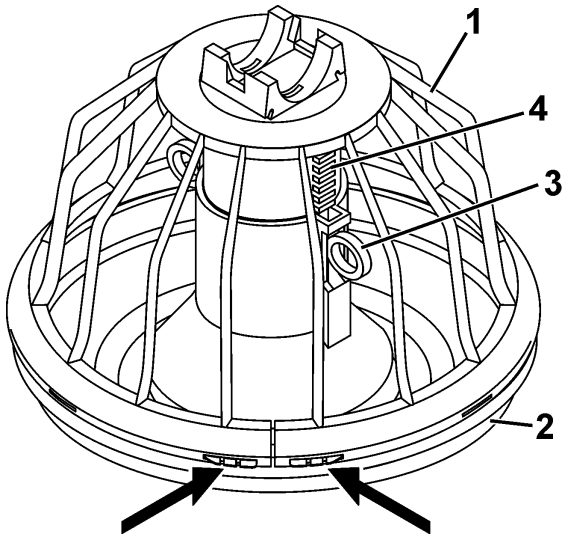
According to the type of pan the below-described compents may look different. The principle of assembly is, however, identical.



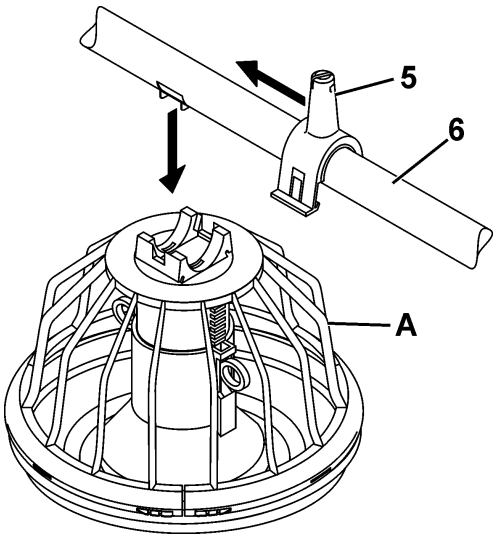
- Connect grill (1) with dish (2).



- Put cylinder outer (3) on cylinder inner (4).

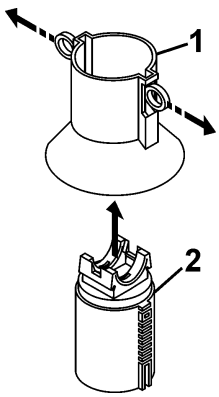


- Insert cylinder inner and outer (3+4) into dish (2) with grill (1) stecken and lock grill into place in dish (arrows).

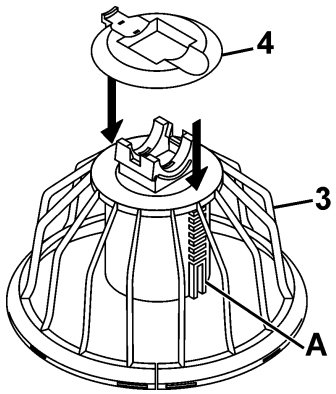


- Fix the pre-assembled feed pan (A) to the tubes (6) by means of the tube adapter (5).

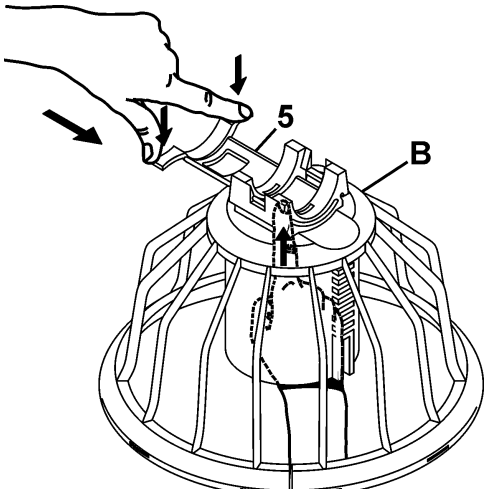
11.1.2.2 Assembling the feed pans with shut-off



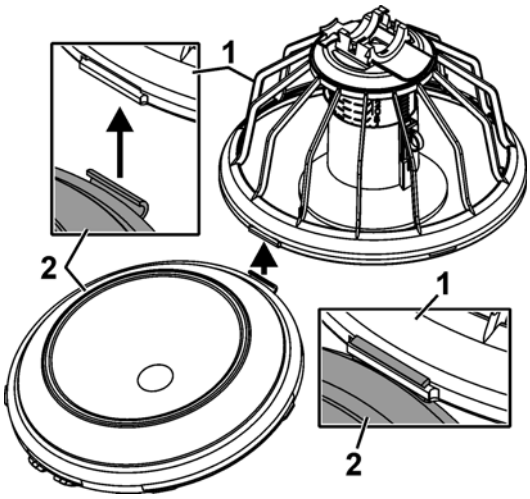
- Put cylinder outer (1) on cylinder inner (2).



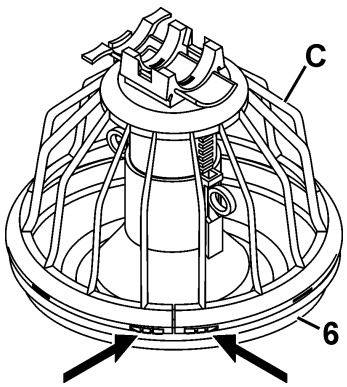
- Insert assembled cyclinder (A) into the grill (3). Place a guide ring for slide shut-off (4) on top.



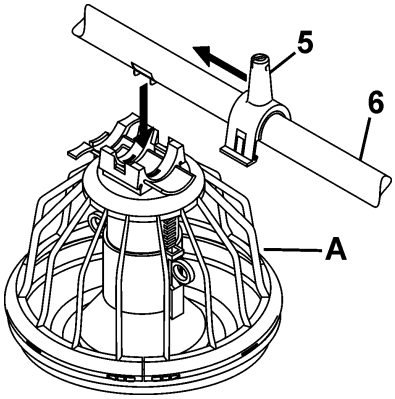
- Insert a slide shut-off (5) into the pre-assembled unit (B).



- Connect pre-assembled unit (C) with dish (6).



- Lock pre-assembled unit (C) into place (arrow) in dish (6).



- Fix the pre-assembled feed pan (D) to the tube (8) by means of a tube adapter (7).

11.1.2.3 Assembling the volume reducing insert into the cyclinder inner

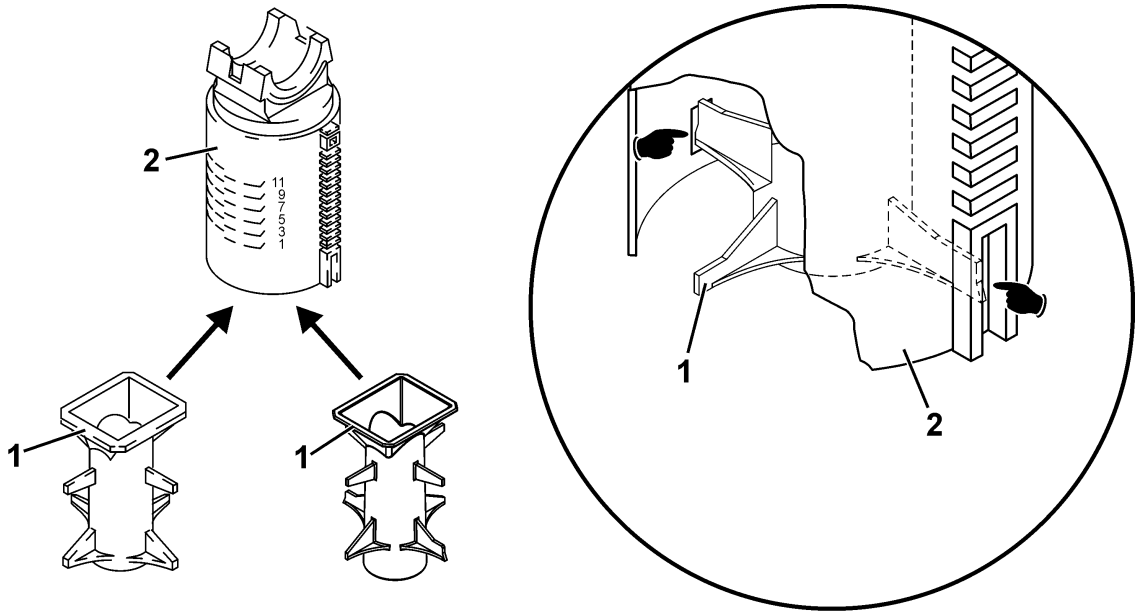


Figure 11-1: Insert the volume reducing insert (1) into the cylinder inner (2)

Insert the volume reducing insert (1) into the cylinder inner (2). Make sure that the pivots of the volume reducing insert (1) hook into the seats of the cylinder inner (2) (see detail).

11.1.2.4 Assembling the feed saving collar

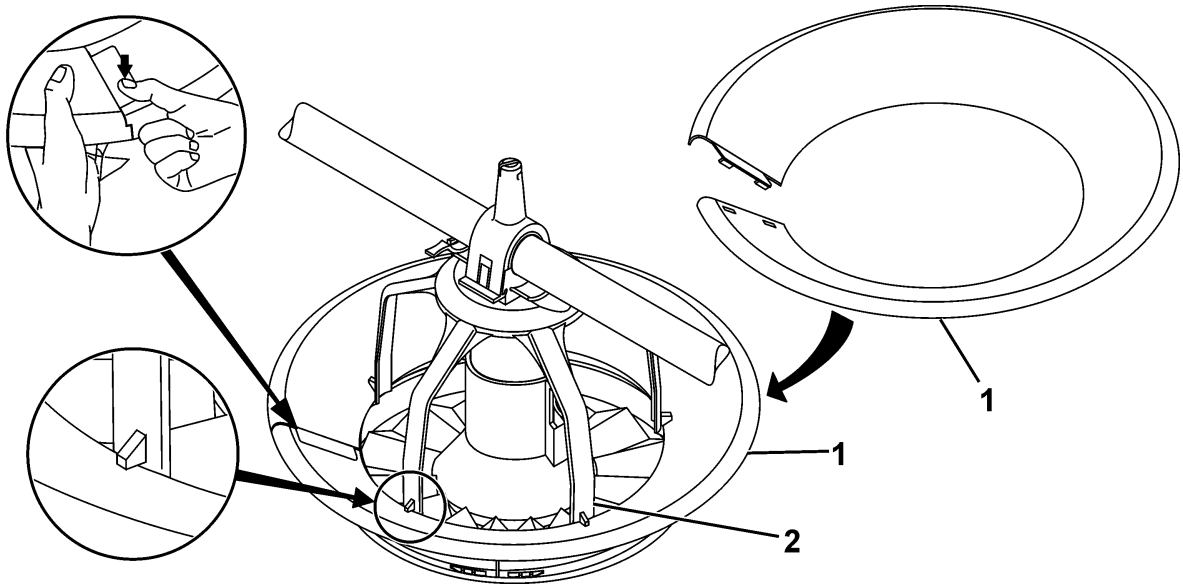


Figure 11-2: Assmbly of the feed saving collar

Place a feed saving collar (1) over the grill (2) of the feed pan. Make sure that the openings of the feed saving collar (1) are seated in the hooks of the grill (2) and then close the lock.

11.1.2.5 Installing the Male Pan to the tube

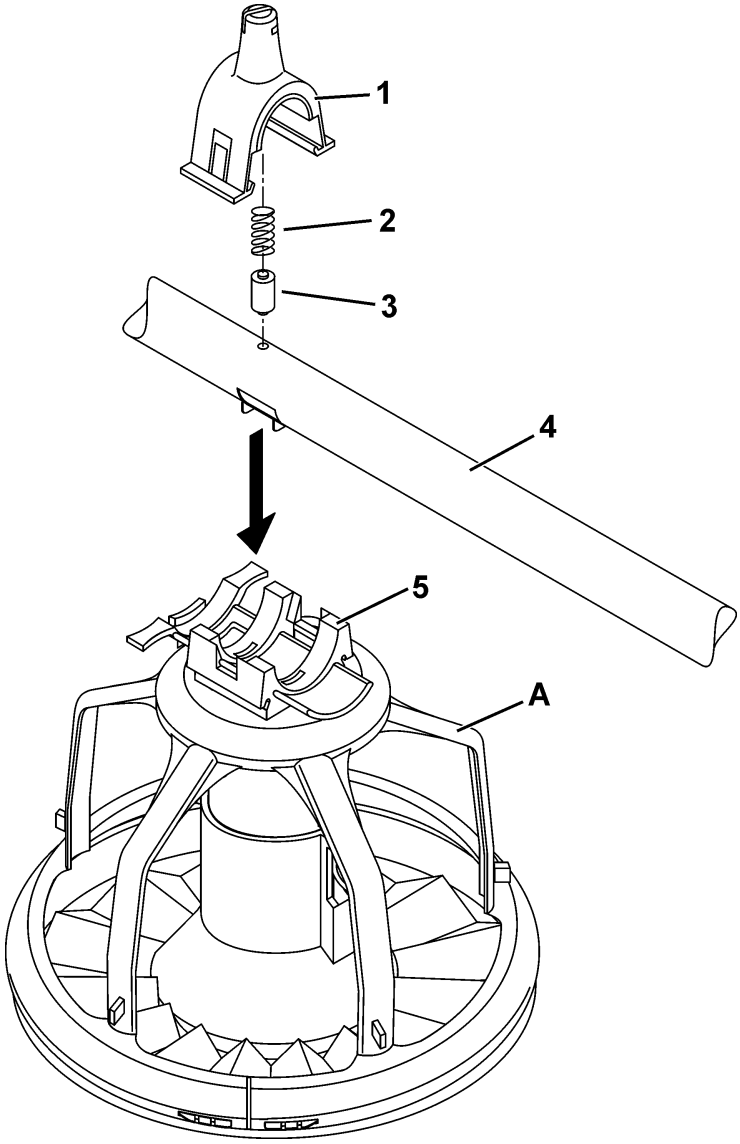


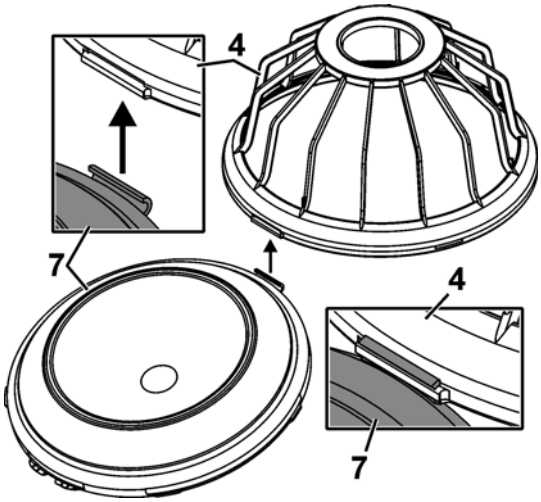
Figure 11-3: Installing the Male Pan to the tube

- Place a tube (4) on the cylinder inner (5) of the pre-assembled feed pan (A). Make sure that the feed pan (A) is fixed swinging. (See chapter 11.1.1: Fixing the feed pans to the conveying tubes).
- Insert a support bolt for tube adapter (3) and a pressure spring (4) into the tube adapter (5).
- Push the tube adapter (1) with support bolt for tube adapter (3) and pressure spring (2) on the tube (4) and insert this on the inner cylinder (5) of the feed pan (A). Make sure the support bolt for tube adapter (3) **locks into place** in the drill hole of the tube (4).

11.1.3 Installing feed pan Fluxx (all types)

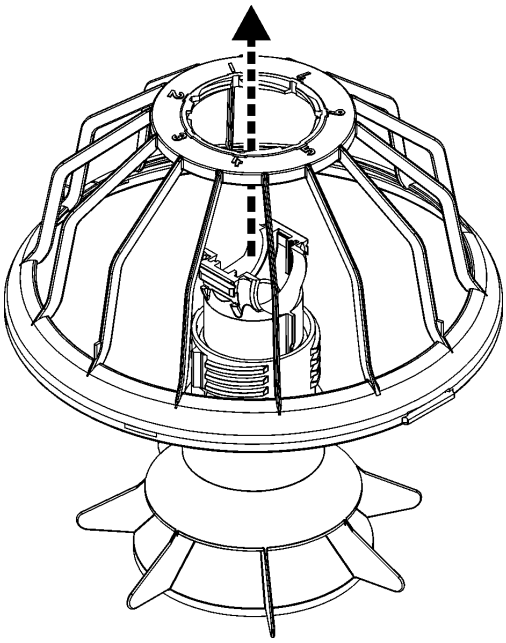
The feed pan is pre-assembled.

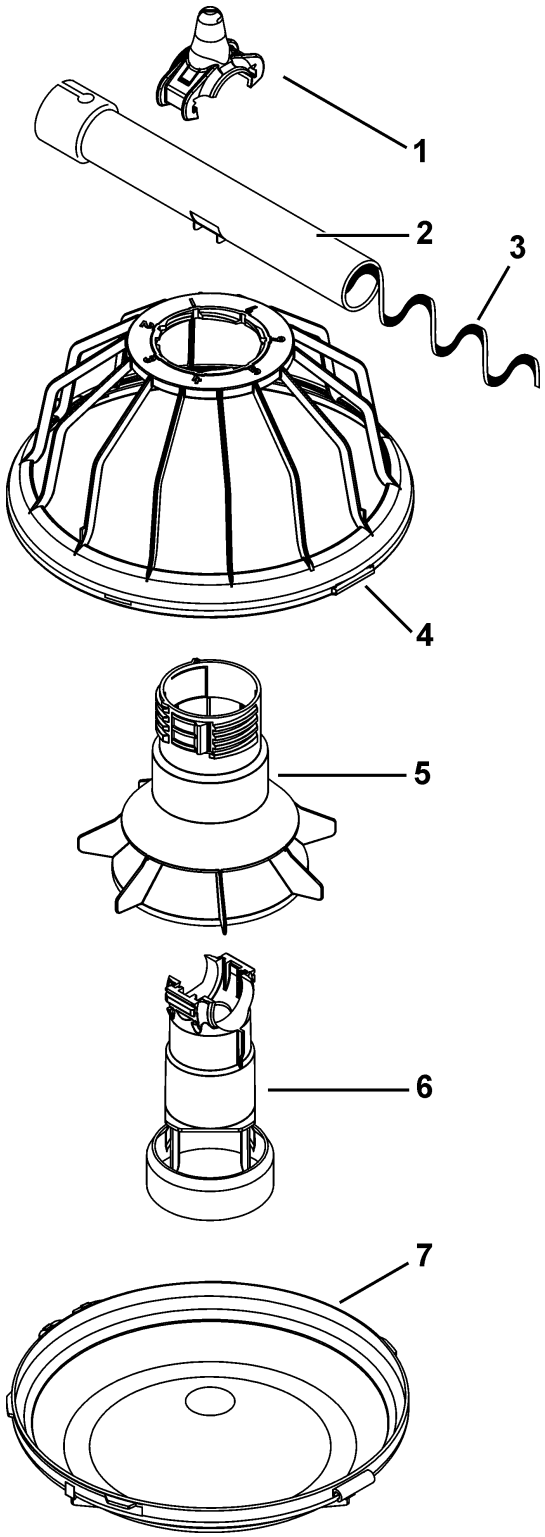
- Connect grill (4) with dish (7)



- Plug the inner (6) and outer cylinder (5) together
- Push both cyclinders in the grill (4) from underneath and lock grill and dish.

  See chapter 11.1.2 "Assembly of feed pans Big Pan, Multi Pan and Male Pan."





- Connect the pre-assembled feed pan witht he tube adapter (1) to the tube (2).

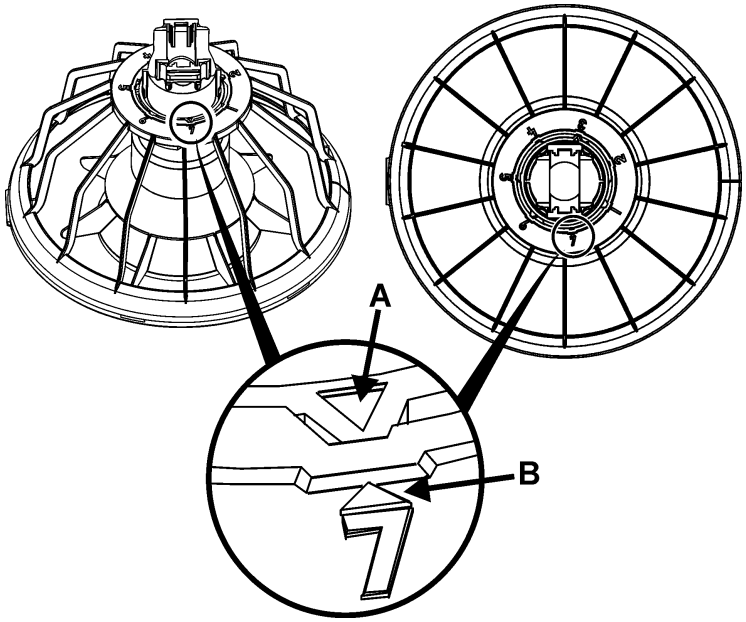
Important information:

There are numbers (1 to 7) on the upper side of the grill (4). They indicate the different feed level positions of the pan. The arrowhead of the outer cylinder (detail A) has to be positioned directly across from the arrowhead on teh grille (detail B, feed level position 7).

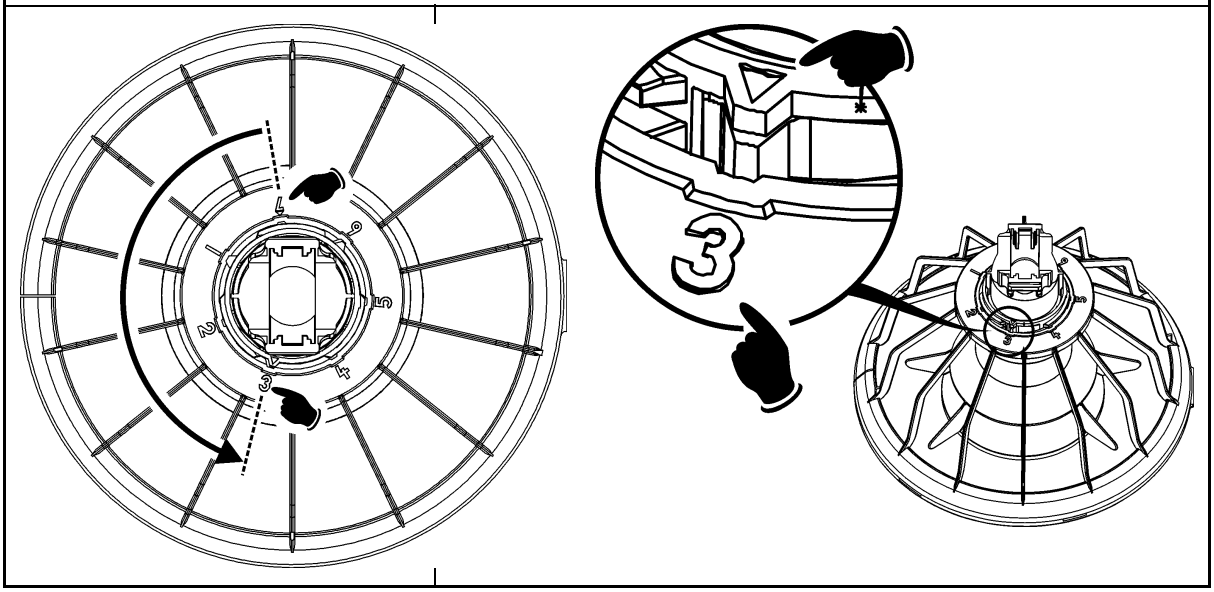
The cylinders are arrested by means of turning the grill in the direction of feed level position 1.

Please note:

The feed level positions can only be changed when the pan is floating!



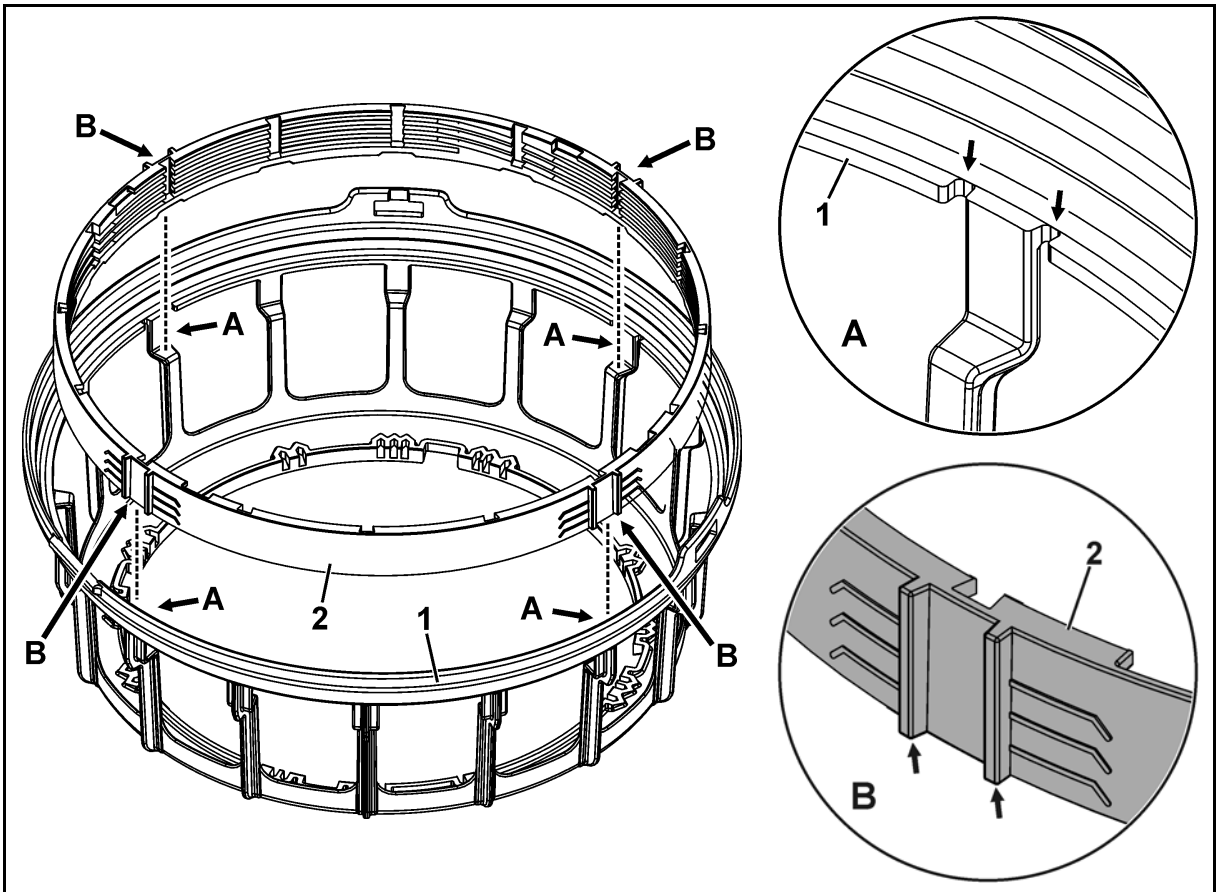
According to experience, feed level position 3 is the optimum position for the start.



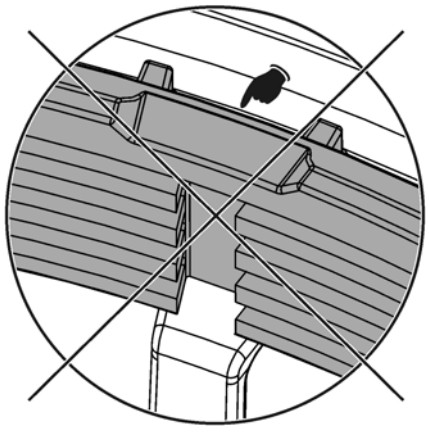
11.1.4 Installing pans Fluxx Breeder 360 and Fluxx Breeder 360AZ

11.1.4.1 Fluxx Breeder 360 rearing and production (FXB360)

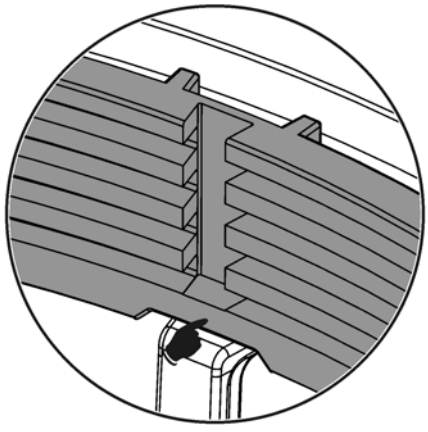
Insert levelling ring



Levelling ring wrongly inserted

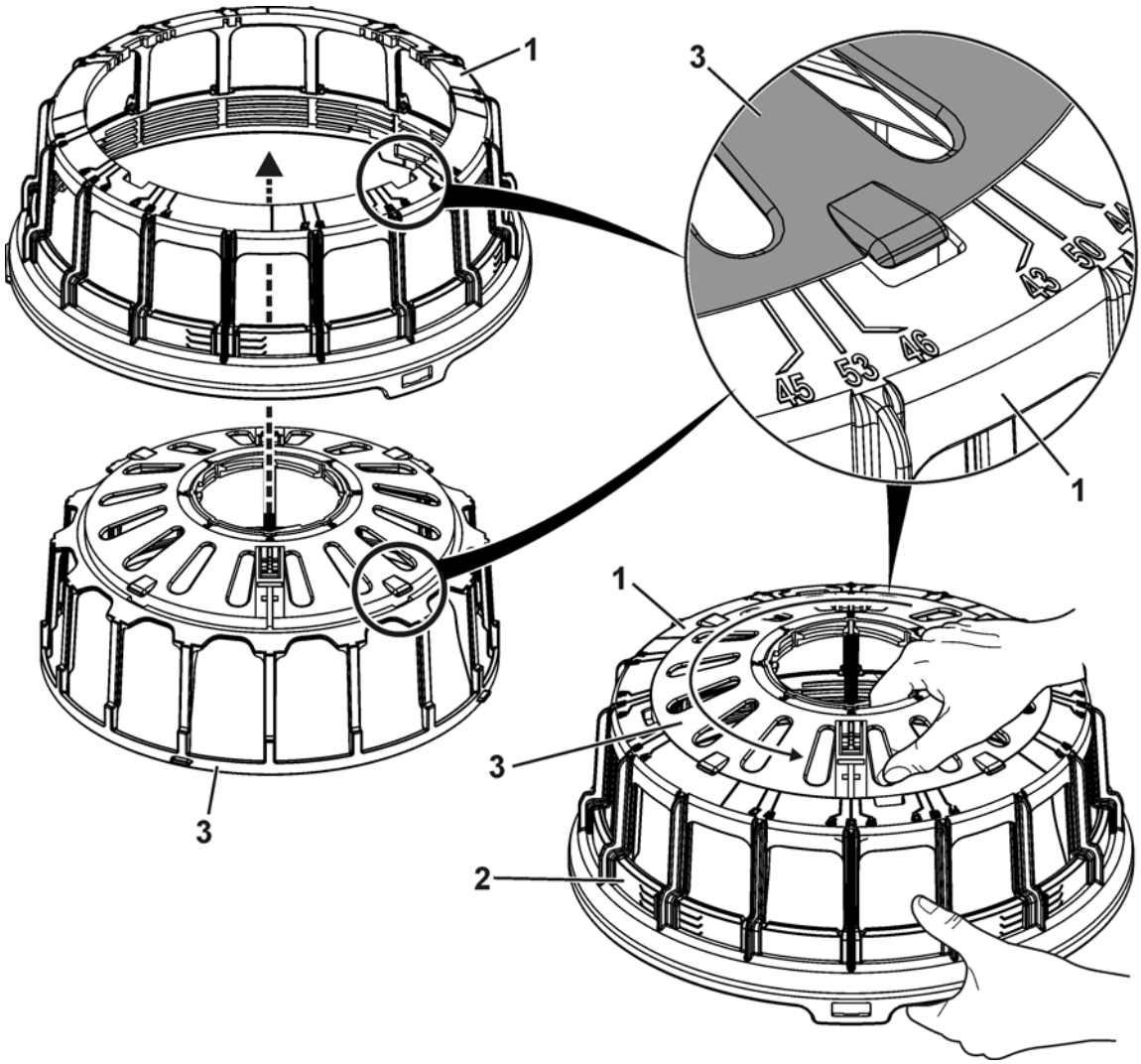


Levelling ring correctly inserted



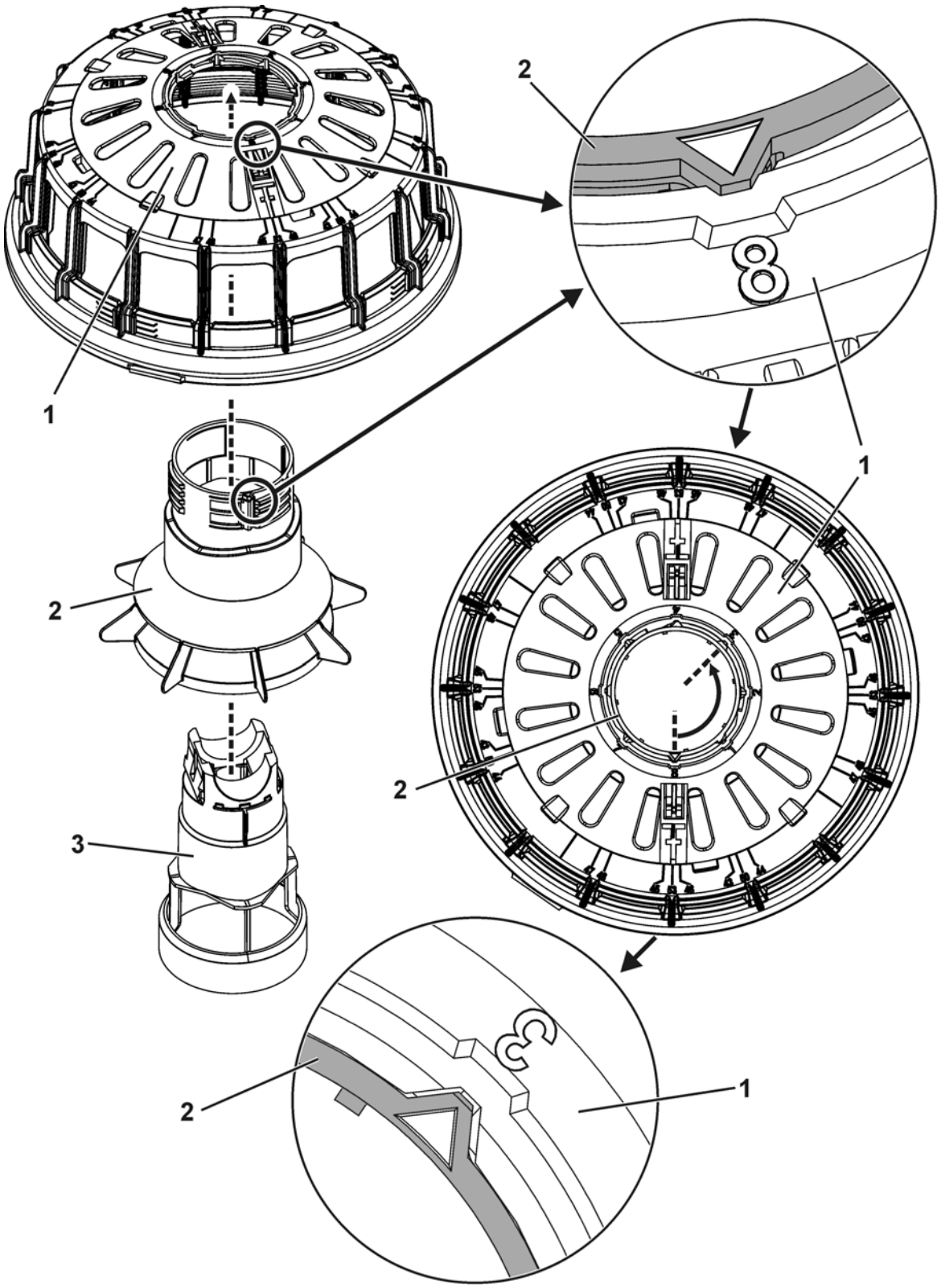
Pos.	Qty.	Code no.	Description
1	1	83-01-6340	Grille outer for FXB360
2	1	83-01-6344	Levelling ring FO for FXB360

Insert grille inner into grille outer



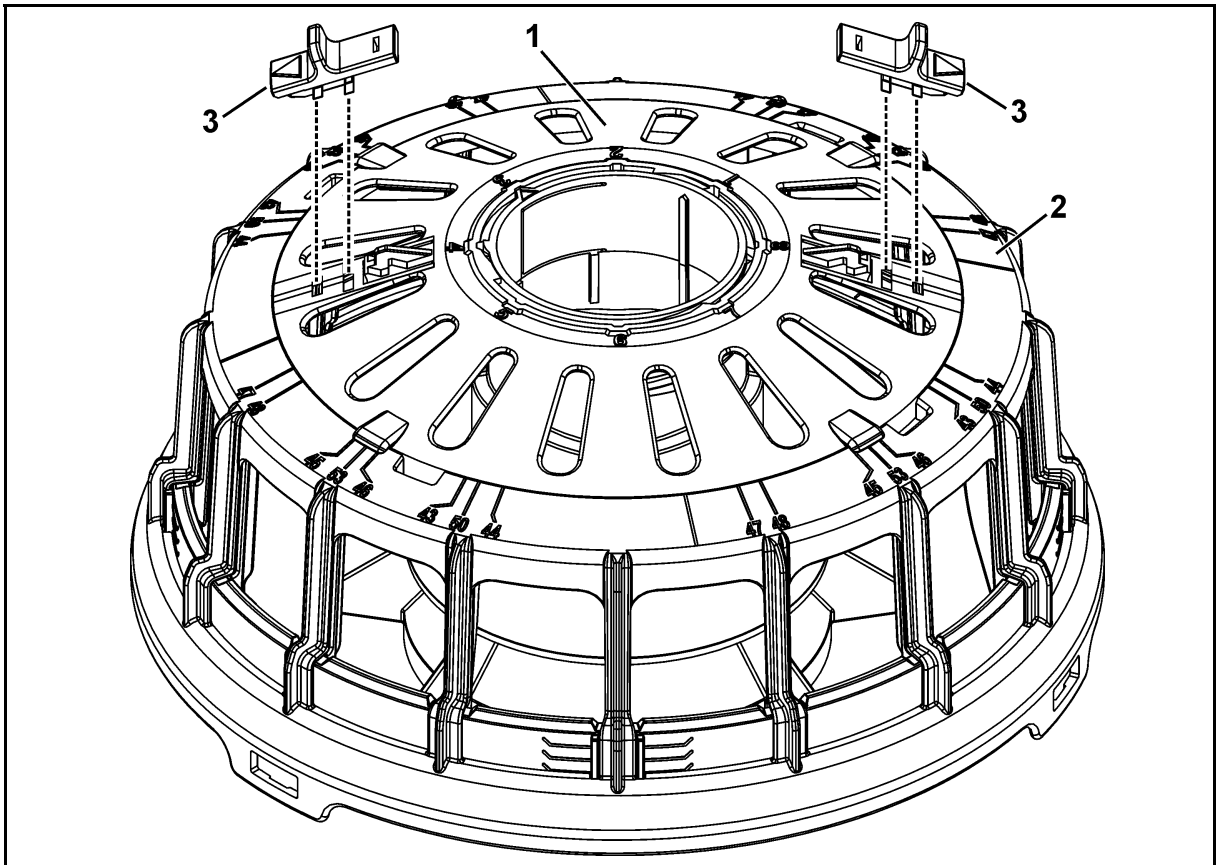
Pos.	Qty.	Code no.	Description
1	1	83-01-6340	Grille outer for FXB360
2	1	83-01-6344	Levelling ring FO for FXB360
3	1	83-01-6339	Grille inner for FXB360

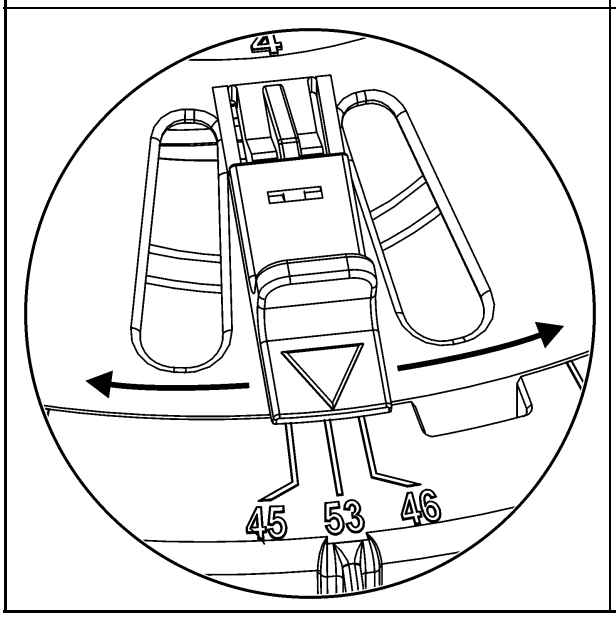
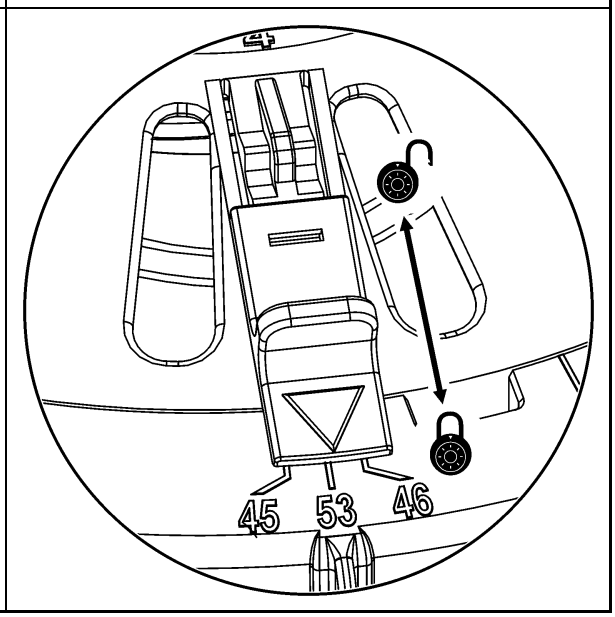
Insert cylinder (inner / outer)



Pos.	Qty.	Code no.	Description
1	1	83-01-6339	Grille inner for FXB360
2	1	83-01-6341	Cylinder outer for FXB360
3	1	83-01-8946	Cylinder inner for Rohr dia45 FXB360

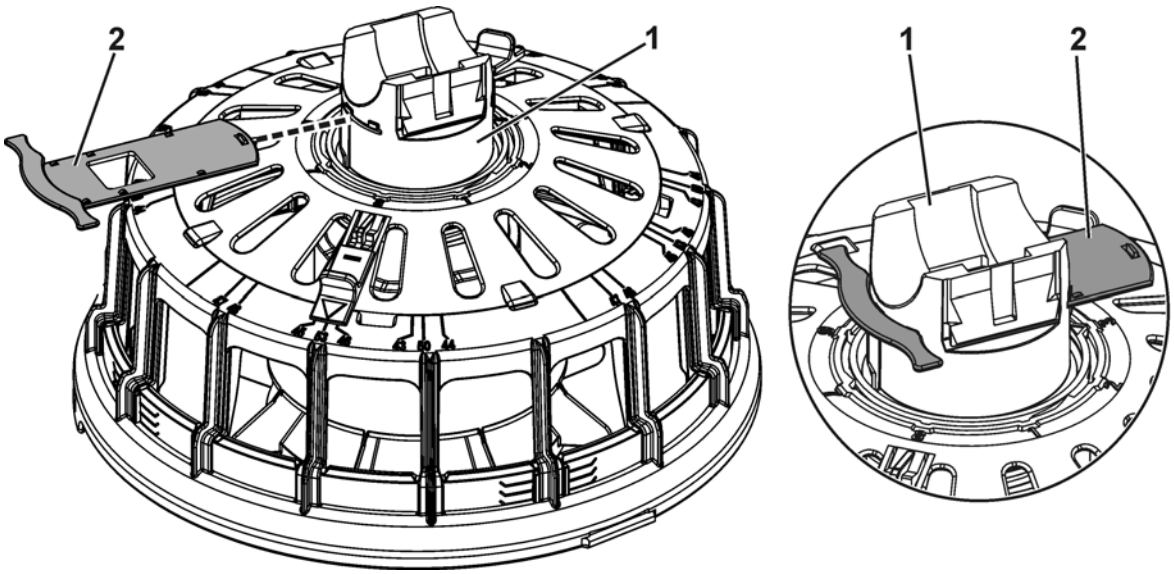
Insert locking slide



locking slide (open) (griller inner rotable)	locking slide (locked) (grille inner no longer rotable)
	

Pos.	Qty.	Code no.	Description
1	1	83-01-6339	Grille inner for FXB360
2	1	83-01-6340	Grille outer for FXB360
3	2	83-01-6345	Locking slide for FXB360

Insert slide shut-off

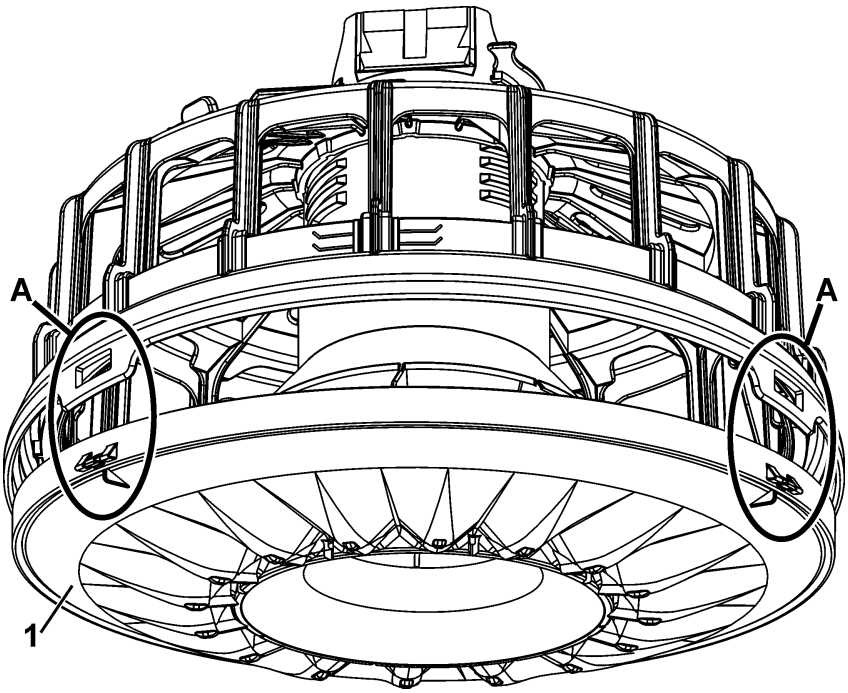


Pos.	Qty.	Code no.	Description
1	1	83-01-8946	Cylinder inner for tube dia45 FXB360
2	1	83-02-5359	Slide shut off FXB360

Fix dish to the grille outer

Chapter 11.1.3 describes how to install the pan for FXB360.

It will be locket at two points (A) at the grille outer.



Pos.	Qty.	Code no.	Description
1	1	83-01-6343	Dish for FXB360

Fixing feed- /control pan to the Augermatic-tube

Fixing of feed pans FXB360 to the Augermatic-tube has to be done as described in chapter 11.1.2.5 for Male Pan by means of a tube adapter, a compression spring and a holding pin.

Pos.	Qty.	Code no.	Description
1	1	83-01-8947	Tube adapter for tube dia45 FXB360
2	1	11-31-3596	Compression spring D-207 J-01
3	1	11-31-3597	Holding pin for tube adapter rigidly mounted

11.1.4.2 Fluxx Breeder 360 rearing (FXB360AZ)

The FXB360 AZ will be mounted in the same way as a Fluxx 330 (see chapter 11.1.3).

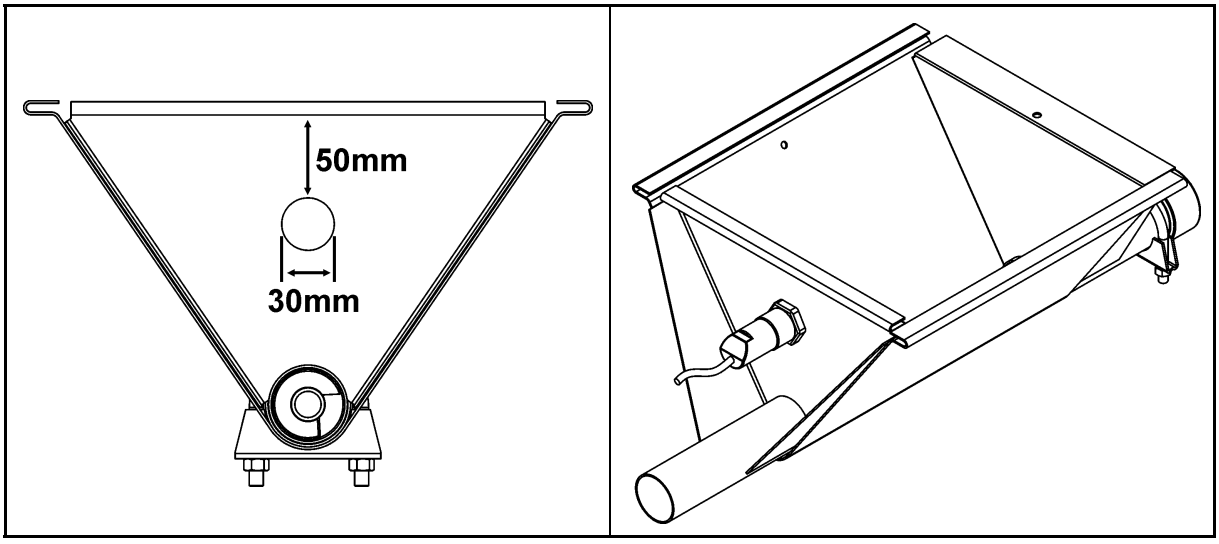
11.2 Feed hopper

11.2.1 Important information for assembling the feed hopper for Fluxx Breeder 360 rearing and Fluxx Breeder rearing and production

The lower part of the Augermatic feed hopper has to be equipped with a minimum sensor. This sensor turns off the Augermatic drive as soon as the daily feed quantity has been distributed and the Augermatic hopper is empty thus avoiding unnecessary noise and excessive wear of the system.

A bore in the lower part of the feed hopper BP/AM has to be made at the site.This bore should have a diameter of 30 mm and it should be positioned directly under the wire mesh guard where the sensor should be installed:

60-40-0754	Sensor MS-45R 220V threaded



11.2.2 Assembling the feed hopper

When erecting the feed hopper make sure it is slightly inclined towards the AM drive. This is important so that cleaning water does not stay in the lower part of the feed hopper, thus possibly destroying the bearing of the tension shaft.

Only one feed hopper (5) is required for both tube diameters 45 mm (1) and 50.8 mm (2).

A sleeve (3) is used to achieve this.

The sleeve (3) is installed as a transition at the Augermatic drive (4) for the tube dia 45 mm (1) and at the feed hopper (5) for the tube dia. 50,8 mm (2).

The sleeve dia 45/50,8, Code-No. 83 00 4914 and the sleeve 48x1.5-50 for tube dia 45/47.6 Code No 11 31 3547 are comprised in the volume of delivery of the Augermatic drive.

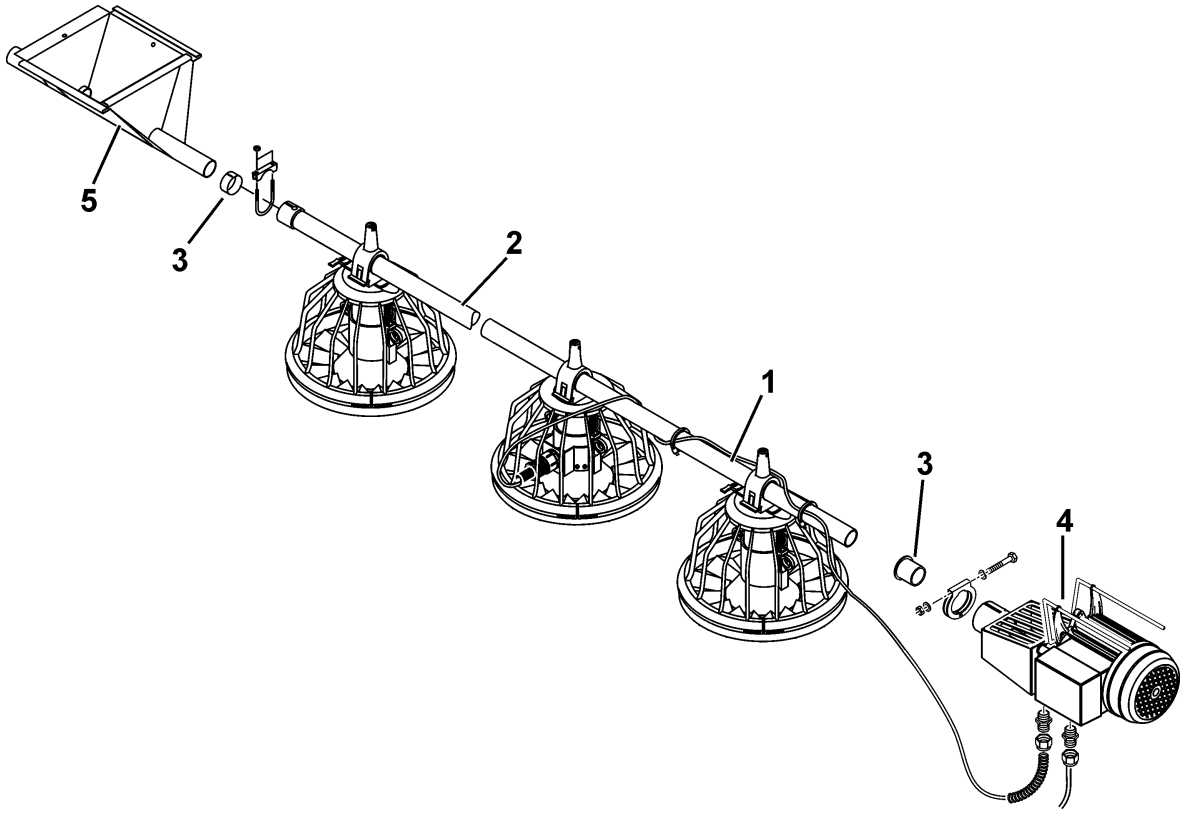


Figure 11-4: Example of a feed line

11.2.2.1 Assembling the upper part on the lower part of the feed hopper

Pos.	Code-Nr.	Bezeichnung
1		Upper part for feed hopper 115L AM+BP
2		Lower part for feed hopper BP/AM für Rohr Dia 45 und 47,6

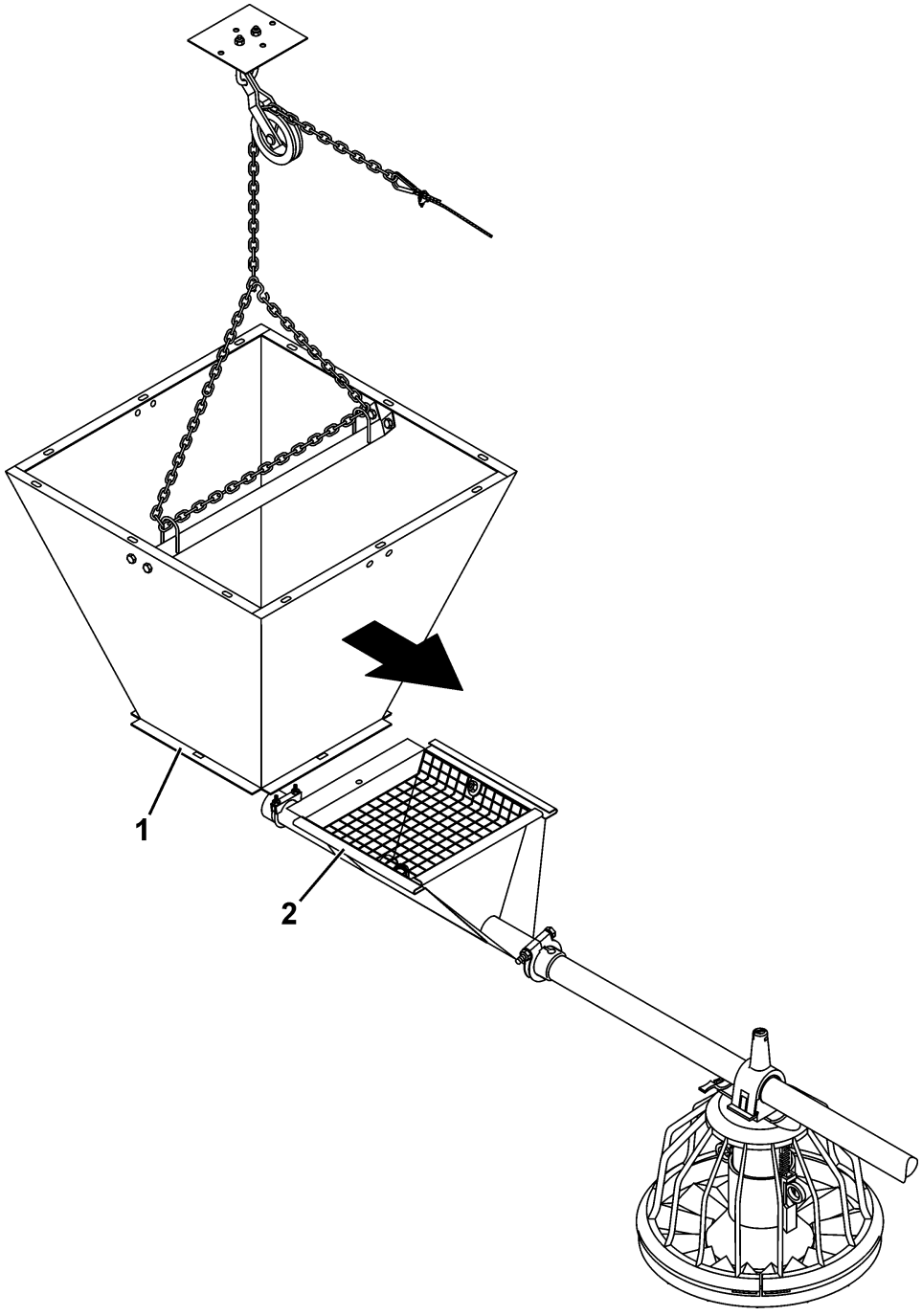
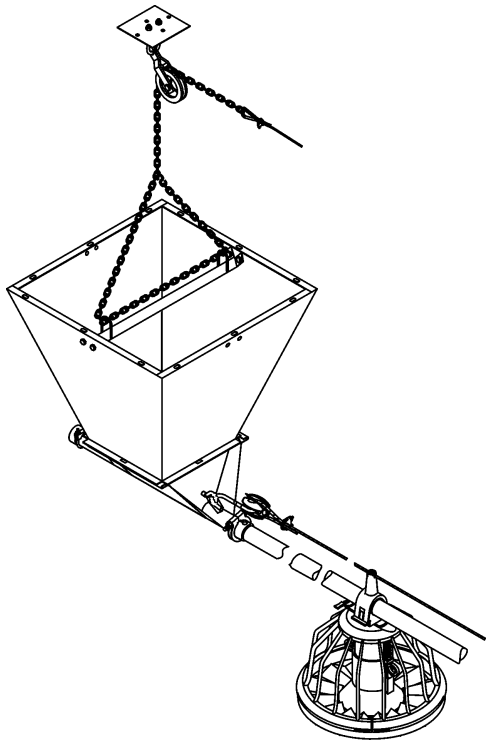
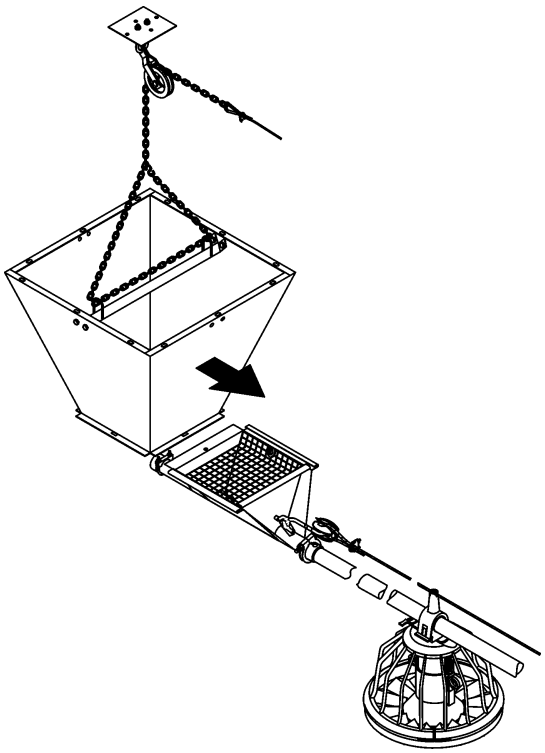


Figure 11-5: Assembling the upper part on the lower part of the feed hopper

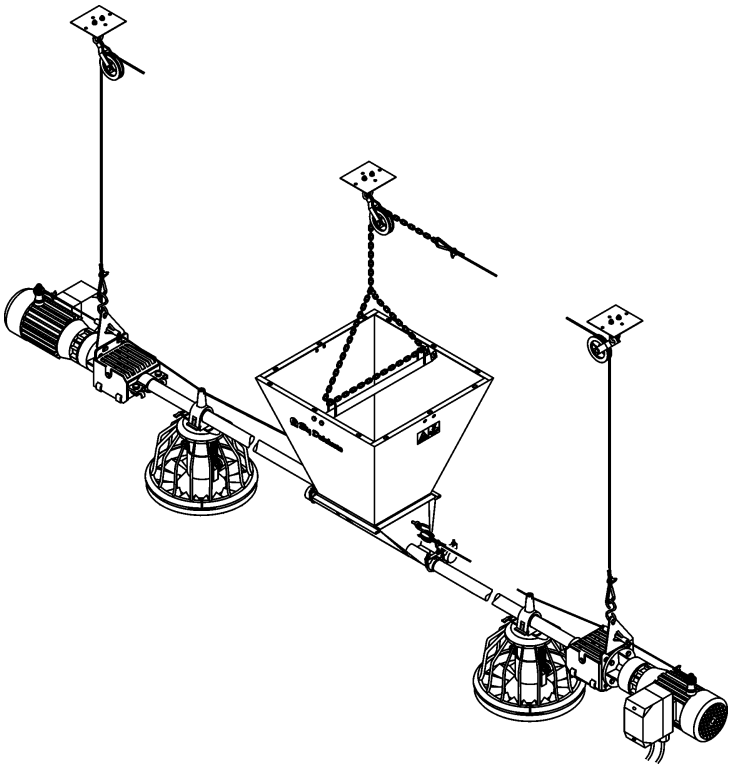
11.2.3 Survey feed hopper 115L 1 + 2 lines



- Feed hopper 115L 1 line with suspension.



- Feed hopper 115L 1linie with suspension, upper part of feed hopper dismantled.



- Feed hopper 115L 2-lines central with suspension

11.2.3.1 Parts list feed hopper 115L 1line cpl BP/AM for tohr dia 45 and 47,6

Pos.	Qty.	Code no.	Description
		11-31-3540	**Hopper 115L 1line cpl BP/AM for tube dia 45 and 47,6**
1		11-31-1311	Upper part for hopper 115L AM+BP
2		11-31-1304	Traverse f/suspension AM+BP
3		11-31-3545	Lower part for hopper BP/AM for tube dia 45 and 47,6
4		99-10-1067	Hexagon head screw M 6x 16 galv. DIN 933 8.8
5		99-50-1147	Washer B 6,4 DIN 125 galv.
6		99-20-1043	Self locking counter nut M 6 DIN 985-6 galv.
		11-31-1315	Guard wire mesh cpl. for lower part of hopper BP/AM
			consists of Pos. 7-9
7		11-31-1314	Guard wire mesh for lower part of hopper BP/AM
8		99-10-1602	Mushroom head square neck bolt M 6x 16 DIN 603 galv.
9		99-10-3953	Washer flat 6,4x30x1,5 galv.
10		99-50-1420	U-bolt cadm. cpl 8x25/W52/H69 pipe 2"
11		11-31-3248	Auger open core 35,4x45x19,6x4,3 right AM/SA
12		11-05-1082	Tension shaft cpl. 19 mm AM w/Seeger ring + beraring housing
13		83-00-4914	Sleeve 50x2,5-40 for tube dia 45/50,8
14			Tube d45
			Tube d50,8
15			Lifting eye bolt M5x15 (pre-assembled at the lower part)
16		99-50-1260	Wire rope 2mm DIN 17223
17		99-50-0014	Cable clamp 3mm 1/8" DIN 741
18		99-50-0003	Ship chain galv. 5mm DIN 766
19		99-50-0005	S-hook 2" no 60/6x55
20		00-00-3006	Pulley 4 1/8" 105mm plastic
		00-00-3005	Pulley 3 1/2" 89mm cast iron
21		99-50-3003	U-bolt galv. 8x25/W34/H48
22		99-20-1064	Self locking counter nut M 8 DIN 985-6
23		11-31-3581	Bracket for cable winch 340 kg and hopper suspended AM/BP
24		99-50-1077	Thimble galv. 6mm f/cable 5mm DIN 6899 NG 6 RW7
25		99-50-0120	Cable clamp 5mm 3/16"
26		99-50-3700	Wire rope 5mm
27		00-00-1188	Pictograph: Hopper
28		00-00-1173	Type plate: Big Dutchman 265mm x 50 mm
29		11-00-9073	S-hook 4x80 for insulator
30		11-00-9071	Insulator ovate

Feed hopper 115L 1line cpl

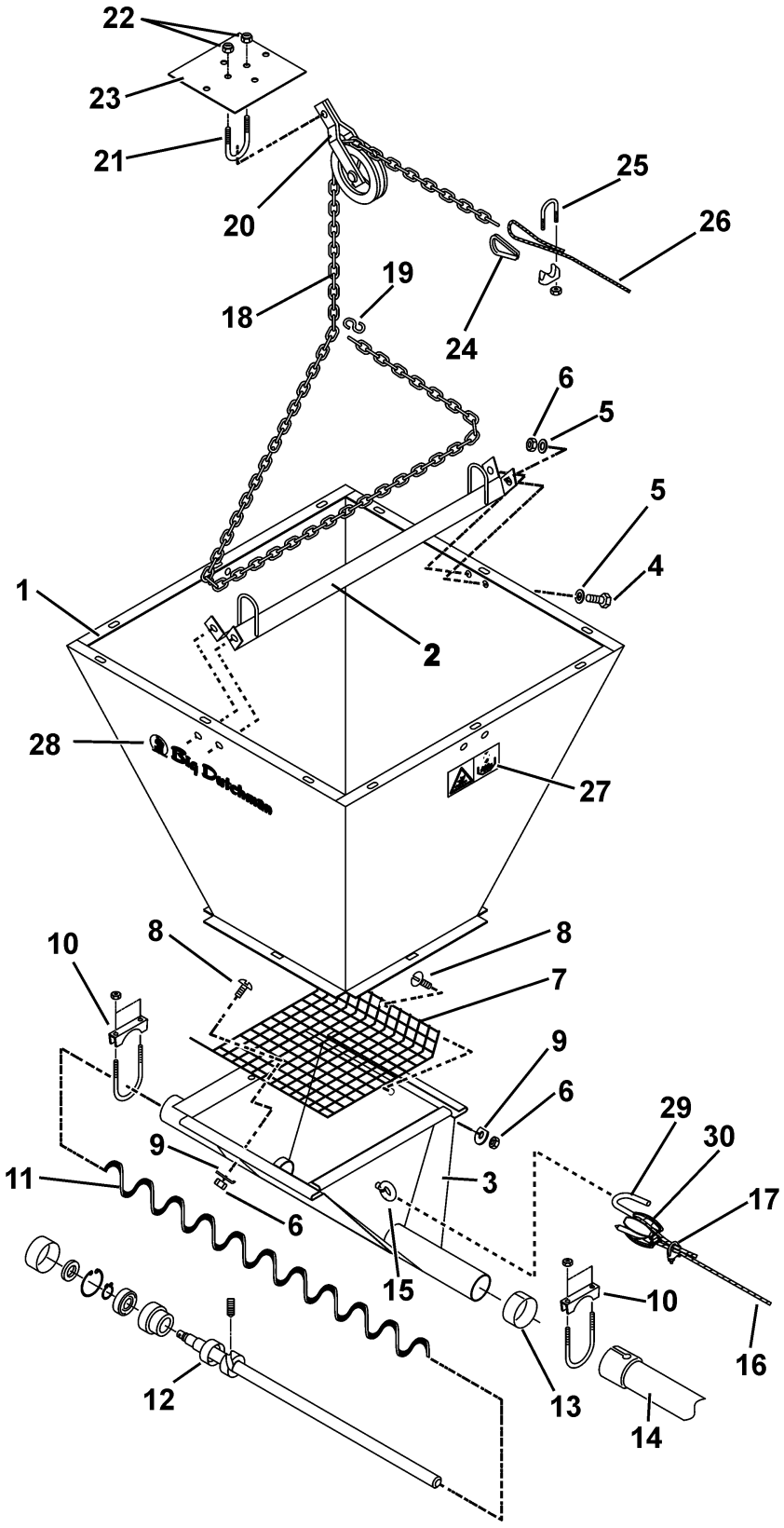


Figure 11-6: Feed hopper 115L 1line

11.2.3.2 Parts list feed hopper 115L 2-lines central BP/AM for tube dia 45 and 47,6

Pos.	Qty.	Code no.	Description
	1	**11-03-3540**	**Hopper 115L 2-lines centric BP/AM for tube dia 45 and 47,6**
1	1	11-31-1311	Upper part for hopper 115L AM+BP
2	1	11-31-1304	Traverse for suspension hopper AM+BP
3	1	11-03-3541	Lower part for feed hopper 115L 2lines centric AM-Rapid-Rooster
4	4	99-10-1067	Hexagon head screw M 6x 16 galv. DIN 933 8.8
5	4	99-50-1147	Washer B 6,4 DIN 125 galv.
6	4	99-20-1043	Self locking counter nut M 6 DIN 985-6 galv.
		11-31-1315	Guard wire mesh cpl. for lower part of hopper BP/AM consists of Pos. 7 to 9
7	1	11-31-1314	Guard wire mesh for lower part of hopper BP/AM
8	2	99-10-1602	Mushroom head square neck bolt M 6x 16 DIN 603 galv.
9	2	99-10-3953	Washer flat 6,4x30x1,5 galv.
10	2	99-50-1420	U-bolt cadm. cpl. 8x25/W52/H69 pipe 2"
11	2	11-31-3248	Auger open core 35,4x45x19,6x4,3 right AM/SA l
12		11-05-1082	Tension shaft cpl. 19mm AM w/Seeger ring + bearing housing
13		83-00-4914	Sleeve 50x2,5-40 for tube dia 45/50,8
14			Tube d45
			Tube d50,8
15			Lifting eye bolt M5x15 (pre-assemled at the lowr part)
16		99-50-1260	Wire rope 2mm DIN 27223
17		99-50-0014	Cable clamp 3mm 1/8" DIN 741
18		99-50-0003	Ship chain galv. 5mm DIN 766
19		99-50-0005	S-hook 2" no 60/6x55
20		00-00-3006	Pulley 4 1/8" 105mm plasticf
		00-00-3005	Pulley 3 1/2" 89mm cast iron
21		99-50-3003	U-bolt galv. 8x25/W34/H48
22		99-20-1064	Self locking counter nut M 8 DIN 985-6
23		11-31-3581	Bracket for cable winch 340 kg and hopper suspended AM/BP
24		99-50-1077	Thimble. 6mm f/cable 5mm DIN 6899 NG 6 RW7
25		99-50-0120	Cable clamp 5mm 3/16" galv.
26		99-50-3700	Wire rope 5mm
27		00-00-1188	Pictograph: Hopper
28		00-00-1173	Type plate: Big Dutchman 265mm x 50mm
29		11-00-9073	S-hook 4x80 for insulator
30		11-00-9071	Insulator- ovate

Feed hopper 115L 2-lines central BP/AM for tube Dia 45 and 47,6

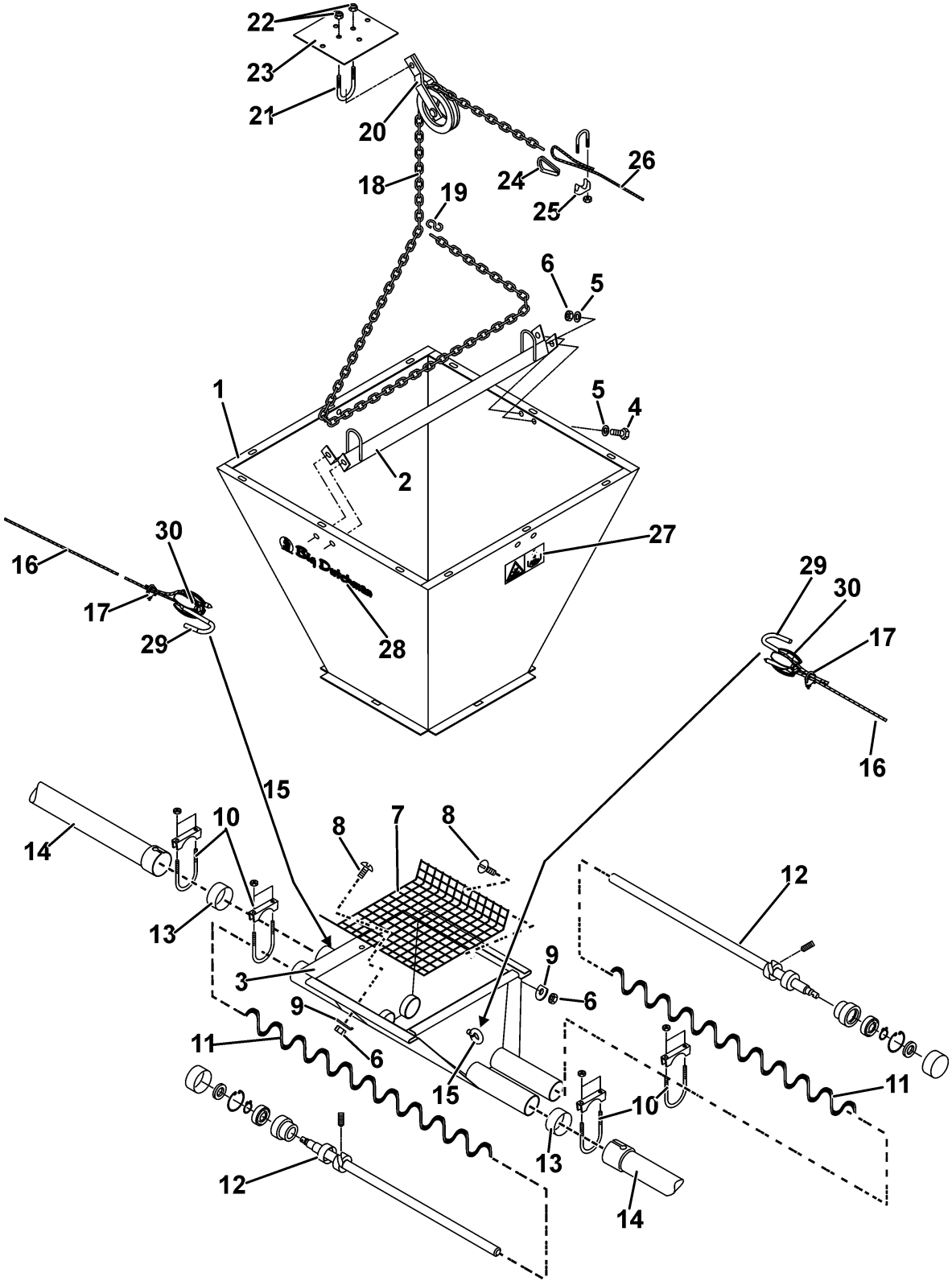


Figure 11-7: Feed hopper 115L 2-lines central BP/AM for tube Dia 45 and 47,6

11.3 Connecting the tubes

Check all tubes for dents and deformations. **Do not install damaged tubes!** The tubes have one straight and one bulged end (sleeve). All the bulged ends have to point in the direction of the hopper.

Push all tubes with feed pans on the previous tube up to the limit stop.

The last tube of one line may be cut to a suitable size. For this, cutting must be carried out at least 100 mm in front of the last hole.

Make sure all tubes with feed pans are in line. The grooves of the tube sleeves all have to point upwards.

Install the tube clamps riveted so that there is still a distance of approximately 1 m to the tube end. The tube clamps riveted have to point upwards.

Pos.	Qty.	Code no.	Description
3	1	11-03-3721	Tube 45x1,25-3050 1-hole MalePan
4	1	11-31-3211	Tube clamp riveted cpl.

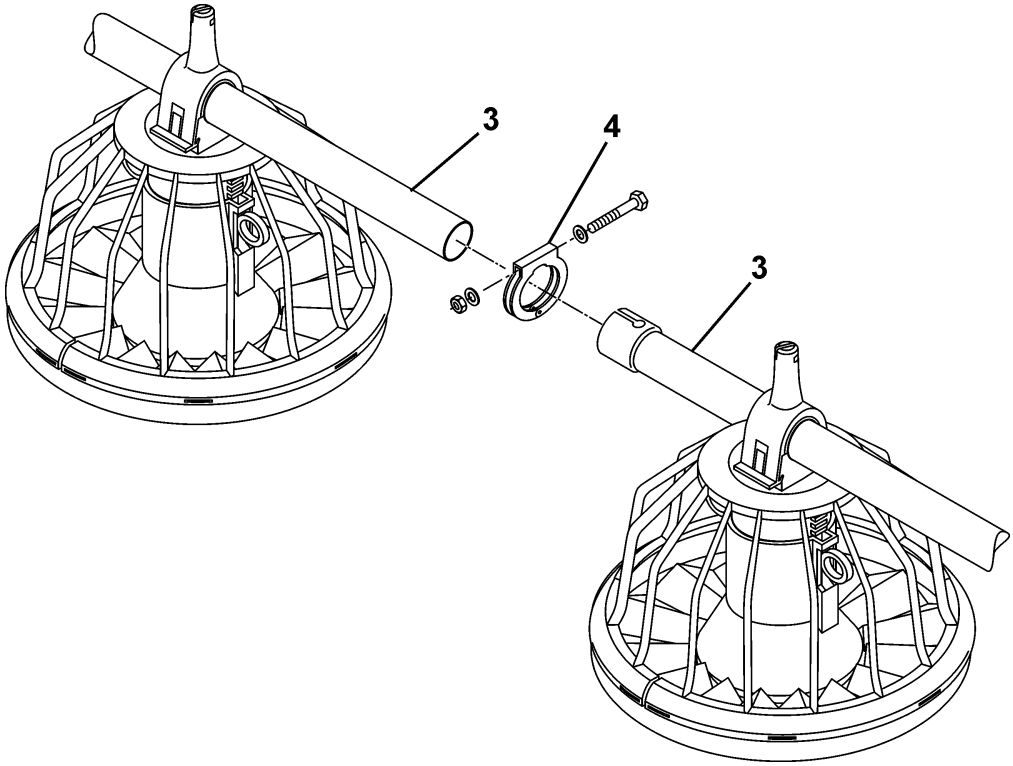


Figure 11-8: Connecting the tubes

11.4 Installing the feed and control pans at the end tube

	The control pan with the sensor is always installed as the last one in front of the drive. Check all tubes for dents and deformations. Do not install any damaged tubes. **Do not shorten end tubes!** Fix feed pans and a control pan to the end tube..

Pos.	Qty.	Code no.	Description
1			End tube
2			Feed pan
3			Control pan

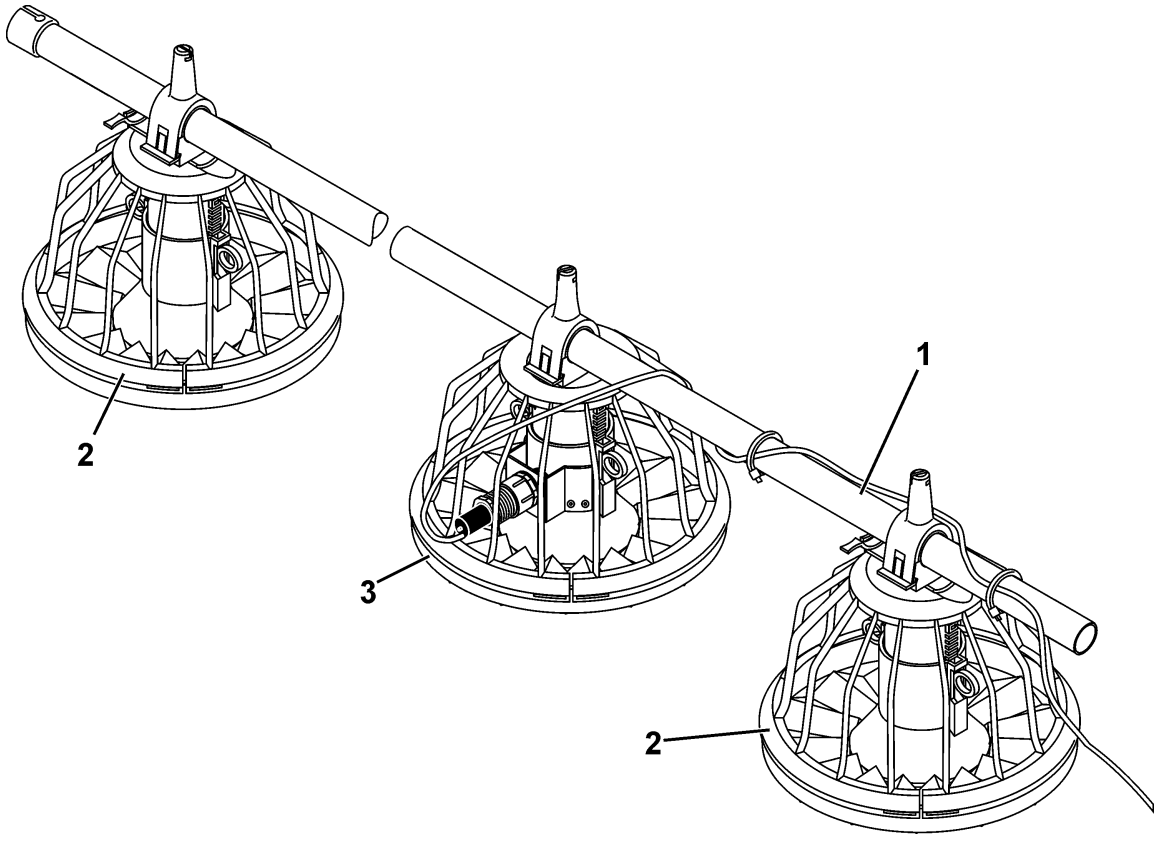


Figure 11-9: Installing the feed and control pans at the end tube

11.5 Tubes for feed pans

11.5.1 Tube 45x1,25-3050 for Big-Pan 330/plus

Pos.	Qty.	Code no.	Description
1		11-31-3522	Tube 45x1,25-3050 2hole BP330
2		11-31-3523	Tube 45x1,25-3050 3hole BP330
3		11-31-3524	Tube 45x1,25-3050 4hole BP330

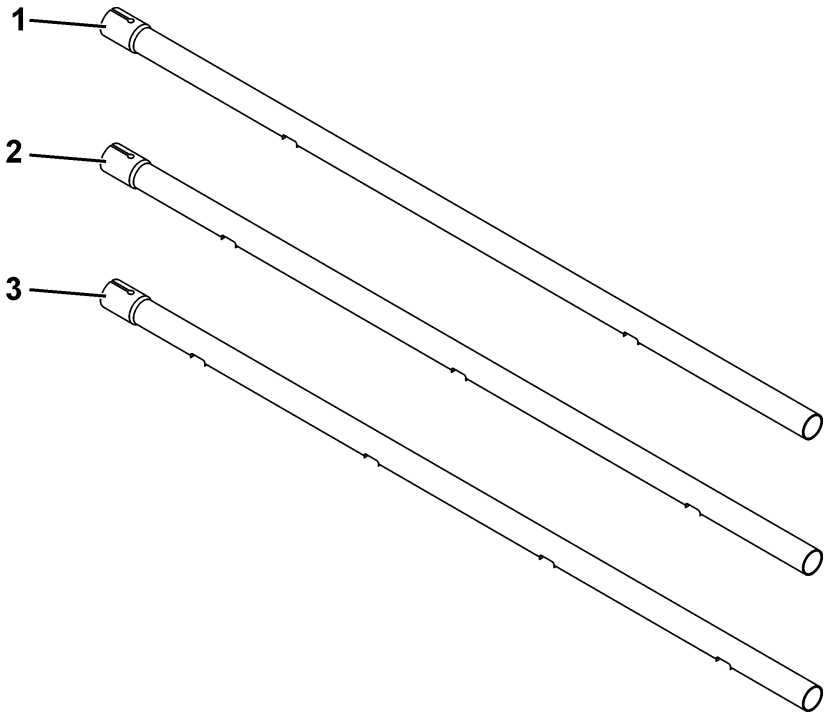


Figure 11-10: Tube 45x1,25-3050 for Big-Pan 330/plus

Matching feed pans:

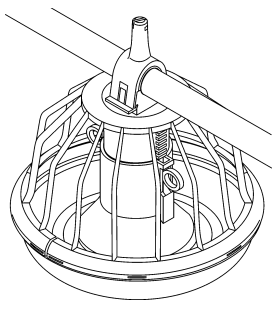
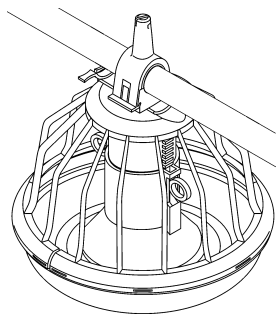
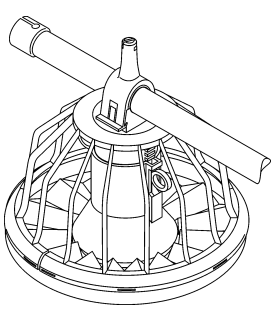
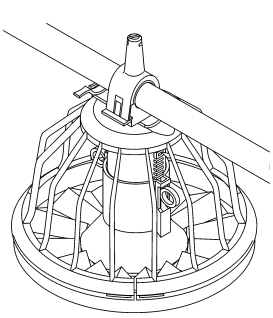
			
11 31 3501 Feed pan cpl. BP 330 without shut-off	11 31 3530 Feed pan cpl. BP330 with shut-off	11 31 3701 Feed pan cpl. BP330-Plus without shut-off	11 31 3730 Feed pan cpl. BP330-Plus with shut-off

Figure 11-11: Matching feed pans

11.5.2 Tube 45x1,25-3050 for Fluxx 330-5/330-14

Pos.	Qty.	Code no.	Description
1		11-31-3522	Tube 45x1,25-3050 2hole BP330
2		11-31-3523	Tube 45x1,25-3050 3hole BP330
3		11-31-3524	Tube 45x1,25-3050 4hole BP330

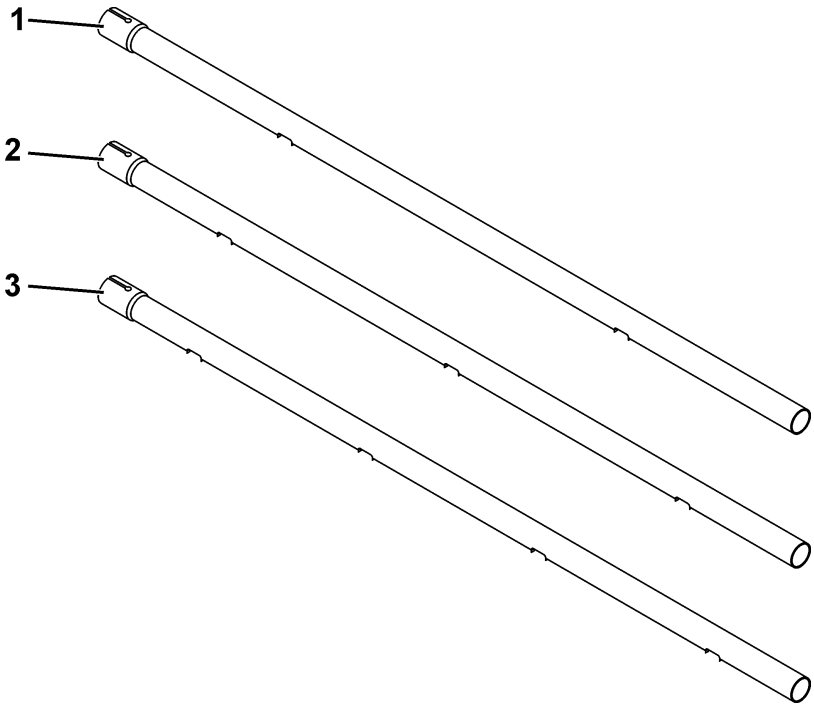


Figure 11-12: Tube 45x1,25-3050 for Fluxx 330-5/330-14

Matching feed pans:

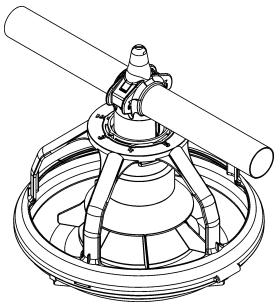
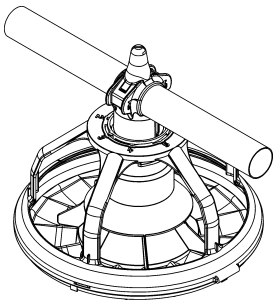
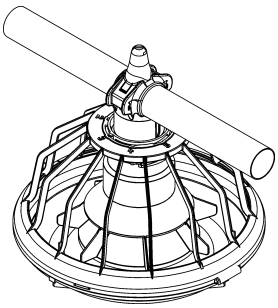
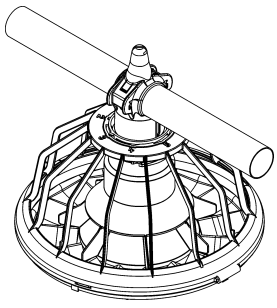
			
11-31-4750 Feed pan cpl. FLUXX 330-5 with BP-dish	11-31-4760 Feed pan cpl. FLUXX 330-5 plus with RPM-dish	11-31-4700 feed pan cpl. FLUXX 330-14 with BP-dish	11-31-4710 Feed pan cpl FLUXX 330-14plus with RPM-dish

Figure 11-13: Matching feed pans

11.5.3 Tube 45x1,25-3050 for Multi-Pan 330/plus

Pos.	Qty.	Code no.	Description
1		11-31-3522	Tube 45x1,25-3050 2hole BP330
2		11-31-3523	Tube 45x1,25-3050 3hole BP330
3		11-31-3524	Tube 45x1,25-3050 4hole BP330

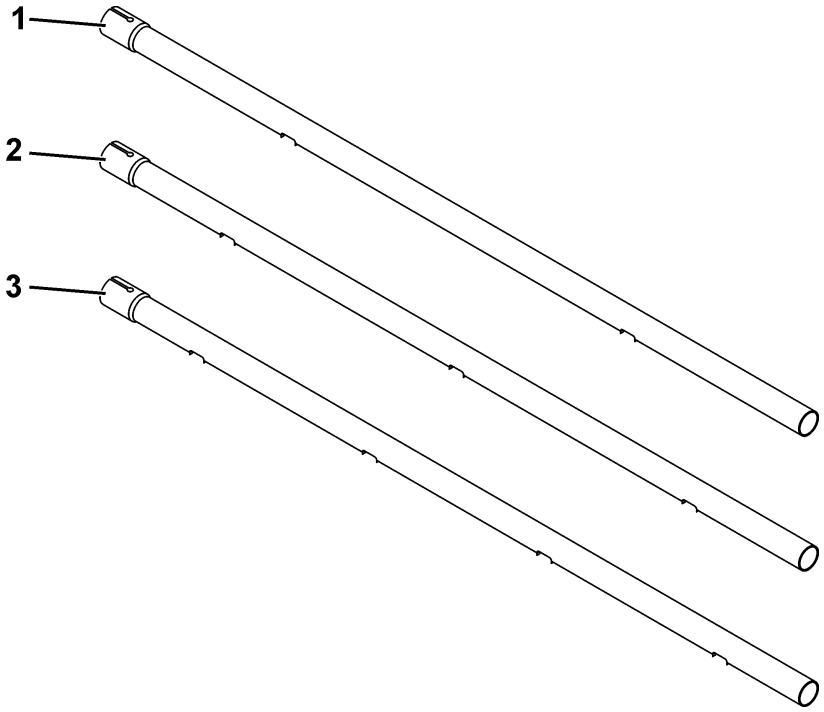


Figure 11-14: Tube 45x1,25-3050 for Multi-Pan 330/plus

Matching feed pans

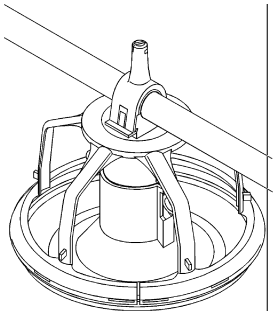
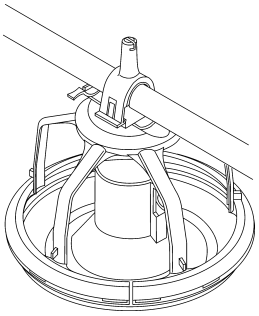
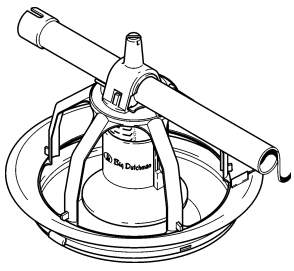
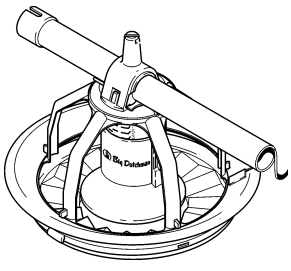
			
11 31 3570 Feed pan cpl. MP330 without shut-off with MP-dish	11 31 3560 Feed pan cpl. MP330 with shut-off with MP-dish	11 31 3555 Feed pan cpl. MP330 with shut-off with BP-dish	11 31 3565 Feed pan cpl. MP330-plus with shut-off and RPM-dish

Figure 11-15: Matching feed pans

11.5.4 Tube 45x1,25x3050 for Male-Pan

Pos.	Qty.	Code no.	Description
1		11-03-3721	Tube 45x1,25-3050 1hole Male-Pan
2		11-03-3722	Tube 45x1,25-3050 2hole Male-Pan
3		11-03-3723	Tube 45x1,25-3050 3hole Male-Pan

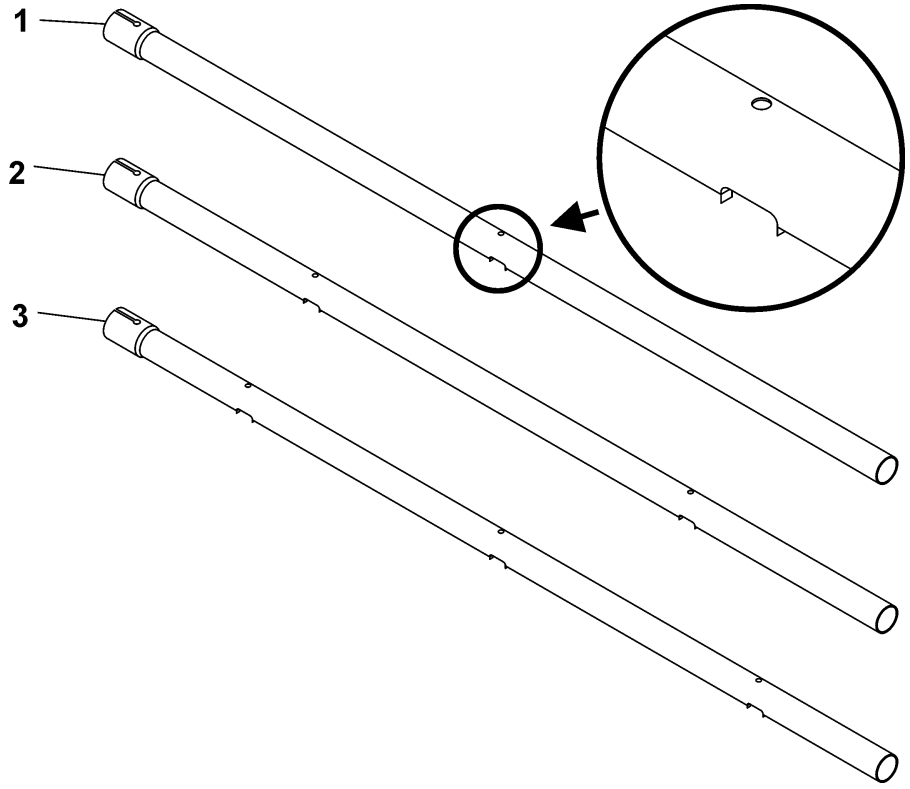


Figure 11-16: Tubes 45x1,25x3050 for Male-Pan

Matching feed pans:

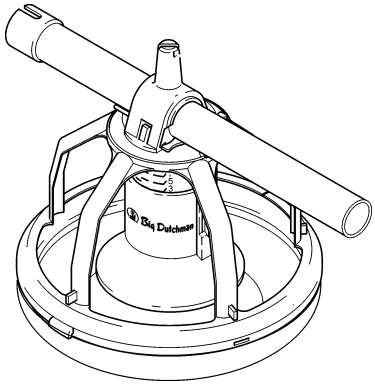
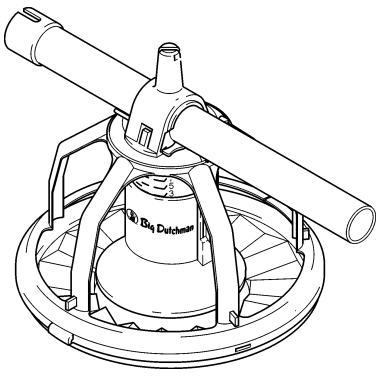
	
11 31 3585 Feed pan cpl. Male-Pan with shut-off and BP-dish	11 31 3590 Feed pan cpl. Male-Pan plus with shut-off and RPM-dish

Figure 11-17: Matching feed pans

11.5.5 End tubes

	Control pans are always installed as the last but one pans in the end tube in front of the AM drive (see Pos X). **Do not shorten end tubes.**

Pos.	Qty.	Code no.	Description
1		83-00-3589	End tube 2775mm 2hole dia 45,0 TRU PAN
		83-00-4615	End tube 2650mm 2hole dia 50,8 TRU PAN
2		11-03-3729	End tube 2775mm 3hole dia 45,0 Male-Pan
3		11-31-3529	End tube 2775mm 4hole dia 45,0 BP 330

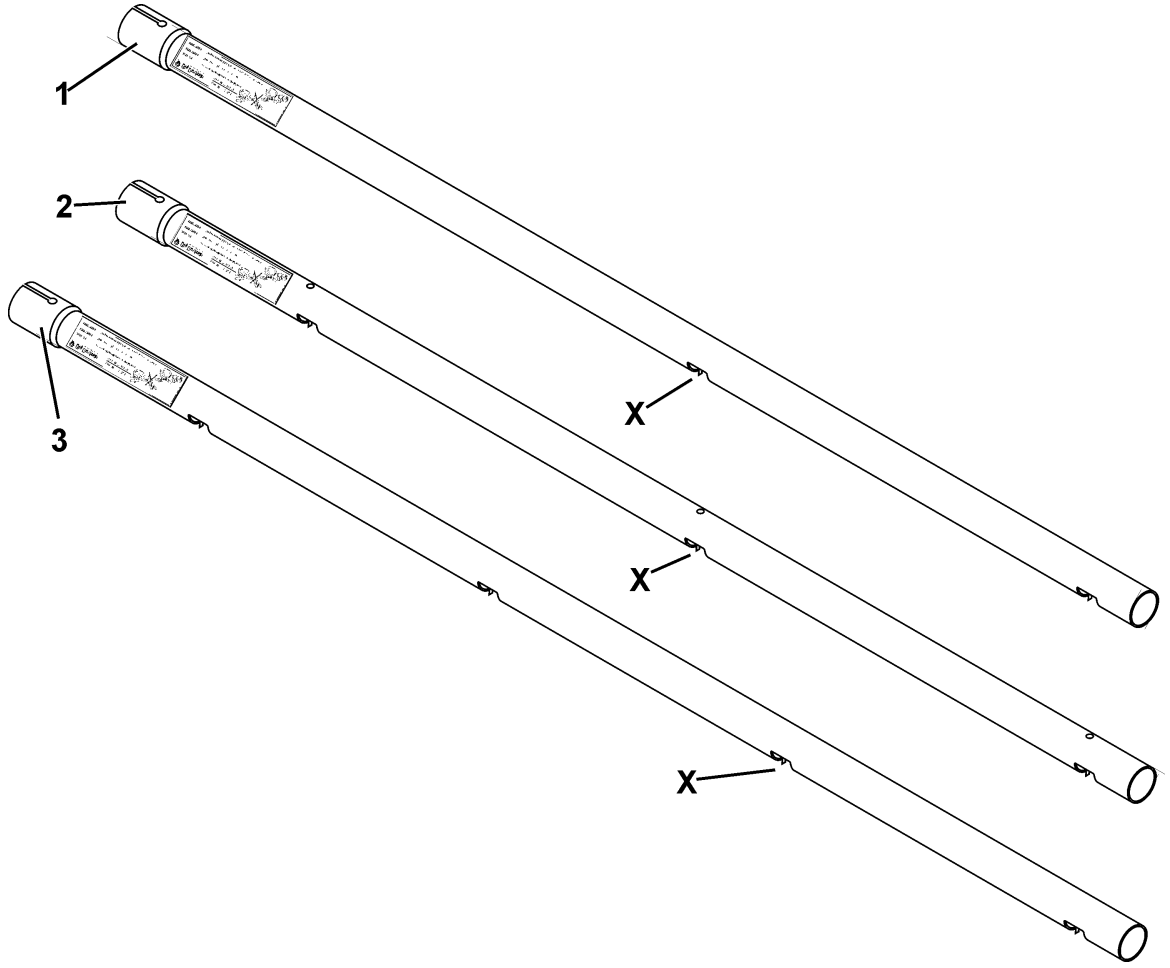


Figure 11-18: End tubes

11.6 Assembly AM drive

	Push the AM drive onto the end of the end tube of the line up to the limit stop. With a tube diameter of 45 mm, put a sleeve into the clamping mechanism of the AM drive.

Pos.	Qty.	Code no.	Description
1			AM drive with sensor
			AM drive without sensor
2			Feed pan
3			Control pan
4			End tube
5		11-31-3547	Sleeve 48x1,5-40 for tube dia 45/47,6
		83-00-4914	Sleeve 50x2,5-40 for tube dia 45/50,8

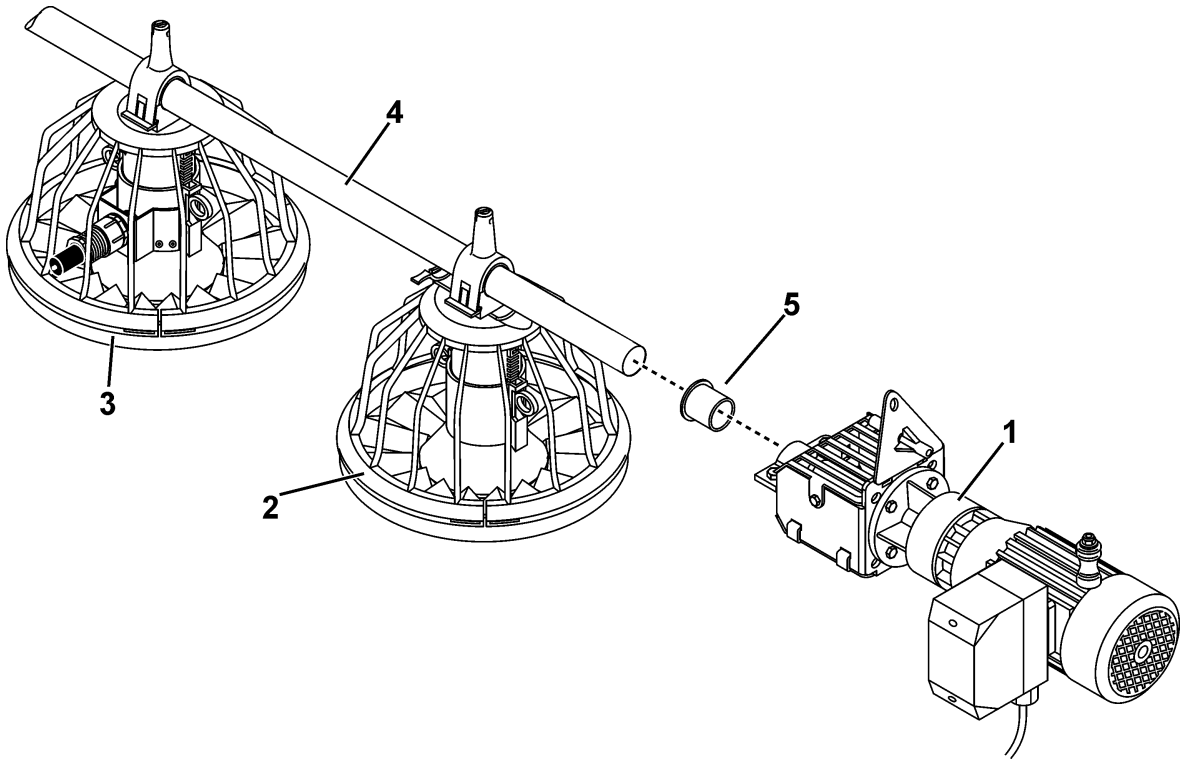


Figure 11-19: Assembly AM drive

11.6.1 AM3 drive unit

Important for ventilating the geared motor

The breather hole of the gear has to be openend **before starting the drive unit**. This can be done by removing the sealing plug. .

Pos.	Qty.	Code no.	Description
		11-31-3650	Drive 0,55KW 230/400V 50Hz AM3 with sensor
		11-31-3660	Drive 0,55KW 230/400V 60Hz AM3 with sensor
		11-31-3600	Drive 0,55KW 240V 1PH 50Hz AM3 with sensor
1		90-00-3955	Mot g 0,55 230/400 50Hz 326U shaft 19x122 AM3
		90-00-3965	Mot g 0,55 215/240 50Hz 326U shaft 19x122 AM3
		90-00-3975	Mot g 0,55 230/400 50Hz 257U shaft 19x122 AM3 (= 326U/60Hz)
2			Suspension eye 2-hole for AM drive3
3		99-10-1023	Hexagon nut M5 galv. DIN 934
4		99-10-3947	Hooked bolt galv. M 6x35 Augermatic
5		99-20-1043	Self locking counter nut M 6 DIN 985 galv.
6		11-31-3601	Bracket cpl. with fastening for switch box AM3
7		99-10-1046	Hexagon head screw M 8x16 DIN 558 galv.
8		99-50-1063	Spring washer A 8 DIN 127-A2E
9		11-31-3603	Mounting plate for switch box at bracket AM3
10		99-10-3892	Tapping screw B 4,8x19 DIN 7981
11		11-31-1054	Switch box 230/400 50/60Hz f/sensor
12		91-00-3312	Contactor LC1 D0910 230V 50/60Hz. P7
13		60-40-0654	Sensor MS-45R 220V
14		11-31-3613	Protective covering of cables for drive. (Pos. 15-17)
		11-31-3614	Protective covering of cables for drive 240V 1PH AM3 kplt. (Pos. 15-17)
15		11-31-3615	Protective hose UW-PA6-10, 0,4m
16		99-30-1023	Screw union PG 16
17		11-31-3617	Cable Ölflex 4x1,5, 0,4m for 11-31-3613
		11-31-3616	Cable-Ölflex 3x1,5, 0,4m for 11-31-3614
18		11-31-3602	Mounting plate for guard wire mesh at bracket AM3
19		11-31-3604	Guard wire mesh for bracket of AM drive3
20		99-10-1248	Hexagon head screw M 8x35 galv. DIN 558
21		99-10-1040	Hexagon nut M 8 DIN 934-8
22		99-20-1083	Fan type lock washer A 8,4 DIn 6798-phr (external)
23		11-31-3529	End tube 2775mm 4hole dia 45 BP330

Pos.	Qty.	Code no.	Description
24		11-31-3547	Sleeve 48x1,5-40 for tube dia 45/47,6
25		11-31-3581	Bracket for cable winch 340 kg and hopper suspended AM/BP
26		00-00-3006	Pulley 4 1/8" 105 mm plastic
27		99-50-3003	U-bolt galv. 8x25/W34/H48
28		99-20-1064	Self locking counter nut M 8 DIN 985-6 galv.
29		99-50-3700	Wire rope 5mm galv.
30		99-50-0120	Cable clamp 5mm 3/16"galv.
31		00-00-1186	Pictograph: Before maintenance work main switch "OFF"
32		00-00-1187	Pictograph: shielding

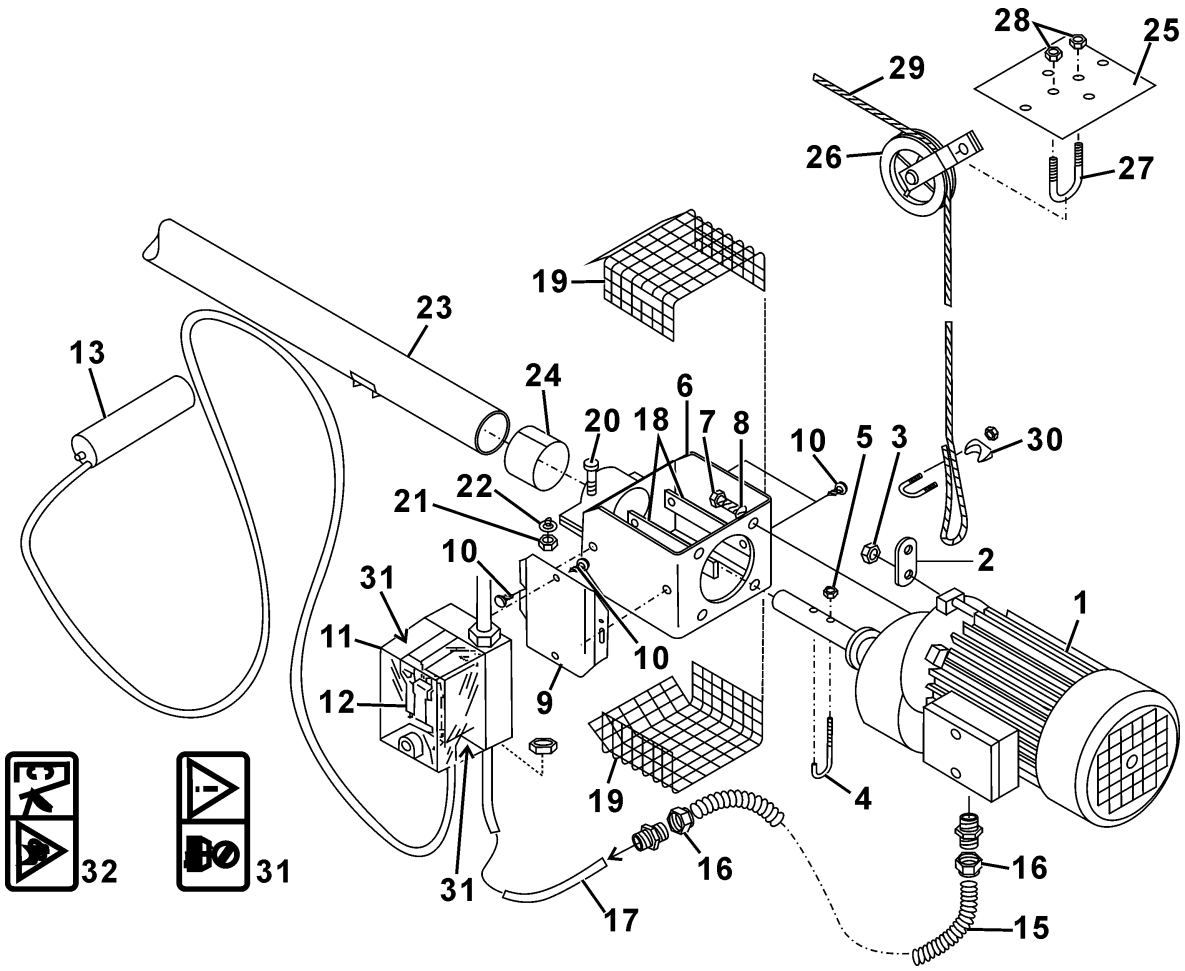


Figure 11-20: drive unit AM3

11.6.2 AM4 drive unit

Important for ventilating the geared motor

The breather hole of the gear has to be openend **before starting the drive unit**. This can be done by removing the sealing plug. .

Pos.	Qty.	Code no.	Description
		11-31-3950	Drive 0,37KW 230/400V 50Hz AM4 with sensor
		11-31-3910	Drive 0,37KW 230/400V 60Hz AM4 with sensor
		11-31-3900	Drive 0,37KW 230 1PH 50Hz AM4with sensor
1		90-00-4055	Mot g. 0,37 230/400 50/60 Hz 320U shaft 19x122 AM4
		90-00-4065	Mot g. 0,37 230 50Hz 320U shaft 19x122 AM4
2			Drive bracket AM4
3			Guard wire mesh single for bracket of AM drive4
4		99-10-1241	Hexagon head screw M 5x12 DIN 558 galv.
5		99-10-1088	Hexagon head screw M 6x20 DIN 558 galv.
6		99-50-1147	Washer B 6,4 DIN 125
7		99-10-1045	Hexagon nut M 6 galv. DIN 934
8		99-10-3947	Hooked bolt galv. M 6x35 Augermatic
9		99-20-1043	Self-locking counter nut M 6 galv. DIN 985
10			Fixing clamp for tube clamp AM4
11		99-10-1248	Hexagon head screw M 8x35 galv. DIN 558
12		99-20-1026	Washer A 8,4 DIN 125
13		99-10-1040	Hexagon nut M 8 DIN 934-8
14			Housing CI-K-1 95 TS cpl.
15			Contactor 4KW DILOOM
16			Cable screw union V-M20
17			Fuse holder
18			Fuse 5x20 G2A
19		60-40-0654	Sensor MS-45R 220V
20			Suspension bracket AM4
21		39-00-3279	Insulator EV/C500
22		99-10-1152	Hexagon head screw M 5x50 DIN 558
23		99-20-3706	Washer flat 5,5x25x1,5
24		99-10-1023	Hexagon nut M 5 DIN 934
25		11-31-3744	Insulator for corner 90Grd RPM/Challenger
26		99-20-1003	Washer flat A 5,3x15x1,5 DIN 9021
27		99-20-1033	Self locking counter nut M 5 DIN 985-6

Pos.	Qty.	Code no.	Description
28		99-50-1260	Wire rope 2mm galv.
29		99-50-0014	Cable clamp 3mm 1/8" galv. DIN 741
30		99-50-0005	S-hook 2" no. 60/6x55
31		99-50-1077	Thimble 6mm f/cable 5mm DIN 6899 NG 6 RW7
32		39-00-3096	Tension spring 2,0x14x134 C galv. DIn 17223
33		99-50-3700	Wire rope 5mm galv.
34		99-50-0120	Cable clamp 5mm 3/16" galv.
35		00-00-3006	Pulley 4 1/8" 105mm plastic
36		11-31-3581	Bracket for cable winch 340kg and hopper suspended AM/ BP
37		99-50-3003	U-bolt galv. 8x25/W34/H48
38		99-20-1064	Self locking counter nut M 8 DIN 985-6 galv.
39		11-31-3547	Sleeve 48x1,5-40 for tube dia 45/47,6
40			End tube BP330
41			Tube AM/BP
42		11-31-1155	End anchor cpl. anti-roost AM (Pos. 7, 27, 43-47)
43		99-10-1152	Hexagon head screw M 5x50 DIN 558 galv.
44		00-00-0032	Insulator porcelain anti-roost cable
45		11-31-1158	Bracket f/insulator AM355
46		11-31-1157	Clamp half f/end anchor AM355
47		99-10-1067	Hexagon head screw M 6x16 DIN 558 galv.
48		00-00-1186	Pictograph: Before maintenance work main switch "OFF"
49		00-00-1187	Pictograph: shielding

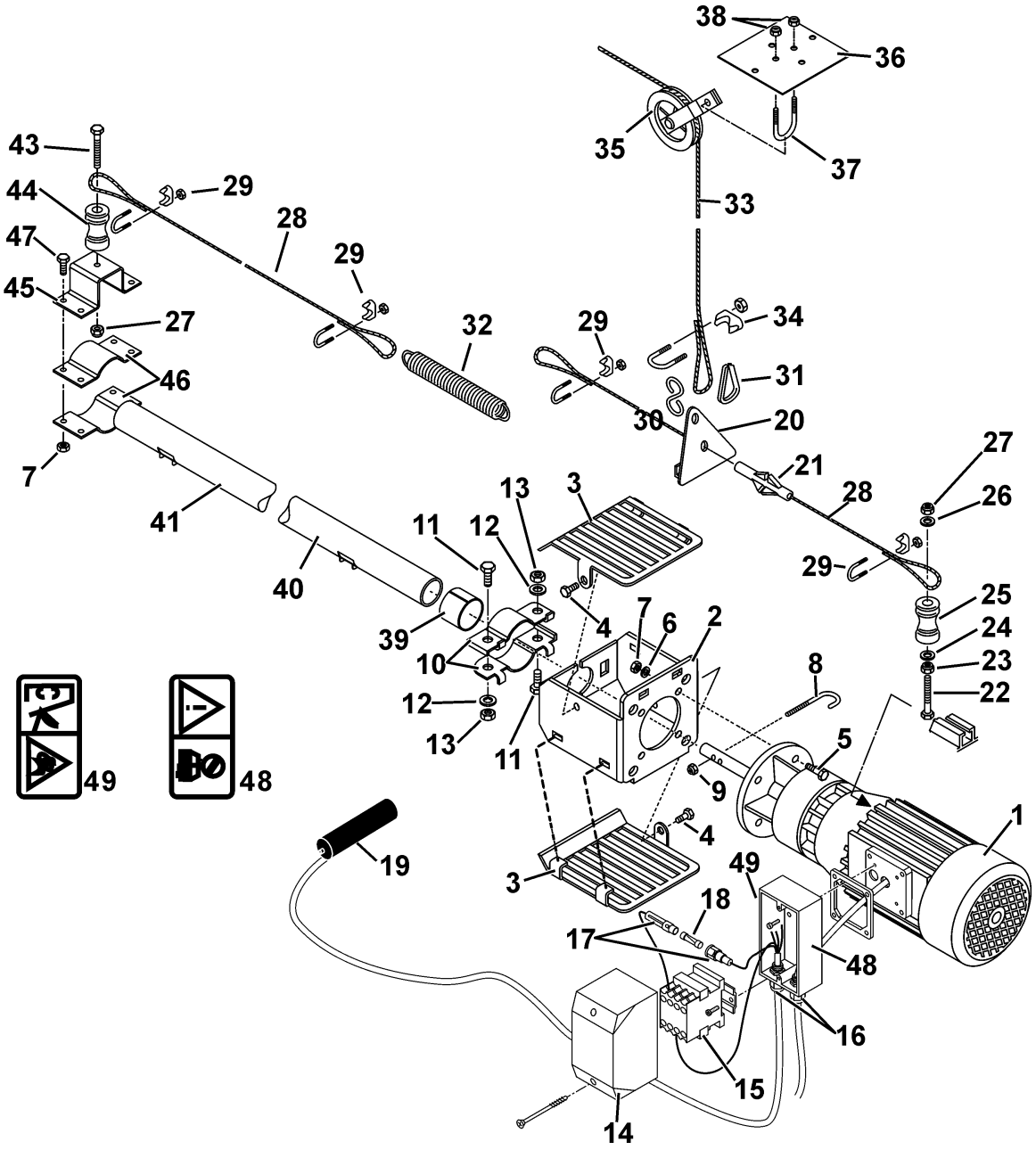


Figure 11-21: drive unit AM4

11.6.3 Drive unit AM5

Pos.	Qty.	Code no.	Description
1		11-31-4502	Drive 0,37 KW 230V 1PH 50Hz AM5 wo/sensor with switch box
		11-31-4512	Drive 0,37KW 230/400V 60Hz AM5 wo/sensor with switch box
		11-31-4552	Drive 0,37KW 230/400V 50Hz AM5 wo/sensor with switch box
		11-31-4602	Drive 0,55 KW 230V 1PH 50 Hz AM5 wo/sensor with switch box
		11-31-4612	Drive 0,55 KW 230/400V 60Hz AM5 wo/sensor with switch box
		11-31-4613	Drive 0,55 KW 200V 3PH 60Hz AM5 wo/sensor with switch box
		11-31-4652	Drive 0,55 KW 230/400V 50Hz AM5 wo/sensor with switch box
		11-31-4653	Drive 0,55 KW 200V 3PH 50Hz AM5 wo/sensor with switch box
2			Anti-roost wire for drive AM5
3			Guard wire mesh single for bracket of drive AM5
4			Drive bracket AM5
5			Terminal box with integrated On-/Off-switch
6		91-00-3905	Sensor AFS-01-60sec 90-250V
		60-40-0654	Sensor MS-45R 220V
7		99-50-0005	S-hook 2" no. 60/6x55
8		99-50-1077	Thimble 6mm f/cable 5mm DIN 6899 NG 6 RW7
9		99-50-0120	Cable clamp 5mm 3/16" galv.
10		99-50-3700	Wire rope 5mm galv.
11		00-00-3006	Pulley 4 1/8" 105mm plastic with split strap
12		99-50-3003	U-bolt galv. 8x25/W34/H50
13		11-31-3581	Bracket for cable winch 340 kg and hopper suspended AM/BP
14		99-20-1064	Self locking counter nut M 8 DIN 985-6 galv.
15		99-50-0014	Cable clamp 3mm 1/8" galv. DIN 741
16		99-50-1260	Wire rope 2mm galv.
17		39-00-3096	Tension spring 2,0x14x134 C galv. DIN 17223
18		99-10-1152	Hexagon head screw M 5x50 DIN 558
19		00-00-0032	Insulator porcelain anti-roos cable
20		99-10-1067	Hexagon head screw M 6x16 galv. DIN 558
21		11-31-1158	Bracket f/insulator AM355
22		99-20-1033	Self locking counter nut M 5 DIN 985-6 galv.
23		11-31-1157	Clamp half f/end anchor AM 355
24		99-10-1045	Hexagon nut M 6 DIN 934
25			Tube AM / BP

Pos.	Qty.	Code no.	Description
26			End tube BP 330
27		11-31-3248	Auger open core 35,4x45x19,6x4,3 right AM/SA
28			Shaft AM drive
29		99-10-3947	Hooked bolt galv. M 6x35 Augermatic
30		99-20-1043	Self locking counter nut M 6 galv. DIN 985
31		83-00-4914	Sleeve 50x2,5-40 for tube dia 45/50,8
32		11-31-3211	Tube clamp riveted cpl for tube d45,0
33			End anchor (Pos. 18 to 24)

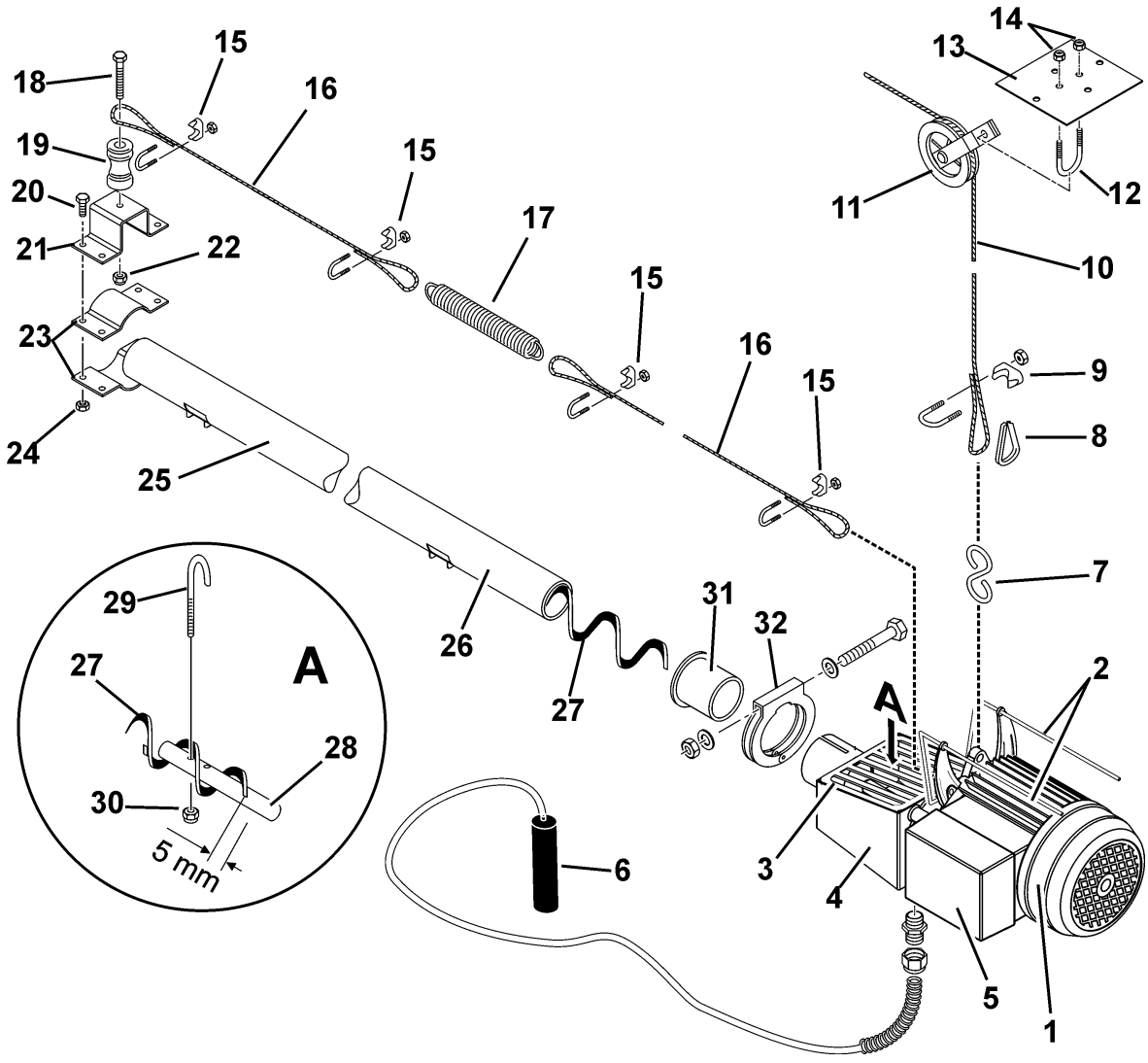
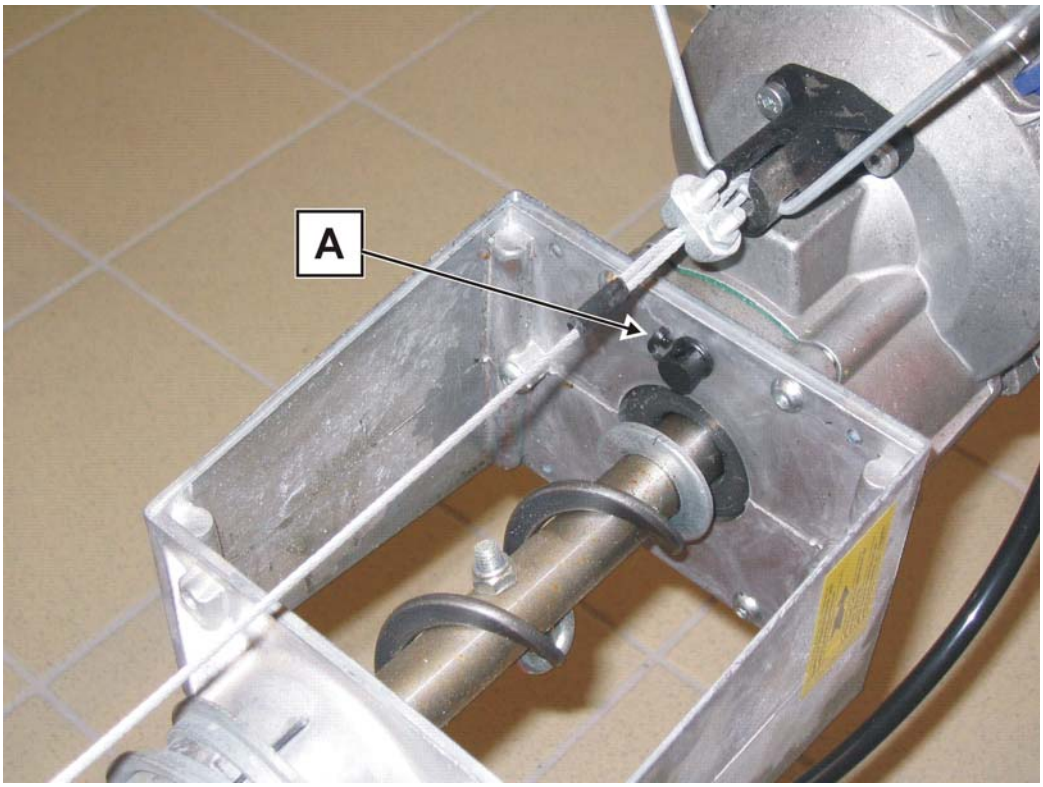


Figure 11-22: Drive unit AM5

11.6.3.1 Description of drive unit AM5

Important for ventilating the geared motor

The breather hole of the gear has to be openend **before starting the drive unit**. This can be done by removing the sealing plug. .



A= Plug for gear aeration is open

Motor with integrated thermostat relay (1):

The motor windings have themostat relays for the overheating protection. These relays protect the motor against too high temperatures and thus prevent a "jamming" and "burning out" of the motor.

Warnung:

This protective device does NOT replace the protective motor switch.

Anti-perch fixture (2):

The AM drive5 already comes with an anti-perch fixture, so that additional installation works are not necessary.

Direct intervention well (4):

The direct intervention well is dimensioned spaciously to allow for easy mounting of the Augermatic spiral. It is closed with a plastic grid, which can easily be opened by releasing the snap fasteners with a screw driver.

Terminal box (5):

Integrated in the terminal box is a control relais and an On/Off switch for the drive.The drive it protected by means of a flap agains unintentional operation by the animals. Also included in the terminal box are a micro-fuse for the sensor and an overheating protection for the motor. **This protective device does NOT replace the protective motor switch, which has to be installed either externally on the gable wall or in a central control box, as hitherto.**

Tube adapter for 45 mm and 50,8 mm tubes

The AM drive 5 can be used with 50.8 mm or 45 mm tubes. When using a 45 mm tube, a reducing bush (31) for the tube adaptor has to be installed at the drive.

Suspension eye:

By means of the suspension eye that is integrated in the motor housing the AM drive5 can easily be secured at the suspension cords of the feed circuit.

Gear aeration:

The vent of the gear - directly above the drive shaft - has to be opened **before initiation of the drive** by pulling off the plug.

11.7 Installing the HD AM auger

11.7.1 Drawing-in the HD AM auger

	Keep the HD AM auger in a dry place to prevent it from rusting. Remove all wire parts, thread remains and other foreign matter before starting to install the HD AM auger. Do not bend nor damage the HD AM auger during installation. Remove all kinks and damages from teh HD AM auger. If required, weld the HD AM auger anew. Round off the ends of the HD AM auger cut to size. Start inserting the HD AM auger (1) at the lower part of the feed hopper (2). **Make sure there is a distance of approx. 5 mm between the last winding of the HD AM auger (1) and the wall of the drive bracket.**

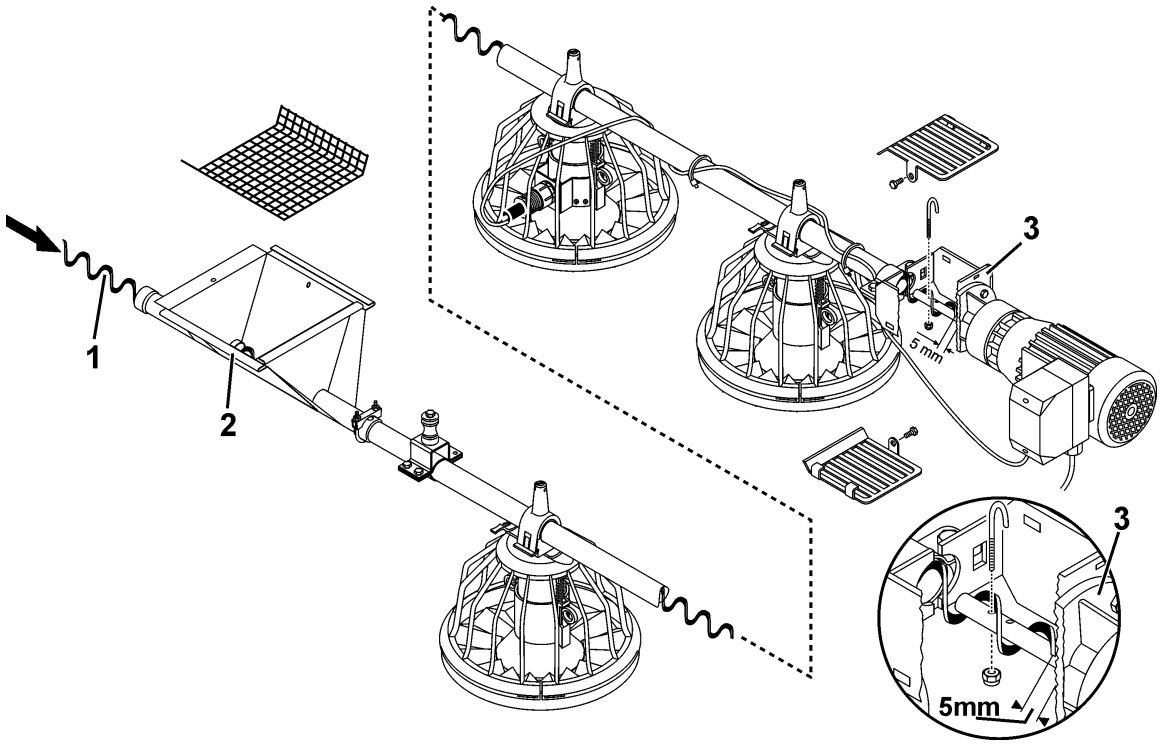


Figure 11-23: Drawing-in the HD AM auger

11.7.2 Tensioning the HD AM auger

Pull out the HD AM auger (3) from the lower part of the feed hopper (1) until it is under tension.

Let the HD AM auger (3) go back into slackened state.

Mark the HD AM auger (3) at the outlet of the lower part of the feed hopper (1).

For tensioning, pull out the HD AM auger (3) for 10 cm + 0.6 % of the entire auger length out of the lower part of the fed .

e.g.: 80m auger length, auger length to be pulled out = 10 cm + (8000 cm x 0.6 %) = 58 cm.

Fix the HD AM auger (3) at the outlet of the lower part for feed hopper (1) by means of a vise-grip wrench (8).

Cut off the HD AM auger (3) at the marked point and round off the edges.

Push the tension shaft (5) into the HD AM auger (3), so that the end of the HD AM auger (3) is at a distance of approx. 5 mm from the bearing of the tension shaft.

Carefully remove the vise-grip wrench (8) from the lower part of the feed hopper (1) and let the tension shaft cpl. 19 mm AM (5) slide back into the lower part for feed hopper 1).

Fix the HD AM auger (3) with the hex socket set screw M 5x8 (6) on the tension shaft cpl. 19 mm AM (5).

Fix the tension shaft cpl. 19 mm AM (5) with an U-bolt cpl. 8x25 tube 2" (4) at the lower part for feed hopper.

Put a cap plastic for lower part of feed hopper (7) on the protruding end of the tension shaft (5)..

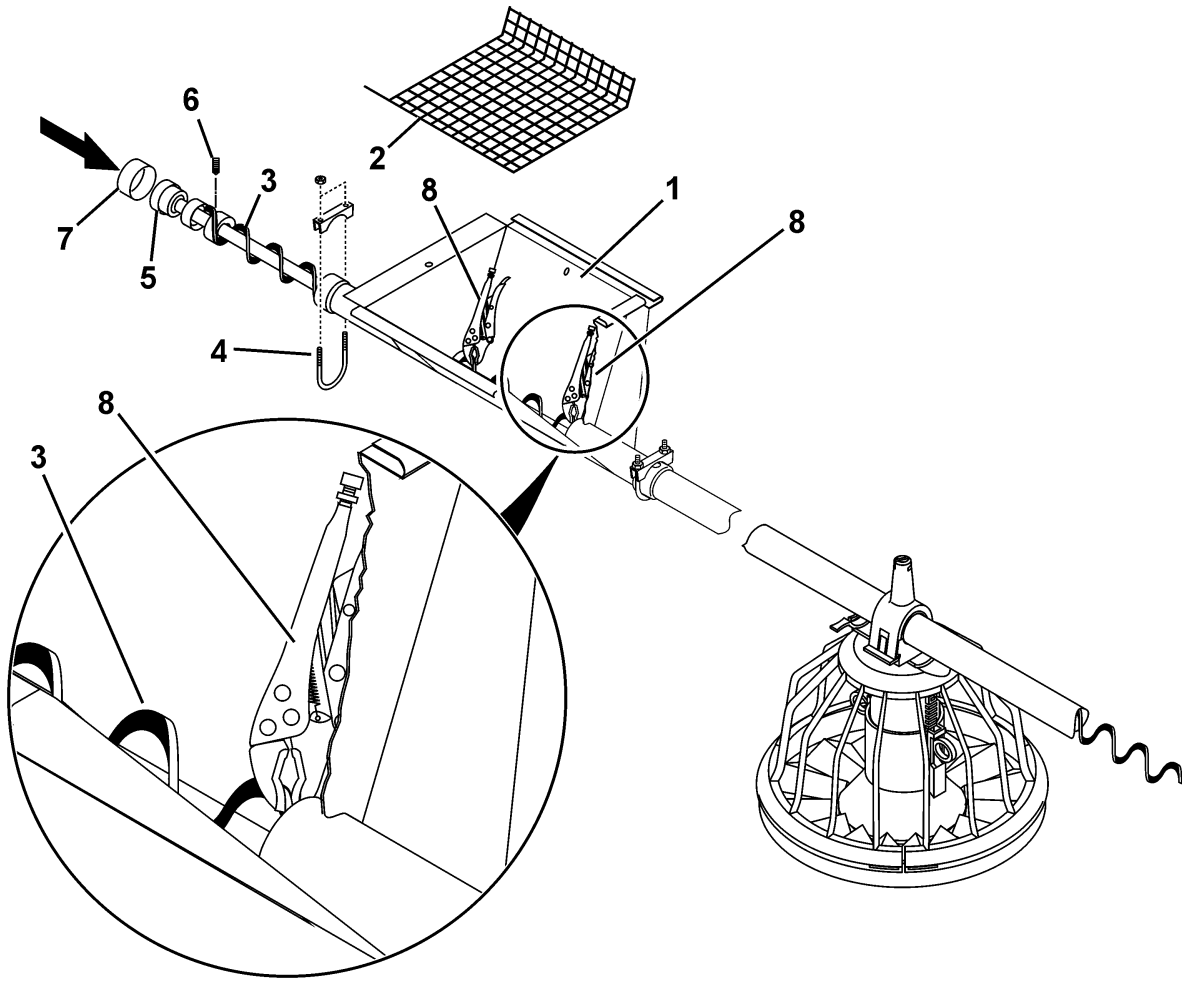


Figure 11-24: Tensioning the HD AM auger

Pos.	Qty.	Code no.	Description
1		11-31-3545	Lower part for hopper BP/AM for tube dia 45 and 47,6
2		11-31-1314	Guard wire mesh for lower part of hopper BP/AM
3		11-31-3238	Auger HD AM
4		99-50-1420	U-bolt cadm. cpl.. 8x25/W52/H69 tube 2"
5		11-05-1082	Tension shaft cpl. 19mm AM w/Seeger ring + bearing housing
6		99-10-1204	Hex socket set screw M 5x8 DIN 916-45H
7		11-31-3546	Cap plastic for lower part for hopper BP GPN 275/54
8			Vise-grip wrench

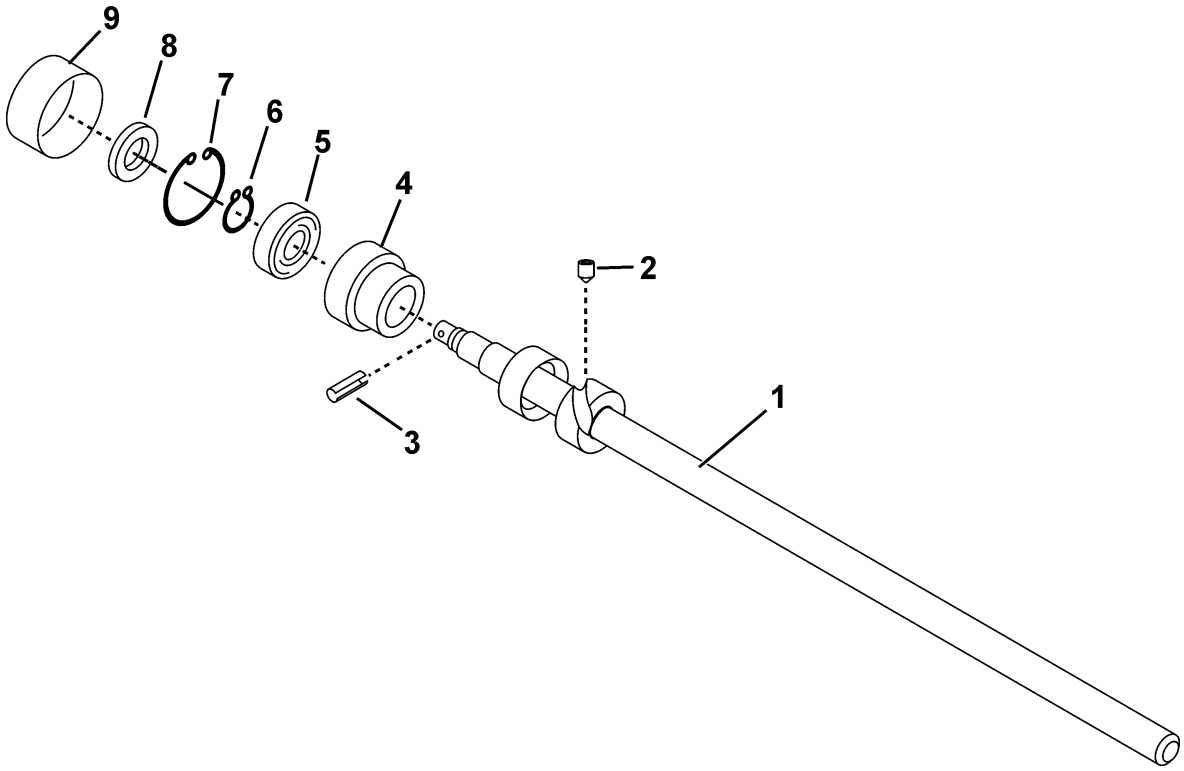
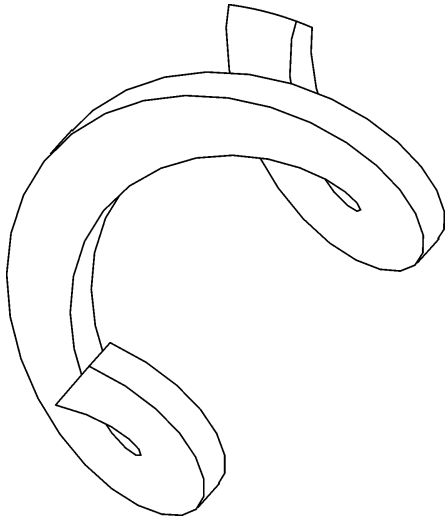
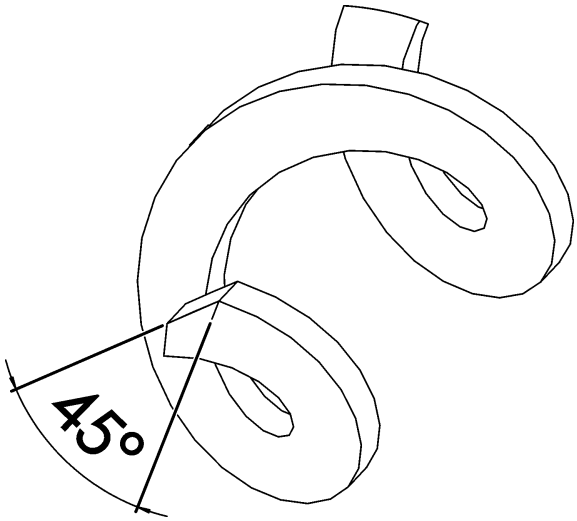


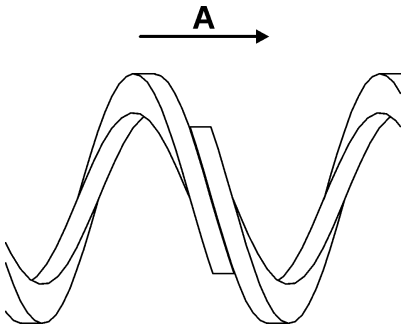
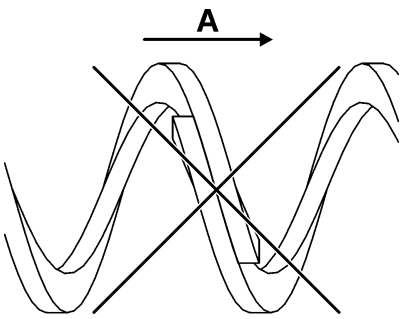
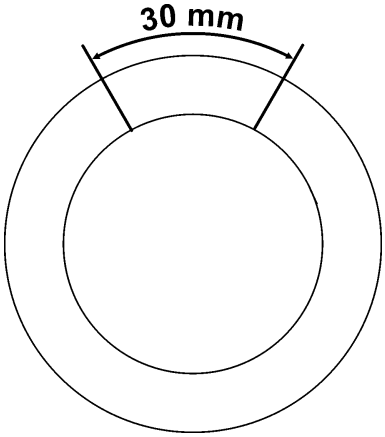
Figure 11-25: Components tension shaft

Pos.	Qty.	Code no.	Description
		11-05-1082	Tension shaft cpl. 19mm AM w/Seeger ring + bearing housing
1		11-31-3019	Shaft 19mm f/drive AM355
2		99-10-1204	Hex socket set screw M 5x8 DIN 916-45H
3		99-50-1286	Spring type straight pin DIN 1481 - 5 x 30
4		11-31-1108	Bearing housing f/end piece Hopper AM355
			Feed hopper AM355
5		11-00-1052	Ball bearing 6203 2RS
6		99-50-1300	Retaining ring DIN 471 17x1
7		99-50-1301	Retaining ring DIN 472 40x1,75
8		99-20-1125	Washer A 17 DIN 125
9		11-31-3546	Cap plastic for lower part for hopper BP-GPN 275/54

11.7.3 Welding the auger

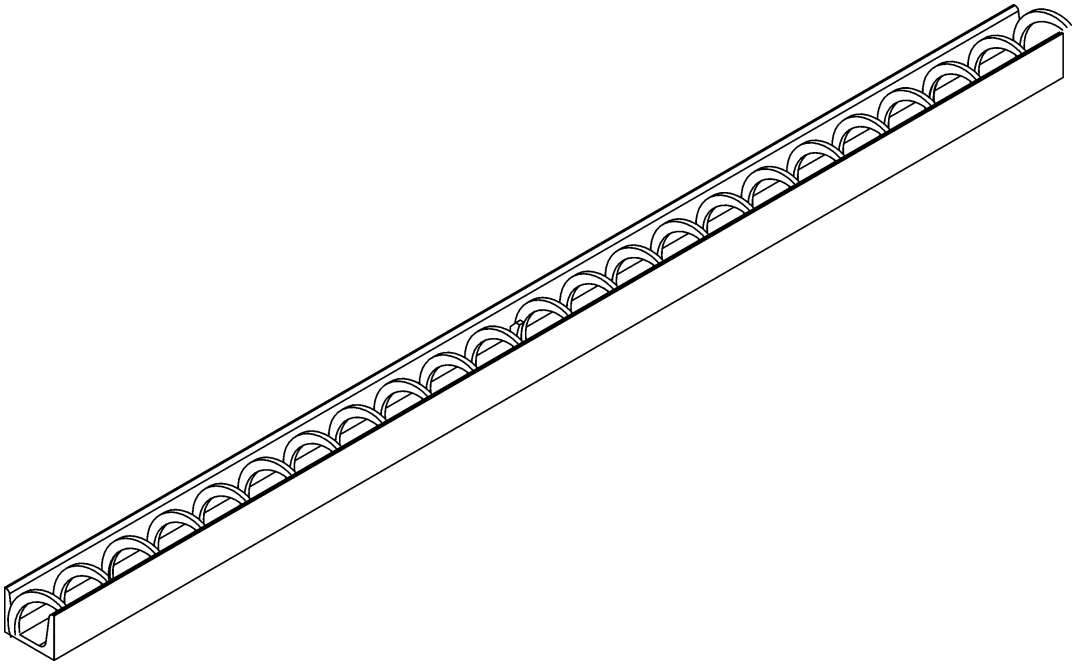
1. In order to avoid damages to the Augermatic tubes by square edges, the ends are deburred and 45° bevels will be made at the ends of the augers before aligining. auger.

Auger raw	**Auger with bevel**
	

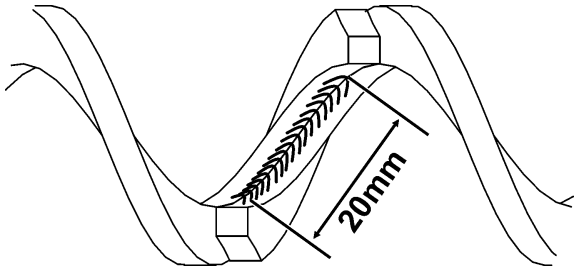
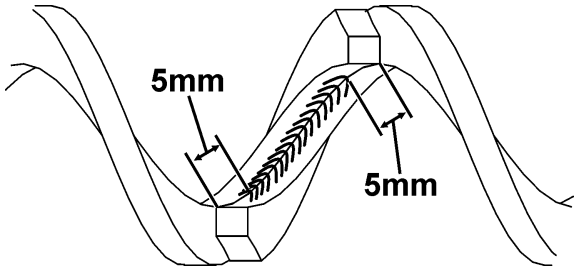
Augers put together correctly	Augers put together incorrectly
	
Overlapping: 30mm	2. Both auger ends will be degreased and other dirt will be removed.
	

3. Push the auger ends into each other with an overlapping of 30 mm. (Push the augers into each and **do not hook them into each other**).

   Use a L- or U-profile for aligning which means: The longer the profiles, the more exact is the alignment of the augers to each other.



4. Both auger ends will be connected with an **inner** welded joint of 20 mm length.
5. The distance of the welded joint to the both ends of the auger must be 5 mm.

Welded joint 20mm length	**Distance of welded joint to the end 5mm**
	

	After welding let the auger cool down slowly so that it does not become brittle. **Do not use water for cooling**. If required, round off weld joints by grinding so that no points protrude from the auger.

11.7.4 Repairing the auger at the feed hopper or AM drive

- If repairs have to be carried out the the AM drive, release the tube clamp between the last and last but one tube (drive side) and pull both tubes apart.
- Fix the auger between the tubes by means of a vis-grip wrench.
- Release the auger from the drive and carry out repair.
- If **repairs** have to be carried out at the **feed hopper**, proceed the same way.

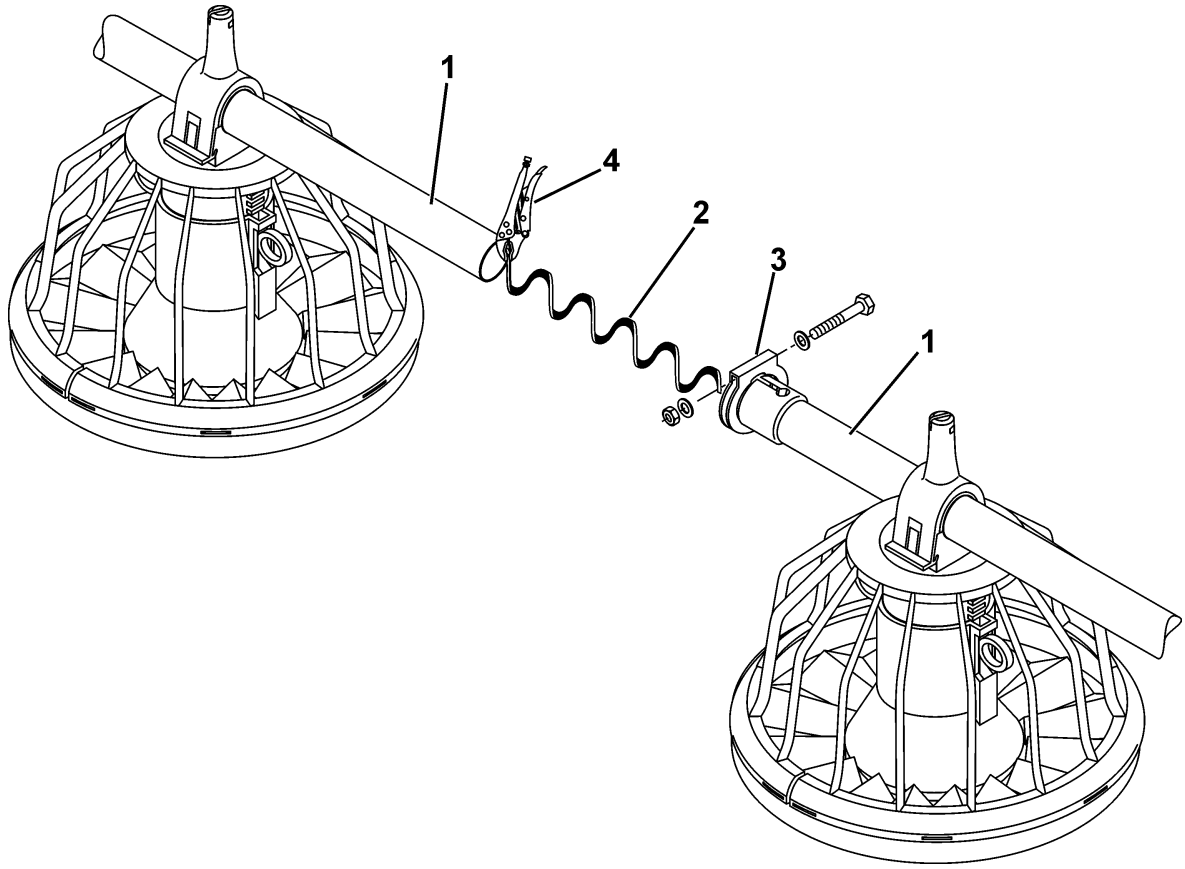


Figure 11-26: Repairing the auger

Pos.	Qty.	Code no.	Description
1			Tube
2		11-31-3238	Auger HD AM
3			Tube clamp
4			Vise-grip wrench

11.8 Installing the anti-roost wire

	The anti-roost wire is particularly recommended for pullet and turkey rearing. The anti-roost wire (3) is tensioned over one row length from the drive (1) to the feed hopper (2) and hooked into the tube adapters (4) of the feed pans. **Carefully unroll the wire rope 2 mm upon installation. Prevent kinks and knots upon unrolling.**

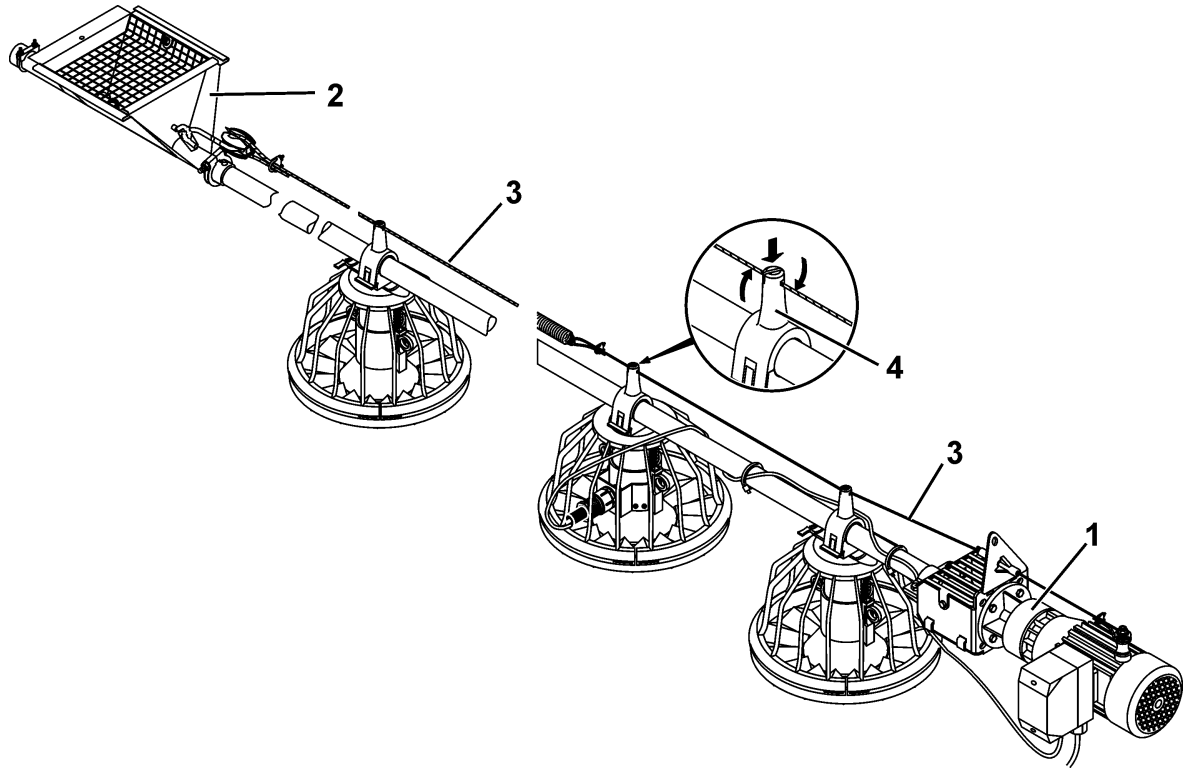


Figure 11-27: Installing the anti-roost wire

11.8.1 Anti-roost device for AM3 drive

	The AM3 drive can be installed including an anti-roost device. The anti-roost wire above the AM3 drive is connected to the wire above the Augermatic tube and supplied with current if an electric fencer is used. Replace the hexagon head screw M 5x50 of the end anchor cpl. anti-roost AM and the insulator for anti-roost cable by a hexagon head screw m 5x35 and an insulator at the AM3 drive. The suspension eye 2-hole for AM3 drive has to be replaced by a suspension eye for Am3 drive.

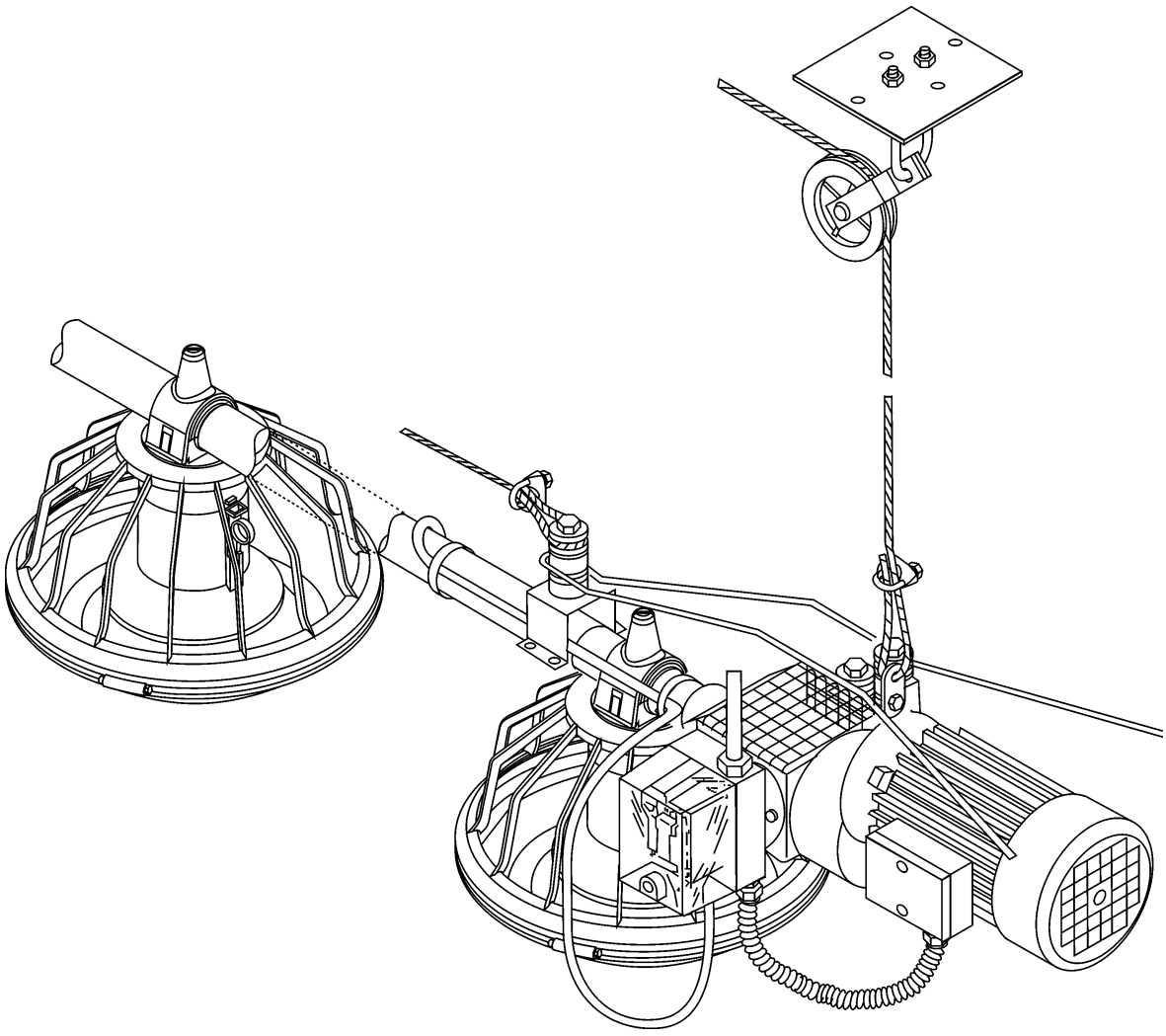


Figure 11-28: Anti-roost device for AM3 drive

Anti-roost for AM3 drive

Pos.	Qty.	Code no.	Description
1			Gear motor for Augermatic drive
2		11-31-3655	Anti roost for drive AM3 consisting of pos. 1-8
3		11-31-3606	Anti roost wire f/drive AM3
4		99-20-1033	Self locking counter nut M 5 galv. DIN 985
5		99-10-1097	Hexagon head screw M 5x16 galv. DIN 558
6		99-50-1146	Washer flat 5,3 DIN 433-ST
7		11-31-3608	Suspension eye for AM drive3
8		11-00-0307	Insulator at AM drive3
9		11-31-3611	Bracket for 2 insulators at AM drive
10		99-10-1420	Hexagon head screw M 5x35 galv. DIN 558
11			Suspension eye 2-hole for drive AM3
12			End tube BP330
13		11-31-1155	End anchor cpl. anti roost AM (Pos. 12-18)
14		99-10-1152	Hexagon head screw M 5x50 galv. DIN 558
15		00-00-0032	Insulator porcelain anti-roost cable
16		11-31-1158	Bracket for insulator AM355
17		11-31-1157	Clamp half for end anchor AM 355
18		99-10-1067	Hexagon head screw M 6x16 galv. DIN 558
19		99-10-1045	Hexagon nut M 6 galv. DIN 934
20		99-50-1260	Wire rope 2mm galv.
21		99-50-0014	Cable clamp 3mm 1/8" galv. DIN 741
22		11-31-3581	Bracket for cable winch 340 kg and hopper suspended AM/BP
23		00-00-3006	Pulley 4 1/8" 105mm plastic
24		99-50-3003	U-bolt galv. 8x25/W34/H48
25		99-20-1064	Self locking counter nut M 8 DIN 985-6 galv.
26		99-50-3700	Wire rope 5mm galv.
27		99-50-0120	Cable clamp 5mm 3/16" galv.

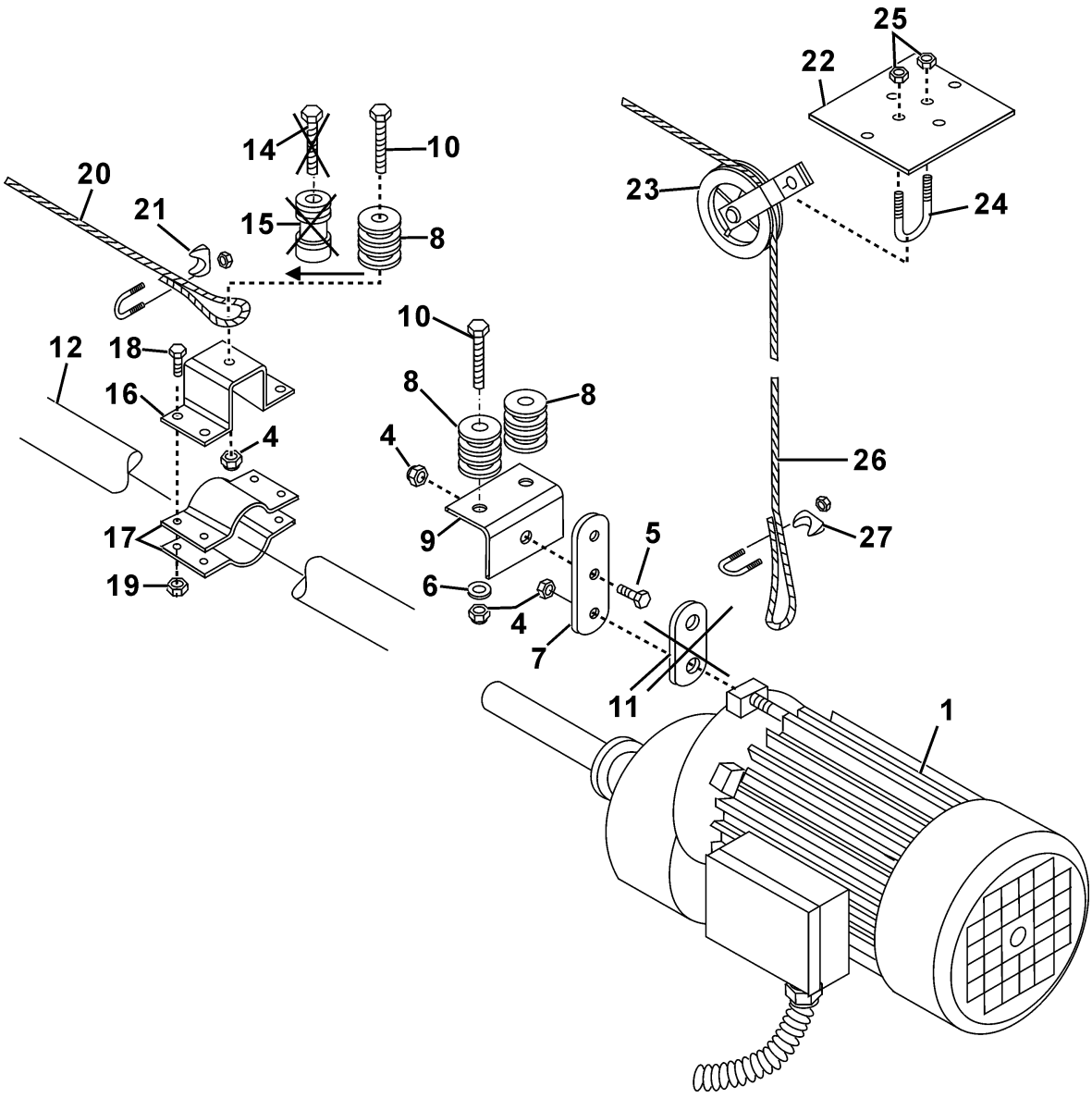


Figure 11-29: Explo Anti-roost device for AM3 drive

11.8.2 Anti-roost device for AM4 drive

For mounting the anti-roost device for AM drive4, see chapter 11.6.2.

11.8.3 Anti-roost device for AM5 drive

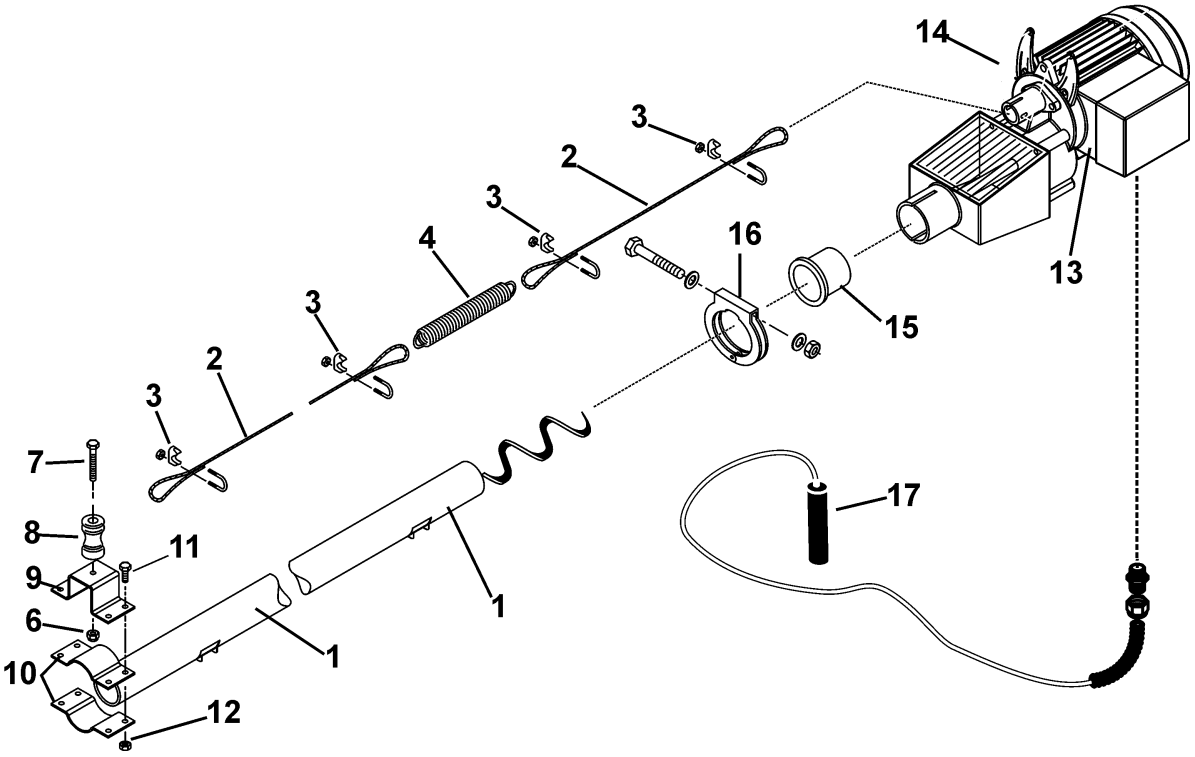


Figure 11-30: Anti-roost device for AM5 drive

Pos.	Qty.	Code no.	Description
1			Tube AM
2		99-50-1260	Wire rope 2mm galv.
3		99-50-0014	Cable clamp 3mm 1/8"galv. DIN 741
4		39-00-3096	Tension spring 2,0x14x134 C galv. DIN 17223
5		11-31-1155	End anchor cpl. anti-roost AM (Pos. 6-12)
6		99-20-1033	Self locking counter nut M 5 DIN 985-6
7		99-10-1152	Hexagon head screw M 5x50 galv. DIN 558
8		00-00-0032	Insulator porcelain anti-roost cable
9		11-31-1158	Bracket for insulator AM355
10		11-31-1157	Clamp half for end anchor AM355
11		99-10-1067	Hexagon head screw M 6x16 galv. DIN 558
12		99-10-1045	Hexagon nut M 6 galv. DIN 934
13			drive AM 5
14			Anti-roost drvice for drive AM5
15			Sleeve (from 50,8 mm to 45 mm tubes)
16		11-31-3211	Tube clamp riveted cpl. for tube d45,0
17		91-00-3905	Sensor AFS-01-60 sec. 90-250 V
		60-40-0654	Sensor MS-45R 220V

11.8.4 Installing the end anchor anti-roost AM and the tension springs

After approx. 25 AM tubes = 75 m install an end anchor cpl. anti-roost AM.

Between two end anchos cpl. anti-roost AM install two tension springs 2,0x14x134 C at a distance of approx. 25m.

Tension the wire rope 2 mm, so that the tension springs 2,0x14x134 C **are pulled approx. 60 mm longer**..

Pos.	Qty.	Code no.	Description
1			Tube AM
2		99-50-1260	Wire rope 2mm galv.
3		99-50-0014	Cable clamp 3mm 1/8" galv. DIN 741
4		39-00-3096	Tension spring 2,0x14x134 C galv. DIN 17223
5		11-31-1155	End anchor cpl. anti roost AM (Pos. 6-12)
6		99-20-1033	Self locking counter nut M 5 galv. DIN 985-6
7		99-10-1152	Hexagon head screw M 5x50 DIN 558
8		00-00-0032	Insulator porcelain anti-roost cable
9		11-31-1158	Bracket for insulator AM 355
10		11-31-1157	Clamp half for end anchor AM355
11		99-10-1067	Hexagon head screw M 6x16 galv. DIN 558
12		99-10-1045	Hexagon nut M 6 galv. DIN 934

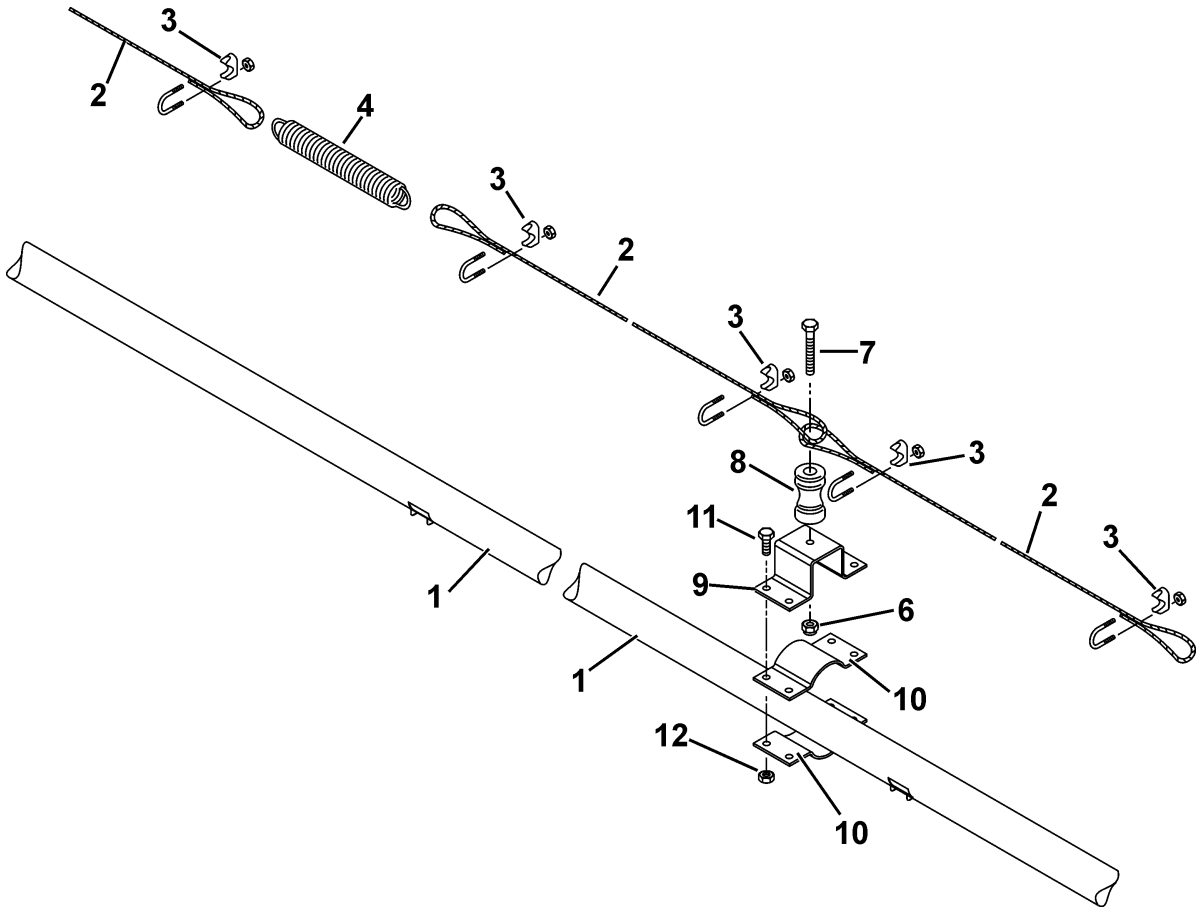


Figure 11-31: Installing the end anchor anti-roost AM and the tension springs

11.9 Connecting the anti-roost device

Carefully unroll the wire rope 2 mm!

Prevent kinks and knots upon unrolling the wire rope 2 mm!

All tension springs 2x14x134 C should be extended approx. 60 mm upon tensioning.

At each feeding line at the feed hopper place a dolue connector on each wire rope 2 mm where current is supplied.

Install the cross rope 2 mm twice per house:

1. for current supply to the anti-roost device
2. for earthing the feeding line

The cross rope 2mm additionally has to be suspended from the ceiling every 4 m.

Connect each feeding line and the cross rope 2 mm for current supply of the anti-roost device by means of a cable NYL 4/7 kW yellow 1.5:

1. at the anti-roost wire of the feeding line by means of a dolue connector,
2. at the cross rope 2 mm by means of an adjustable collar.

Connect each feeding line and the cross rope 2mm for current supply of the anti-roost device by means of a cable NYL 4/7 kV yellow 1.5:

1. at the end anchor cpl. anti-roost AM by means of a hexagon head screw M 6x16 and a hex nut M 6,
2. at the cross rope 2 mm by means of an adjustable collar.

Consider the "General instructions for mounting and connecting an electric fencer".

Warning against dangerous electric tension

Connecting the anti-roost device

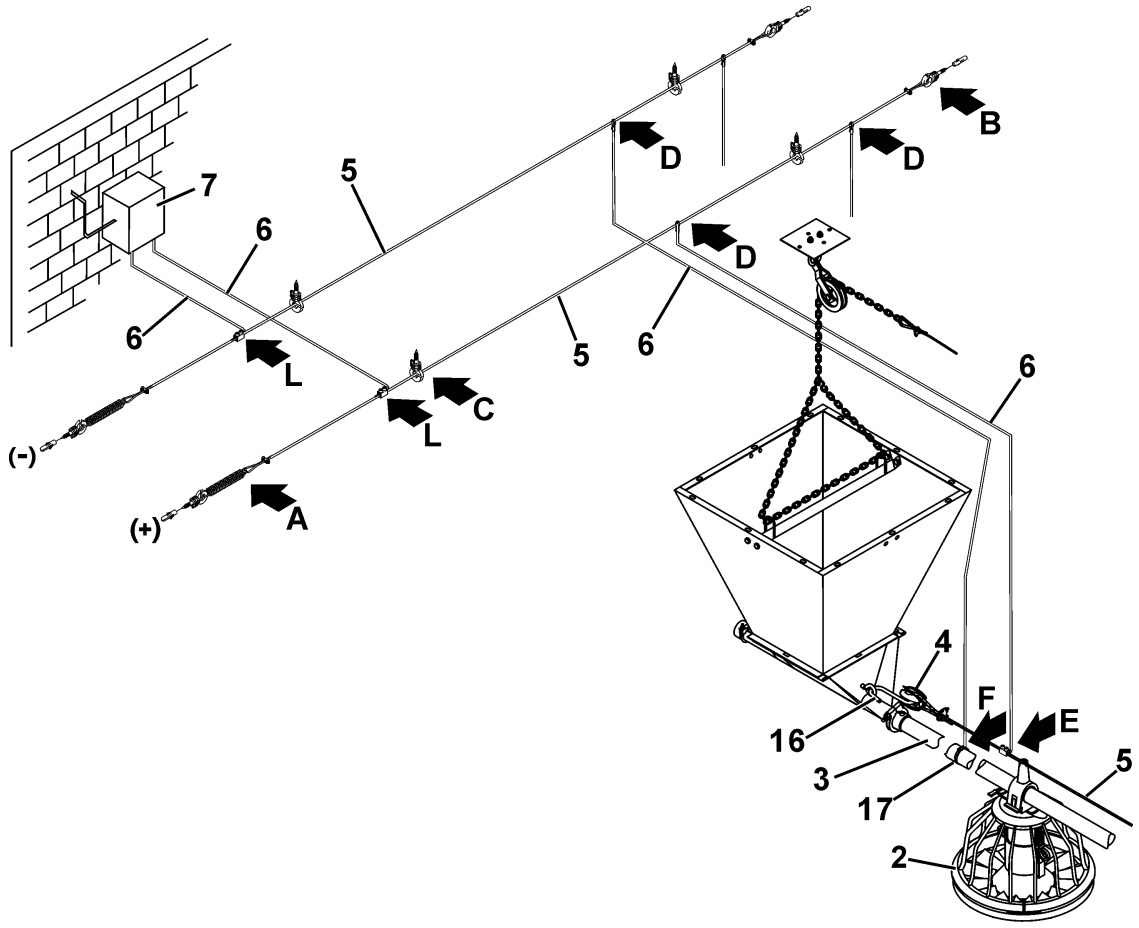


Figure 11-32: Connecting the anti-roost device

Pos.	Qty.	Code no.	Description
1			Feed hopper
2		11-31-3710	Feed pan cpl. RPM 330 for BB rearing and production
3			Tube AM/BP
4		11-00-9071	Insulator ovate
5		99-50-1260	Wire rope 2mm galv.
6		99-30-3401	Cable NYL 4/7 KW yellow 1,5
7		91-00-1273	Electric fencer shocker 0,95
8		99-50-0014	Cable clamp 3mm 1/8" galv. DIN 741
9		39-00-3096	Tension spring DIN 17223 2x14x134 C galv.
10		99-98-3781	Dowel S8
11		11-00-9072	Insulator ST-D with thread for woodwork

Pos.	Qty.	Code no.	Description
12		99-98-5050	Dolue connector 12 pcs/6qmm
13		99-30-3104	Adjustable collar black AK 2 S
14		99-10-1067	Hexagon head screw M 6x16 galv. DIN 558
15		99-10-1045	Hexagon nut M 6 DIN 934
16		11-00-9073	S-hook4x80 for insulator
17			Hose band clip

Connecting the anti-roost device:

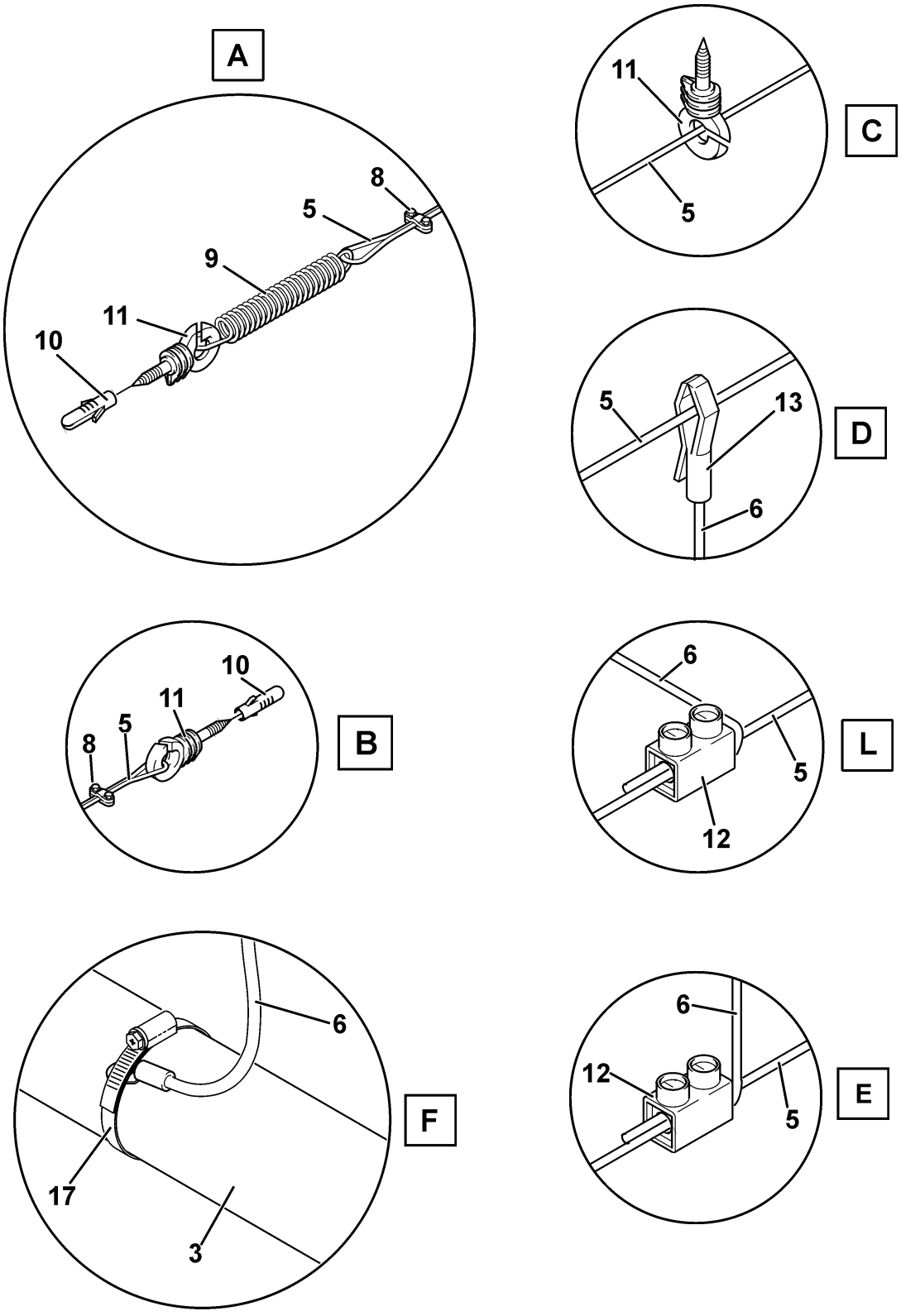


Figure 11-33: Details connecting the anti-roost device

11.10 Installing the sensor

11.10.1 Installing the sensor MS45-R laterally in the control pan

Place the sensor into the fastening for sensor of the control pan and screw the union down. The fastening for sensor depends on the type of system.

Fix the cable of the sensor to the end tube by means of 185 mm straps.

The sensor should protrude into the inner cylinder of the feed pan so that it is even with it at the inside.

The control pan has to be turned to ensure that the sensor **does not** point into the direction of the AM drive.

Pos.	Qty.	Code no.	Description
1			Drive
2			End tube
3			Control pan
4			Feed pan
5		60-40-0654	Sensor MS 45R
6		38-90-3809	Strap 185mm plt2s-c
7		11-31-3572	Fastening cpl. for sensor DOL-33R to feed pan
8		99-30-3001	Screw union PG 36
9		11-31-3002	Fixing 1" x 1 1/2" 15 mm

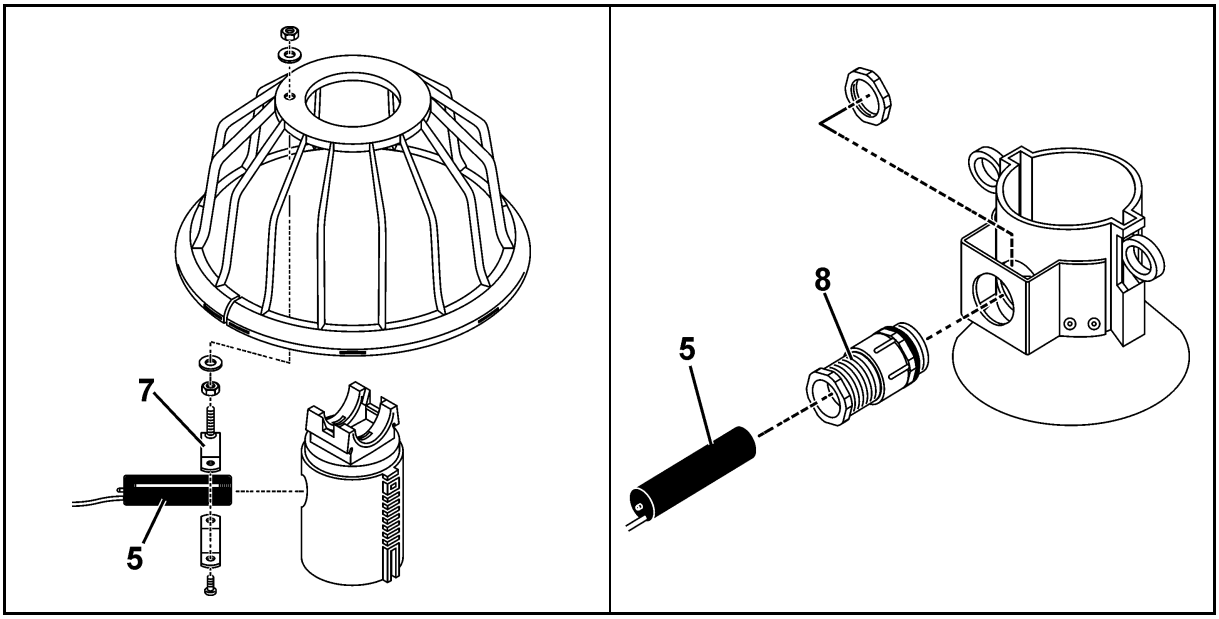


Figure 11-34: Installing the sensor MS45-R laterally in the control pan

Installing the sensor MS45:

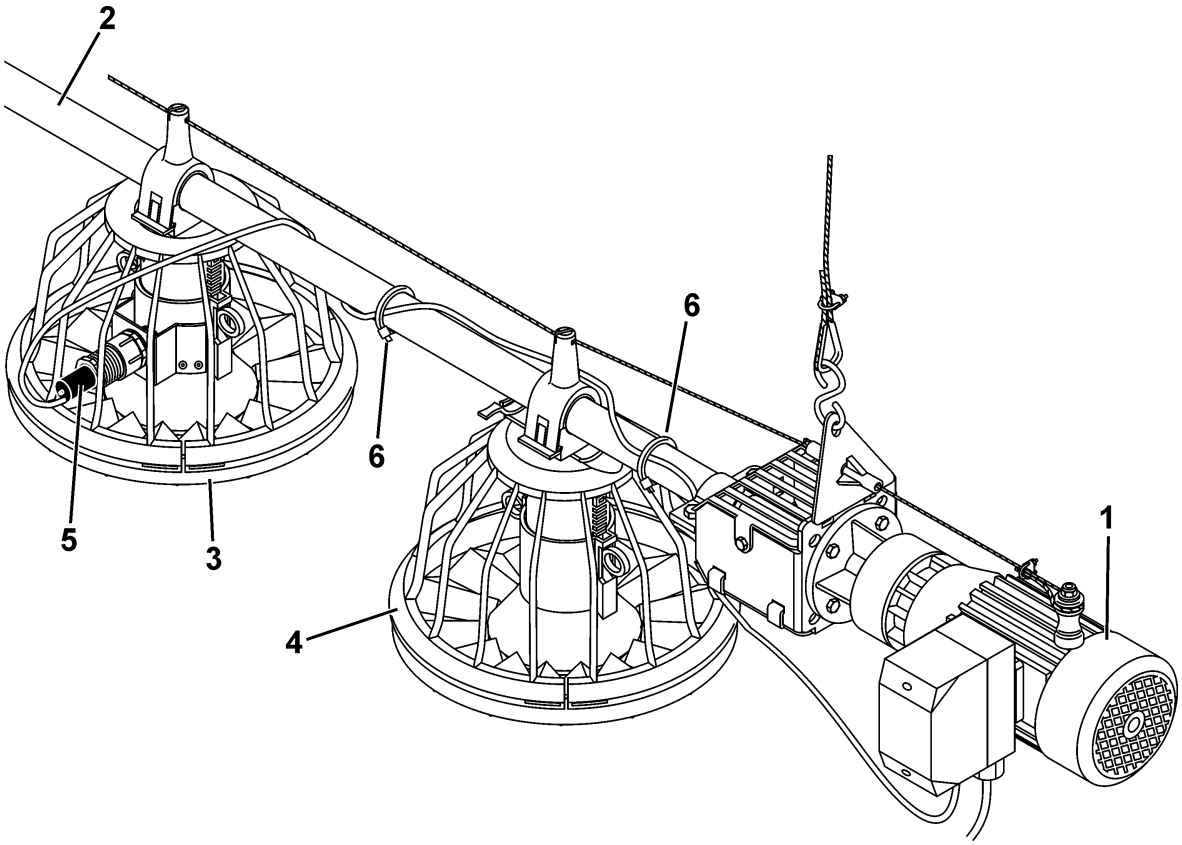


Figure 11-35: Survey installing the sensor MS45

11.10.2 Mounting of sensor AFS 01-60 for control pan Fluxx and Fluxx Breeder 360

The sensor AFS is integrated into the inner cylinder of the Fluxx aund Fluxx Breeder pan. After folding down the feed pan, the cable of the AFS sensor has to be inserted from the bottom of the cylinder and guided through the boring atop of the central cylinder. The cable has to be pulled through the boring unti it reaches the sensor.

As can be seen in the below figure, the sensor has to be inserted in the relief of the inner cyclinder.

The control pan has to be assembled in such a way, that the boring for the sensor cable lies towards the AM drive (when seen from above).

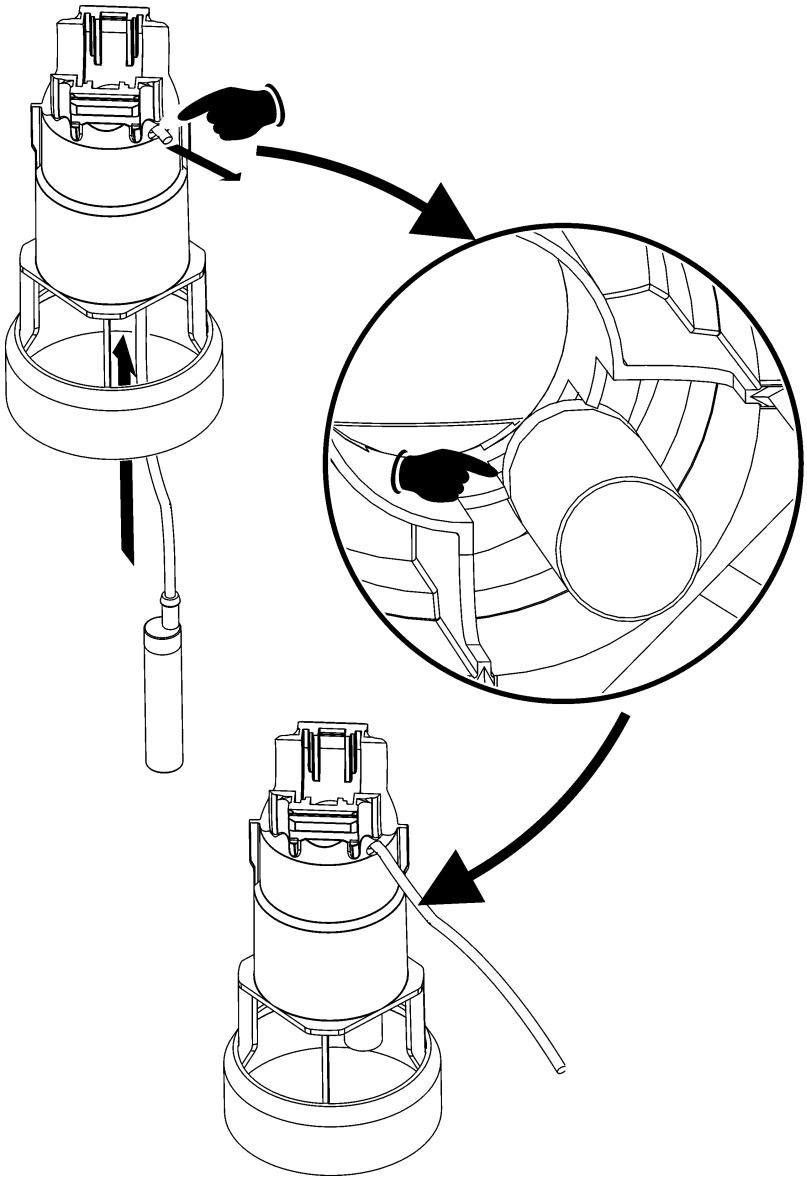


Figure 11-36: Mounting of sensor AFS 01-60 for control pan Fluxx

11.10.3 Mounting of the sensor AFS 01 for control pan BigPan 330; MultiPan 330 and MalePan 330

The sensor AFS of these pans has to be placed in the inner cylinder as well. The control pan should be the penultumate pan before the drive. The sensor cable is guided to the drive along the Augermatic tube and is fixed with cable clamps.

For BP 330, MP 330 and Male Pan, the cable of the AFS sensor is guided through the boring atop the central cylinder, after folding down the feed pan. The cable has to be pulled through the boring until it reaches the sensor.

The sensor is placed into the central cylinder according to the below figure.

The control pan has to be assembled in such a way, that the boring for the sensor cable lies towards the drive (when seen from above).

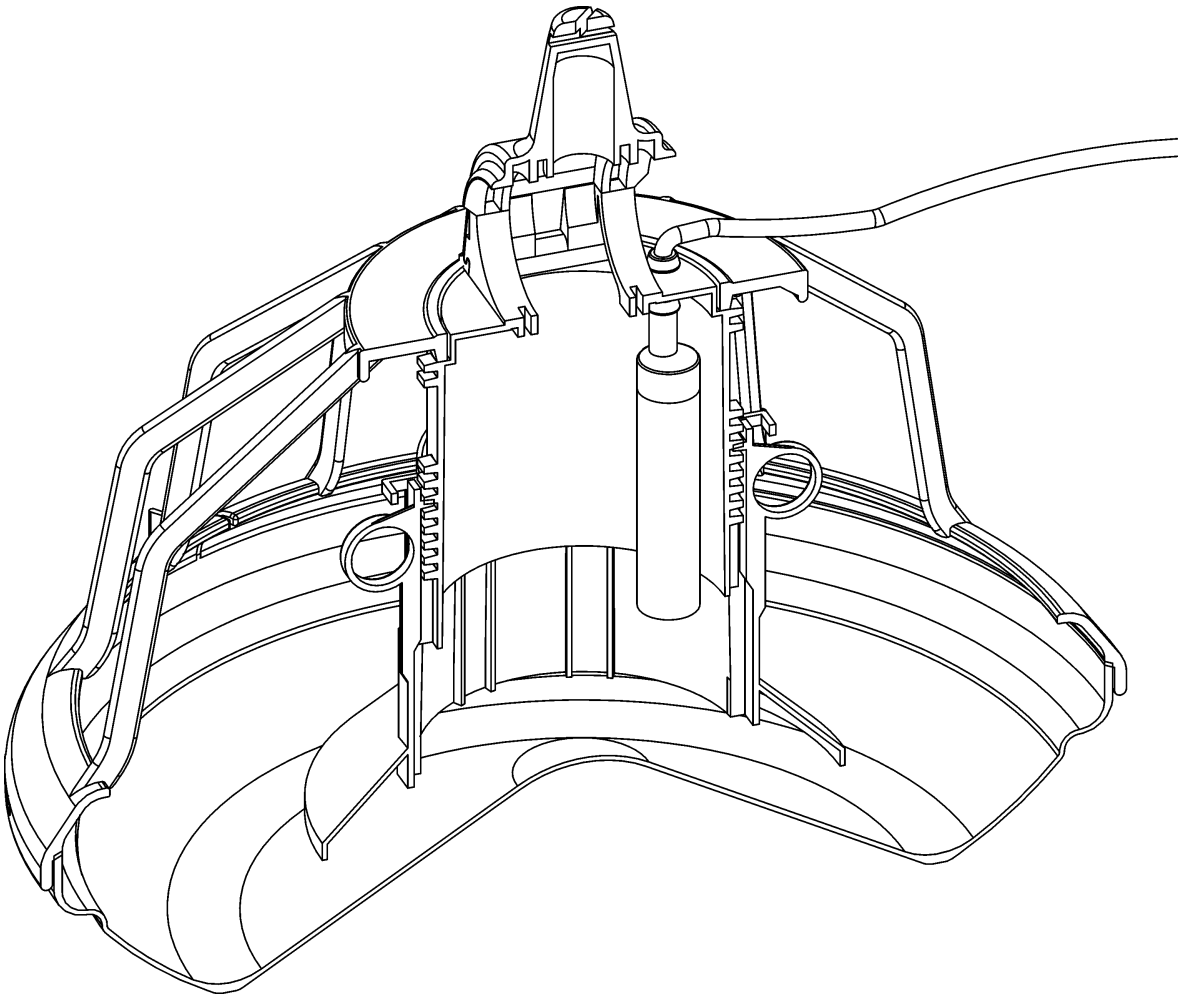


Figure 11-37: Cross section mounting of the sensorsAFS 01 for control BigPan 330; MultiPan 330 and MalePan 330

11.10.4 Electrical connection of Augermatic and sensor

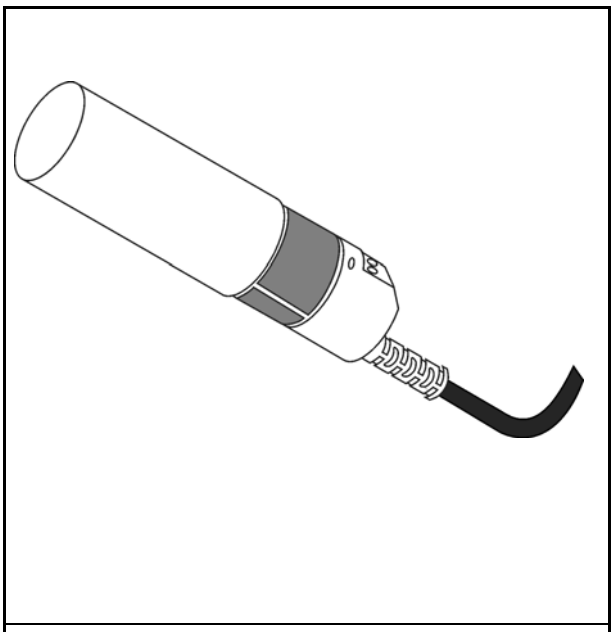
☞	Work on the electric components/structural groups may only be carried out according to electro-technical reglulations (e.g. EN 60204, DIN VDE 0100/0113/0160). The farmer or owner further has to ensure that the electric systems and equipment are operated and maintained according to the electro-technical regulations. **The electrical connection diagram is appended to the switch box of the AM drive and the sensor MS 45R**. A safety switch as an external fuse is not included in the AM drive but can be obtained as an option or bought by the customer..

11.10.5 Sensor MS 45R

Sensor MS 45R is a capacitive sensor for solid matters in the range of grain and feed.

Sensor MS 45R has an integrated relais switch as well as adjustable time delay and sensitivity.

An electrical terminal connecting plan is appended to every sensor.



Sensor MS45R

Figure 11-38: Sensor MS45R

Description of the sensor MS45R

Product Description:

The MS 40R series is generally applicable capacitive sensors for usage in connection with solid and loose materials. The sensors have a relay output with a switch function.

Field of Application:
- Level control in silos and containers
- Control of filling and emptying

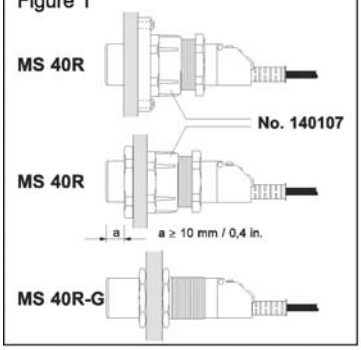
Mounting Guide (fig. 1):

The MS 40R series should be installed so at least 10 mm of the sensor contact point is free.

The MS 40R series in a smooth design is mounted efficiently in a special gland, additional accessory item number 140107.

The MS 40R-G series with M30 thread is mounted in a ø30 mm hole and is tightened with a locknut.

Figure 1



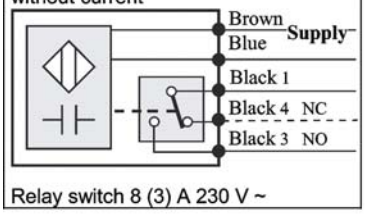
Installation Guide (fig. 2):

The power supply 90 V – 250 V AC is connected to the blue and brown wire. The load is connected in series with the relay contact of the sensor.

STOP by activating the sensor: use the black wires 1 and 3.
START by activating the sensor: use the black wires 1 and 4.

NOTICE! The internal relay is pulled when the power supply is connected and the sensor is not activated.

Figure 2: Activated sensor or sensor without current



User's Guide (fig. 3):

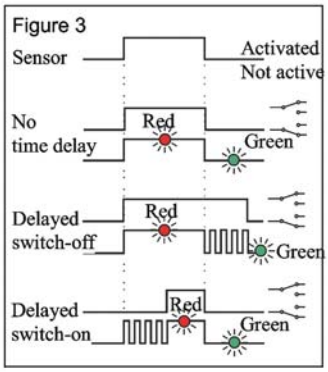
MS 41R has *no* time delay.

MS 43R has an option for delayed *switch-off* . When the activation stops, the time delay begins (red flash), and when this delay has run out, the relay switches back.

Besides the two options above the **MS 45R** can also be set for delayed *switch-on* (green flash). The time delay will start immediately when the sensor is activated. When the delay period runs out, the relay will switch. It does not switch back until the activation stops.

	Sensitivity	Off delay Delayed switch-off	On delay Delayed switch-on
41R	•		
43R	•	•	
45R	•	•	•

Figure 3



Technical Data:

Power supply:

High voltage model: 90 – 250 V 50 - 60 Hz

Item no. 100654

Low voltage model: 10 – 30 V AC/DC

Item no. 100655

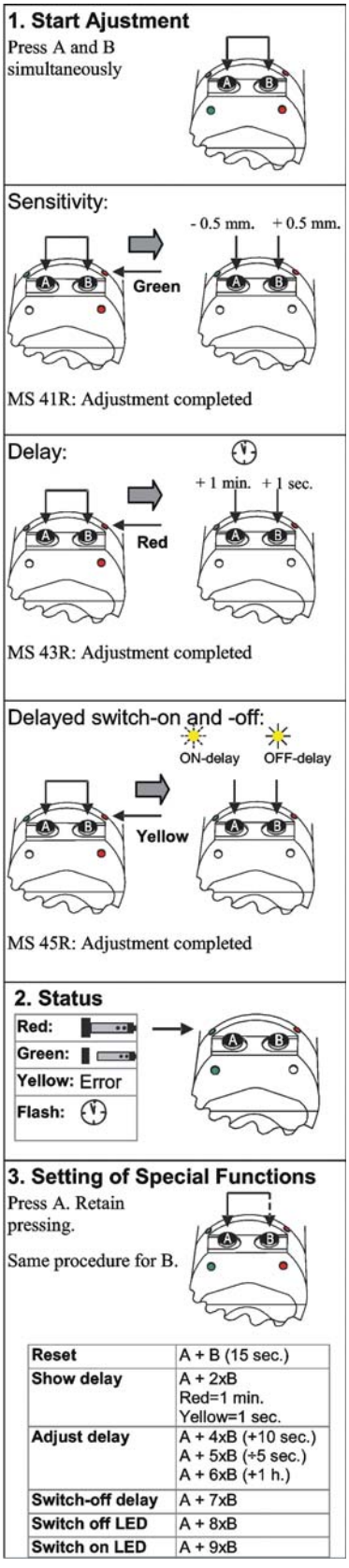
Relay switch max. AC:

1.1 kVA at cos φ = 1
1.0 kVA at cos φ = 0.8
0.7 kVA at cos φ = 0.4

Temp. range: - 20 °C - + 70 °C
- 4 °F- +158 °F

For USA and Canada: Max. 40 °C

Max. delay: 4 hours



Reset	A + B (15 sec.)
Show delay	A + 2xB Red=1 min. Yellow=1 sec.
Adjust delay	A + 4xB (+10 sec.) A + 5xB (+5 sec.) A + 6xB (+1 h.)
Switch-off delay	A + 7xB
Switch off LED	A + 8xB
Switch on LED	A + 9xB

Figure 11-39: Description of the sensor MS45R

Functioning of sensor MS 45R:

The motor of the AM drive is controlled by the sensor MS 45R through an adjustable time delay of 0-240 min.

When the feed reaches the sensor MS 45R in the control pan the motor of AM drive is turned off automatically.

When the feed level drops and the sensor MS 45R is no longer touched by the feed, the motor of the AM drive is turned on again, after a certain time-delay.

As the feed level constantly changes because of the feed consumption of the animals, the spiral would have to be turned on and off frequently.

To avoid this, the sensor MS 45R is equipped with a time-delay mechanism.

The parameter that can now be worked on, is indicated by the colour of the LED:

Colour	**Parameter**
green	sensitivity
red	time-delay
yellow	switch OFF/ON
black	set-up finished

Adjustment of the time-delay mechanism of sensor MS 45R:

Sensor MS 45R has an adjustable time-delay of 0-240 minutes..

The standard time-delay of sensor MS 45R, set by the manufacturer, is 30 seconds .

We recommend, NOT to shorten the set time-delay.

The duration of the time-delay can be activated by pushing and releasing buttons A and B simultaneously. The mode indicator has to be red.

Each time button A is pushed, the time-delay is increased by 1 minute, each time button B is pushed, the time-delay is increased by 1 second.

Example: A time delay of 10 min and 5 sec means, that button A has to be pushed 10 times and button B 5 times.

Adjustment of the sensitivity of sensor MS 45R:

	The sensors' distinct reactivity ensures that varying moistness of the feed changes the set-time. For the adjustment, the feed should be as dry as possible. The drier the feed, the more secure the switching function of the sensor MS 45R.

The sensitivity can be activated by pushing and releasing buttons A and B simultaneously. The mode indicator has to be green.

When pushing button A the sensitivity is decreased, when pushing button B it is increased..

If sensor MS 45 R in the control pan does not interrupt the power supply of the AM drive, the sensitivity has to be **increased**.

If sensor MS 45R in the control pan does not react and the motor of the AM drive is not started, the sensitivity has to be **decreased**.

	For more detailed information about handling of the sensor MS 45R, please take a look at the documentation that comes with the sensor! (see also Figure 11-39:)

Reset to factory settings:

To reset to manufacturer's settings (30 seconds), buttons A and B have to be pushed simultaneously for at least 15 seconds.

11.10.6 Sensor AFS-01

The sensor AFS 01 is a small capacity sensor for detection of grain, feed and granulates. It is used for feed hoppers and feed pans. The sensor has been especially developed for the use in Augermatic-feeding systems.The compact sensor AFS-01 is 82 mm long and 18 mm wide. All control electronics parts are cast-in in the plastic housing, thus, well protected against outside influences.

Operating principle:

As soon as the sensor is no longer in contact with the feed in the feed pan, the sensor activates the AM drive after a time-delay of 60 seconds. The time-delay is preset at 60 seconds. This prevents that the drive is turned on and off too fast and for a too short time. As soon as the feed pan is filled with feed again, the sensor AFS deactivates the AM drive.

An integrated LED on the sensor shows the current status of the sensor.

Lamp indication	**Description**
Lamp OFF	Drive switched OFF
Lamp flashing	Drive switched OFF, but the time-delay of 60 seconds is activated.
Lamp ON	Drive switched on

Assembly:

The AFS-01 sensor is secured in the control pan. No further screwing works are necessary. The two-wire design of the feeder, assures a correct assembly..

12 Installing the suspension

The suspension material is required for raising the chain feeding when moving birds out and when the house is cleaned.

Suspension material consists of:

- a cable winch with fixing material
- pulley with fixing material
- cable with cable clamp
- suspension material for tubes, feed hopper and AM drive.

When selecting the suspension material, take the carrying capacity of the support material and the permissible charges of cable winches and fixing material into account.

During planning or before start of assembly, evaluate the weights of the material to be suspended.

For the weight of the system components please refer to the manual of the system to be installed.

For the description of the assembly of the suspension system please refer to the manual M 101 GB Suspension systems.

The fixing material for suspension is not comprised in the volume of delivery of the system but has to be provided by the customer or is available as an optional extra.

For standard caculation of the points of suspension ceiling height is assumed as 3 m and a distance of the suspension points of 3 m.

Pos.	Qty.	Code no.	Description
1			AM drive
2			Feed hopper
3			End tube BP330
4			Tube AM/BP
5		99-50-0003	Ship chain galv. 5mm DIN 766
6		99-50-0005	S-hook 2" no. 60/6x55
7		99-50-1077	Thimble galv. 6mm for cable 5mm DIN 6899 NG 6 RW7
8		99-50-0120	Cable clamp 5mm 3/16" galv.
9		99-50-3700	Wire rope 5mm galv.
10		00-00-3006	Pulley 4 1/8" 105mm plastic
11		11-31-3581	Bracket for cable winch 340kg and and hopper suspended AM/BP
12		99-50-3003	U-bolt galv. 8x25/W34/H48

Pos.	Qty.	Code no.	Description
13		99-20-1064	Self locking counter nut M 8 DIN 985-6 galv.
14			Screw hook bent
15		00-00-0313	Pulley 1 7/8" 47,6mm
16		11-00-3002	Cable lock AM
17		11-00-0089	Hanger for tube BP/AM
18		99-50-0013	Wire rope 3mm or alternatively
		99-50-1007	Suspension cord braided perlon 6mm yellow

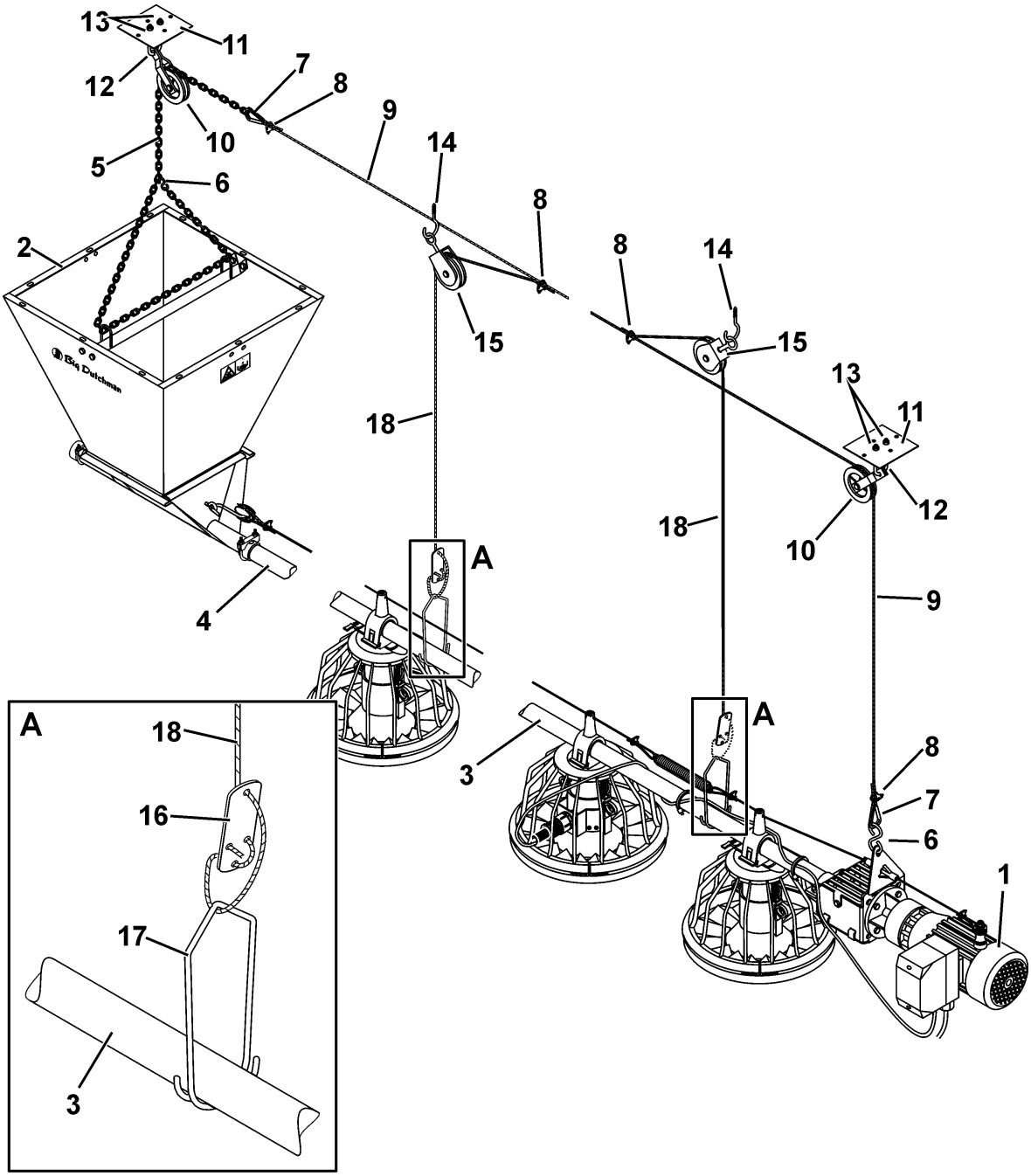


Figure 12-1: Components of suspension Augermatic

13 Installing the cable winches

Warning

Before starting to assemble, operate or maintain the cable winch, read the enclosed leaflet and consider the following instructions!

Caution

After the assembly check all main traction ropes, particularly in the area of the roller tube. The farm personnel has to repeat this check after each grow-out. .

High forces are created when using a winch, creating potential safety hazards It should be operated and maintained in accordance with instructions.

Never allow children or anyone who is not familiar with the operation of the winch to use it.

Maintain a firm grip on the winch handle at all times, and never release the handle when ratchet lever is in unlocked position with a load on the winch. Otherwise, handle will spin violently, which could cause personal injury.

Check for proper ratchet operation on each use of the winch. Do not use if damaged. Seek immediate repairs.

Never pull on the winch handle against a locked ratchet.

Never exceed rated capacity. Excess load may cause premature failure and could result in serious personal injury.

Never apply load on winch with cable of rope fully extended. Keep at least three full turns of cable or rope on the reel.

Winches should not be operated with a motor of any kind.

14 Final inspection

	Please check the entire system by means of this checklist at the beginning and at the end of each rearing or production period. Tick each position you checked.

14.1 Conveying system for AUGERMATIC

☐	Align the entire feed circuit with the cable locks of the individual suspension ropes which ensures an absolutely straight chain operation over the entire circuit length.
☐	Make sure that the AM feed hopper and the AM drive are in line with the tubes.

14.2 Feed pans

☐	Check the slide shut-offs and open them if required!
☐	Check whether the sensor in the control pan is correctly installed and operating.
☐	Adjust the cylinders for adjusting the feed level to the same position in **all** feed pans.

	The feed level generally has to be kept as low as possible during the entire period of restricted feeding.

14.3 Anti-roost device

☐	Check its operation in general.
☐	In case of functional disorders check the possibility of an electrical short-cut between the anti-roost wire and the feed channel and remove it.

15 Operating instructions

15.1 Putting AUGERMATIC into operation

- Check whether the AM tubes are running exactly horizontally and the drive is correctly connected with the power supply.
- Put the system into operation for a short time to be able to find out possible installation errors. Pay attention to the right direction of the transport auger.
- Let the transport auger run approx. 15-20 minutes without feed, so that burrs which possibly stick to the auger or to the outlet of the tubes are removed and the system is able to work smoothly. This causes noise but that is absolutely normal.
- All burrs and dirtyings must be removed out of the tubes. If notkeep a check upon heated points on the tubes.
- Now remove all dirtyings out of the feed pans.
- The new tubes and the auger are covered with a thin layer of oil. This oil film will cause a certain friction when feed is conveyed for the first time.
- First fill small amounts of feed into the feed hopper until the first feed pans are filled.
- Continue filling in small steps until the entire system has been filled.

15.2 AUGERMATIC - feeding system "Male - Pan" and "Male - Pan plus" for Broiler - breeder males

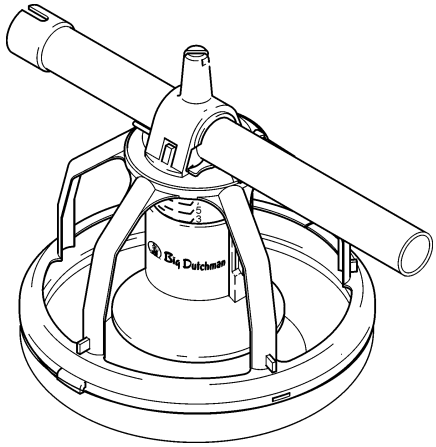
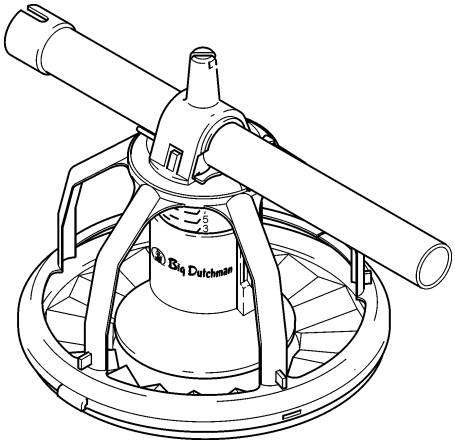
	
Male-Pan, Code-No. 11 31 3585	Male-Pan plus, Code-No. 11 31 3590

Figure 15-1: Feeding system "Male - Pan" and "Male - Pan plus"

Description of Male-Pan and Male-Pan plus:

- Fixed, non-swinging tube connection by means of a pressure spring and a holding pin.
- Slide shut-off for uniform distribution of the total restricted feed quantity to all males within the flock with decreasing number of birds (mortality/selection).
- Stable 5-arm grill.
- Deep feed plate to prevent feed losses and for complete reception of the required daily ration for all males.
- Scale for precise and easy volume adjustment of all feed pans on a feeder line.

15.2.1 Introduction

In broiler breeder houses, separate-sex-feeding stall has a very high, production-technical status.

This is important,

- to give a relatively small feed quantity to the males in comparison to the hens,
- to control the males' sexual development
- and to avoid an uncontrolled increase in weight as well as premature obesity.

On the other hand, a feed recipe deviating from that of the hens shall also be offered in individual cases.

Separate male-female feeding ("separate sex feeding") can be put into practice as follows:

- The males must be denied access to the feed of the females by means of a relatively narrow eating grille.
- At the same time, a feeding place has to be offered to the males which cannot be reached by the smaller hens due to its raised position.

Since the males are fed extremely restrictively as are the females, such a male feeding system has to fulfil special requirements in order to give each male its exact daily ration.

Here, we distinguish different feeding procedures,

- according to the kind of quantity fixing
- and even distribution of the feed to the males.

15.2.2 Distribution of the daily ration by daily lowering the filled Male-Pan at feeding time

Here, we have the possibility to fix the daily ration per male:

- only by the volume adjusted at the outer cylinder of the "Male Pan",
- or to weigh the feed into the feed hopper additionally for a more exact fixing of the feed quantity.

15.2.2.1 Advantages of "Male-Pan"

- The even distribution of the feed ration is possible independently of the conveying lengths and up to 150 m away from the house gable.
- Every male obtains exactly the same volume/quantity of feed.
- Thanks to the mostly raised male feeding line, the birds have more place in the scratching area. Through this, the insemination rate is improved. The danger of misplaced eggs under the male pan is minimised.
- 7-9 males per feed pan.

15.2.2.2 Technical details of the Male-Pan feed pan

(daily lowering of the filled Male-Pan at feeding time)

Possible grid positions of the Male-Pan and the corresponding feed quantities.

Grid position at the outer cylin-derr	[.]	1	2	3	4	5	6	7	8	9	10	11	12
Feed volume	(cm^3)	1111	1162	1254	1384	1535	1703	1885	2078	2284	2505	2731	2973
Spec. density	(g/cm^3)	0,65											
Feed quantity	(g)	722	755	815	899	998	1107	1225	1351	1485	1626	1775	1932
= for 7 males	(g/bird	103,1	107,9	116,4	128,5	142,5	158,1	175,0	193,0	212,1	232,3	253,6	276,0
= for 8 males	(g/bird	90,2	94,4	101,8	112,4	124,7	138,4	153,1	168,9	185,6	203,3	221,9	241,5
= for 9 males	(g/bird)	80,2	83,9	90,5	99,9	110,9	123,0	136,1	150,1	165,0	180,7	197,3	214,7

The calcluated feed quantities should only be regarded as reference value.

Since the flowability of the feed in the pan also depends on the surface structure and a lot of other factors - apart from the specific density, the humidity and fat contents - it is absolutely necessary to measure the feed quantities with the respective sort of feed used.

15.2.2.3 Feeding process in principle upon volume metering

1. The feed line is suspended inaccessible for the males.
2. The feed hopper of the Augermatic is continually kept filled by an auger or a "Flex-Vey" conveying spiral.
3. The Augermatic conveying auger is switched on. The Male-Pan feed pans are filled from the front (feed hopper) to the back (drive unit). The quantity of feed depends on the height adjusted at the outer cylinder and the adjusted feed volume.
4. The maximum sensor of the last but one feed pan automatically switches off the Augermatic conveying auger.
5. The Augermatic conveying auger is switched currentless and is lowered automatically or manually to bird level for feeding. In this lowered position, there is generally no refill of the Male-Pans.
6. After that, the system is raised again and filled for the next day.

15.2.3 Distribution of the daily ration during the eating time - without daily lowering of the Male-Pan Plus feed pans.

The complete daily ration for the males is distributed during the feeding and eating time; it is not necessary to lift or lower the feed pans in a daily change.

In order to guarantee an even distribution of the feed quantity to all birds, the following techniques of Male-Pan plus are described.

- A minimum sensor in the feed hopper keeps the Augermatic conveying auger between two feed pans filled so that feed will be available in all feed pans immediately after having switched on the drive.
- The conveying capacity of the Augermatic is increased by means of a special drive unit with 703 RPM to more than 1 t/h.
- The installed volume reducing insert reduces the feed quantity in the pan; through this, the pans are quickly refilled after beginning of feeding.
- The basin-shaped feed pan realises an extremely low feed level. Through this, the eating speed of all birds is adjusted to a low level.

15.2.3.1 Technical details of the Male-Pan plus feed pan

(distribution during the eating time - without daily lowering of the feed pans)

Feeding process in principle:

1. The complete daily ration for the males of this feeding line is weighed into the feed hopper.

2. The Augermatic conveying auger is switched on for feeding. The Male-Pan plus feed pans are all filled simultaneously with the feed quantity located in the conveying tube between two feed pans.
3. The maximum sensor of the last but one feed pan controls the Augermatic conveying auger according to the actual eating performance of the birds.
4. The minimum sensor at the bottom of the feed hopper of the Augermatic switches off feeding. In this way, the conveying tube is still filled with feed and is therefore prepared for the next day.

15.2.3.2 Advantages of Male-Pan plus

- The feed pans do not need to be raised and lowered every day.
- Every male obtains exactly the same quantity of feed.
- A low feed level in the basin-shaped feed dish reduces feed losses.
- 7-8 males per feed pan.

15.2.3.3 Feeding process in principle upon weight metering

1. The feeding line is raised inaccessible for the males.
2. The complete daily ration of the males in this feeding line is weighed into the feed hopper.
3. The Augermatic conveying auger is switched on. The Male-Pan feed pans are filled from the front (feed hopper) to the back (drive unit).
4. The minimum sensor at the bottom of the feed hopper of the Augermatic switches the Augermatic conveying auger off when the complete, weighed in quantity has been distributed.
5. If the maximum sensor of the last but one feed pan switches off before, the height adjustment at the outer cylinder of all feed pans has to be modified so that the complete daily ration can be taken up.
6. Only a very small, from day to day same rest quantity of feed should remain in the feed hopper.
7. The Augermatic conveying auger is switched currentless and is lowered automatically or manually to bird level for feeding. In this lowered position, there is generally no refill of the Male Pans.
8. After that, the system is raised again and filled for the next day.

15.3 Augermatic Fluxx Breeder 360 (FXB360 and FXB360AZ)

15.3.1 Important instructions regarding function and operation

15.3.1.1 Minimum sensor in the lower part for Augermatic feed hopper

The lower part of the Augermatic feed hopper has to be equipped with a minimum sensor. After having distributed the daily feed quantity and as soon as the Augermatic hopper will be empty this sensor switches off the Augermatic drive. Thus unnecessary noise and excessive wear of the system will be avoided.

- For an impeccable function of the Augermatic line with FXB 360/FXB 360 AZ the birds have to eat sufficiently from the control pan.

	Prevent cold, windy and uncomfortable areas around the control pans!

- Make sure that sufficient feed is replenished!

	At least one FV 75 per Augermatic-linie with lateral feeding! At least one FV 90 per Augermatic-linie with central feeding!

- Feed pans may be empty before the ration is fully distributed if.....

	**...**the conveying tubes of the feed line turn empty due to repeated short starting.. **...**the birds prefer to stay in the centre of the house. The birds thus eat more from those feed pans, which are thus emptied quicker than those in the surrounding areas. **...**The birds do not eat sufficiently from the control pans or if the feed level in the control pans is too high. .

15.3.2 Features of Fluxx Breeder (FXB360 and FXB360AZ)

- 16 eating places per feed pan; allow for a higher bird density and consequently less investment cost per bird.
- Centrally activated 360°C-flooding mechanism by lowering the line onto the house bottom; ideal start for the chick's first days of life.
- Feed level which can be adjusted in 8 steps with only one hand and which cannot be adjusted accidentially (Spin'n lock technology).
- 8 baffles at the circumference of the outer cylinder prevent feed losses.
- An integrated volume reducing insert allows for very small feed quantities per pan and therefore a quick and equal filling of each feed pan on one circuit at the same time; condition for a high uniformity of the flock.
- New locking mechanism between pan and grille allows for an easy opening of the feed pan for cleaning purposes; less work.
- The specially shaped dish has 4 cleaning openings. Even if it is closed, remaining liquid of cleaning and disinfection can drain; no more accidental consumption of highly concentrated disinfectants.

Besides the above-mentioned features the Fluxx Breeder 360 rearing and production (FXB360) has the following additional features:

- Special "female-only mechanism" which allows for the adjustment of 11 eating window widths without having to open the feed pan.
- The levelling ring allows for the automatic adjustment of 4 eating window heights.

There are 44 possible combinations for the highest flexibility. Thus the FXB360 is suited to keep the males away from the females' feed for all BB-breeds which makes it an ideal investment with a great future.

- An additional function of the levelling ring is the heightening of the pan rim when the eating window height is reduced. This helps to minimise feed losses.
- Good illumination of the pan thanks to openings in the upper part of the inner grille makes it easier for the birds to find the feed.

16 Troubles and their remedies

Trouble	Reason	Remedy
Hooked bolt M 6x35 broken.	Foreign matter in the tube outlet.	Tap the tube until you find the place where it is empty. Look for foreign matter. Reduce auger tension. Turn back auger at the motor. Remove foreign matter.
	Jam in the auger. Jamming. Obstruction.	Locate the place where the tube is empty or warm. Disassemble the tube and remove jamming.
	Auger broken.	Dismantle auger and repair it.
Warm place in the tube or hole picked in the tube.	Kink in the auger.	Remove approx. 3 m of auger and insert a new piece of auger by welding. See chap.: Welding of auger.
	Jam in the auger.	Locate the place where the tube is empty or warm. Disassemble the tube and remove jamming.
	Auger wrongly welded.	Dismantle auger and correct welding point. If necessary cut in two the auger, remove the deformed piece and weld again.

Trouble	Reason	Remedy
The entire Augermatic system does not start	No or too low supply voltage.	Damaged fuse, replace fuse. Check whether thermal protection is correctly adjusted. Normally, the thermal protection switches off the motor in case of too high intensity of current. Check electric mains to the house for correct tension.
	Sensor does not switch.	Control fuse in switch box faulty.
	Time switch or time switch motor faulty.	Replace damaged time switch or motor of time switch.
	Delicacy of sensor is too high.	Reduce delicacy.
Protective motor switch regularly switches off the motor (motor overloaded).	Oil film on auger and inside of tube causes increased charge on motor upon first putting into operation of Augermatic.	Remove oil film. Fill the system with so much feed that all feed pans are filled.
	Insufficient power supply to motor.	Check clamped tension at motor and compare with rating plate. Too small cross section of connecting cable. Check whether the motor 380V has to be connected to 3 phases, but is only supplied by 2 phases.
	Foreign matter in auger. Motor starts, then stands still and the auger moves in the opposite direction.	Check feed hopper, control pan and feed drops in the tubes for foreign matter. Remove foreign matter.

Trouble	Reason	Remedy
Auger operates irregularly.	Bearing of tension shaft is stuck or damaged..	Replace bearing. See chap.: Installing the auger.
	Insufficient auger tension.	Shorter auger. See chap.: Installing the auger.
	Foreign matter in auger.	Remove foreign matter.
	Too strong tension on auger. Auger is detached from tension shaft.	Lengthen auger at feed hopper. Check whether the tension shaft is fixed correctly.
Bearing of tension shaft is stuck.	Cleaning water in the lower part of the feed hopper.	Remove water.
Excessive wear at tube and at the lower part of the feed hopper (unusual noise from Augermatic.)	Auger bent at wear point.	Replace respective piece of tube and of auger. See chap: Installing the auger.
	Auger "climbs up" at the AM drive.	Auger too long. Check auger for bends and shorten it.
Tube kink at the tube outlet holes.	Outlet holes not correctly made.	Replace tube.
Augermatic does not switch off.	No feed in the hopper.	Check supply system and rmove possible mistakes.
	Auger broken.	Repair auger. See chap.: Installing the auger.
	Delicacy of sensor in the control pan is not sufficient..	Enlarge delicacy of sensor. See chap.: Installing the auger.
Auger causes an excessive noise.	No feed in feed hopper.	Fill silo or repair supply system.

17 Spare parts

For ordering spare parts please use the code numbers or position numbers of the respective component parts listed in the individual sections of assembly.