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C and CU Pellet Mills



The next generation in pellet mills

Next to the proven C pellet mill range Van Aarsen recently introduced the next generation CU pellet mill range. The CU pellet mills are available in a Basic, Dynamic and Dynamic Plus version, featuring the latest developments in the field of pelleting.

Eliminate contamination of feed with the revolutionary closed-loop oil lubrication system!

In conventional pellet mills, the roller bearings (and main bearings) are lubricated with a continuous flow of grease. This grease eventually ends up in the feed, and although mainly food grade grease is used, this is identified as one of the main causes of contamination with 'foreign materials' in the feed mill. Although marked as 'food grade', these lubricants (NSF H1) however may not be present in unlimited amounts, but only in 1-10 ppm depending on the composition of the lubricant, and only if technically unavoidable.

With the CU Dynamic Plus pellet mill, Van Aarsen introduces a revolutionary pellet mill, eliminating all the disadvantages of grease lubrication. The roller bearings and main bearings are lubricated with a fully monitored closed-loop oil lubrication system, supplying the most heavily loaded bearings with the best lubrication that is technically possible.

With this closed-loop system, there is no contamination of the feed, and no consumption of costly lubricants, reducing the lubrication costs to less than 10% of the costs for a comparable grease lubricated pellet mill.

Optimize your pellet mill operation and production rate

The CU Dynamic pellet mills are fitted with motor-operated roller adjustment with active rollerslip control.

The robust designed motor-operated roller adjustment enables the operator to easily choose the desired roller distance to the die, even when the pellet mill is in full operation. Together with the intelligent software, this system offers great benefits in pellet mill operation and maintenance requirement planning.

One of these benefits is the increase of the life of the die and rollers up to 30%. By linking the operation of the dosing screw to the roller distance, the rollers will retract when the pellet mill is not producing.Furthermore, the system is equipped with a die cleaning mode, enabling the operator to clean the die after a batch. This will also provide a quick start-up of the pellet mill after a standstill, because the product doesn't get the opportunity to cake onto the die.

The active rollerslip control is an intelligent system designed to optimize the pellet mill production rate.This system detects rollerslip and activates the system to automatically resolve the slip if desired, reducing the downtime of the pellet mill due to rollerslip to nil.



Tested thoroughly at a prominent feed mill in The Netherlands, resulting in factual information on costs savings and pay back time.

Contact us for a calculation!

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C and CU Basic Version

Process

Animal feed pellets can be produced in several diameters and hardnesses, by pelletizing raw materials after grinding, mixing and conditioning.

The Van Aarsen C and CU pellet mill range enable capacities up to 60 tons per hour depending on various parameters. They offer low operational costs per ton feed, even down to 1 €/ton, including dies, rollers and wear parts.

Range

C500, C600, C750, C900, C900XL.
CU750 Basic, CU900 Basic and CU900XL.

Benefits and Features

High capacity

- High capacity with good pellet quality
- Large effective die surface to maximize capacity
- Automatic load control of the pellet mill to maximize capacity

Flexible production

- Optimal die speed configured, depending on the PDI and capacity. Speed 4.7 up to 9.4 m/s
- Frequency controlled motor, speed can be tuned for the various recipes
- Integrated by-pass valve in the inlet funnel
- Integrated 2nd by-pass in case also heat treated mash is produced (option)

High automation level

- Complete pelleting line automation and operator control system with easy to use 12” wide touch screen (19” wide touch screen option)
- Possibility to view a copy of the touch screen located near the Pellet Mill on an PC screen in the operator room
- Trending of various parameters, such as Pellet Mill load, temperature of the product and capacity. It is also possible to view this information back in time
- Logging of alarms; possibility to check for parameters during present and past alarms

Low maintenance costs

- Low maintenance downtime due to robust design
- Automatic lubrication of roller bearings and main shaft bearings
- Quick fit® die change system (changing time approximately 25 minutes) for accurate die positioning and quick die change
- Conical die seating with die holder wearing ring to prevent wear of die holder itself

Design and durability

- Die holder with die seating wearing ring to prevent wear of the die holder
- Magnet in the inlet funnel to protect the pellet mill
- Overload safety by break pin for protection of critical pellet mill components
- Robust design and use of high quality materials
- Heavy duty bearings on robust forged steel main shaft
- Door manufactured out of stainless steel for prevention of corrosion and minimizing contamination
- All product contact parts in stainless steel (option)

High energy efficiency

- Low energy consumption, down to 8 kWh/ton due to completely optimised pelleting process
- Two-stage power transmission system, enabling different speeds with 1 motor, for optimal energy efficiency
- Hydraulic roller adjustment (option) for more flexibility and safe formula based setting

High feed quality

- Extra pellet knives (maximum 4 in total) for more precise pellet length (option)
- Food grade fat (option)
- Better physical (hardness and durability) and chemical (gelatinisation, pathogenic germs, etc.) quality of the pellets is possible, in combination with a tuned recipe and die configuration
- Use of cascade liquid coater after the pellet mill to add liquids on hot pellets (option)

Hygienic production

- Pellet mill door insulated and/or heated for hygienic production (option)
- Hot air hygienic system to avoid condensation and provide drying of the product remains after the production process, for hygienic production (option)

Easy and safe operation

- Ergonomic compact design with integrated hoist, easy die changing and optional slow turning device
- Motor operated hoist for dies and rollers (option for C500, C600, C750, CU750, standard for C900, CU900, C900XL, CU900XL)
- Easy access by large door with safety provisions
- Tool set included for easy replacement of die and rollers
- Slow turning device on the die holder for easy die change and alignment (option)
- Sound insulation of the pellet mill
- Designed and constructed according to CE and ATEX safety regulations



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CU Dynamic Version

In addition to the features and benefits of the C and CU Basic version, the CU Dynamic range also offers:

- Motor-operated roller adjustment. This feature provides a simple operation, with less wear of the die and rollers and an optimization of the operating conditions for each individual recipe.
- Active rollerslip control. This feature provides a trouble free pelleting process of all recipes and the opportunity to optimize production settings.

In short: optimal performance of the pellet mill with minimum man power and at the lowest operational costs!

Range
CU750 Dynamic, CU900 Dynamic and CU900XL Dynamic.

Benefits and Features

High capacity

- Active rollerslip detection offers an automatic intervention in case of slip which leads to less blockages and decreased downtime
  - Detection of roller slip of individual rollers
  - Slip detection: the rollers are moved toward each other and reset; the operator is notified
  - Persistent slip: the product supply stops; the operator is alarmed
- The CU Dynamic pellet mill is equipped with a die cleaning mode, enabling the operator to clean the die after a batch. This will also provide a quick start-up of the pellet mill after a standstill, because the product doesn't get the opportunity to cake onto the die.

Optimized production

- Recipe directed and precise roller adjustment to achieve the best possible roller gap for each recipe and the optimal settings for the required pellet quality
- The active rollerslip control offers the operators the opportunity to experiment with the roller distance and steam addition for the recipes to boost the feed quality and production efficiency. Operators can rely on this system while exploring the settings for the most optimum production.

Low maintenance costs

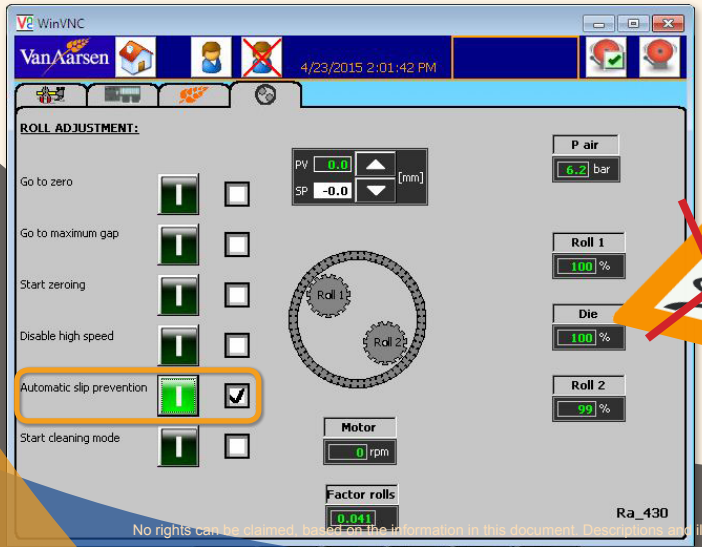
- Quicker die change due to automatic roller adjustment into maintenance position
- Increasing life time of die and rollers up to 30% by preventing metal to metal contact during empty running of the pellet mill
- Reduced cleaning time as all components of the roller adjustment are treated with an easy to clean coating

Easy and save operation

- Enhanced operator convenience and simple operation
  - Notification when zero-adjustment of roller distance is necessary
  - Notification when individual rollers need to be adjusted
  - Targeted analysis of malfunctions in case of error. The cause is pointed out immediately and recommendations are given to solve it
- Intervention, without opening the pellet mill door

Design and durability

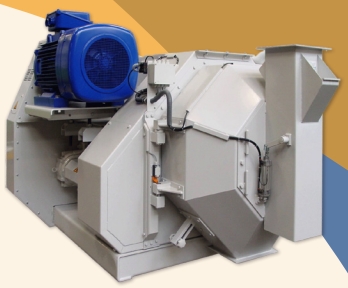
- Mechanical roller adjustment consists of robust mechanical parts, so no vulnerable components
- All components of the roller adjustment are treated with an easy to clean coating, reducing the risk of cross-contamination between batches, and reducing the cleaning time



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CU Dynamic Plus Version



In addition to the features and benefits of the C and CU Dynamic version, the CU Dynamic Plus range also offers:

- Closed-loop oil lubrication system. This feature eliminates contamination of the feed with grease. It reduces maintenance requirement and lubrication costs are brought back to a minimum.

In short: optimal performance of the pellet mill with minimum man power and at the lowest operational costs!

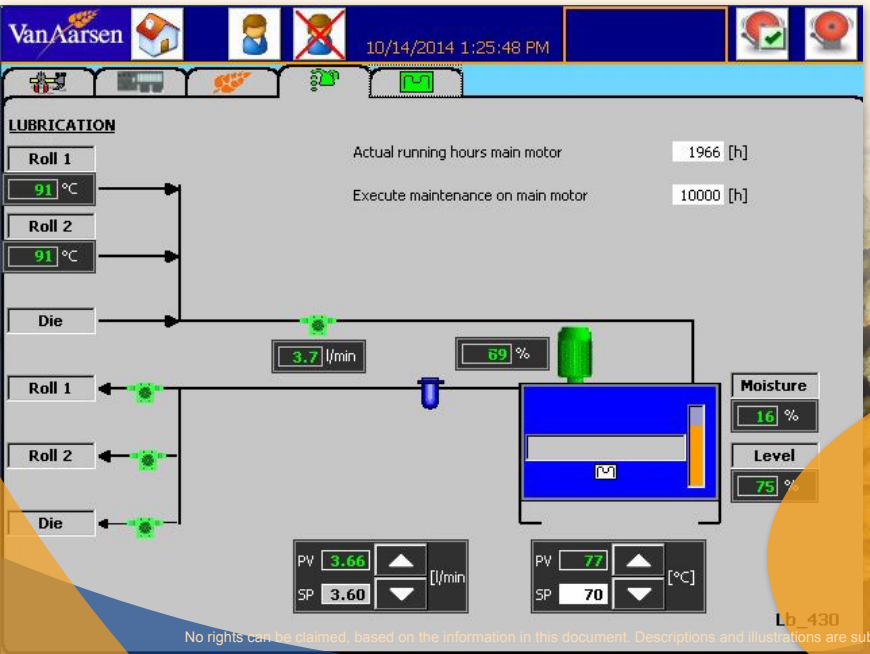
Range
CU750 Dynamic Plus, CU900 Dynamic Plus and CU900XL Dynamic Plus.

Benefits and Features

Optimal feed safety
- No contamination of the feed as no oil ends up in the feed as a result of the closed-loop
- An oil leakage is detected within 15 seconds; the operator is alarmed and can undertake action immediately
- Application of 'food grade' lubricant (NSF H1)

Low operational costs
- Untroubled –fully automated- lubrication of the pellet mill
- Prolonged service life of the roller bearings and main bearings. The most heavily loaded bearings are supplied with the best lubrication that is technically possible.
- No consumption of costly lubricants, reducing the lubrication costs to less than 10% of the costs for a comparable grease lubricated pellet mill
- Fully monitored system

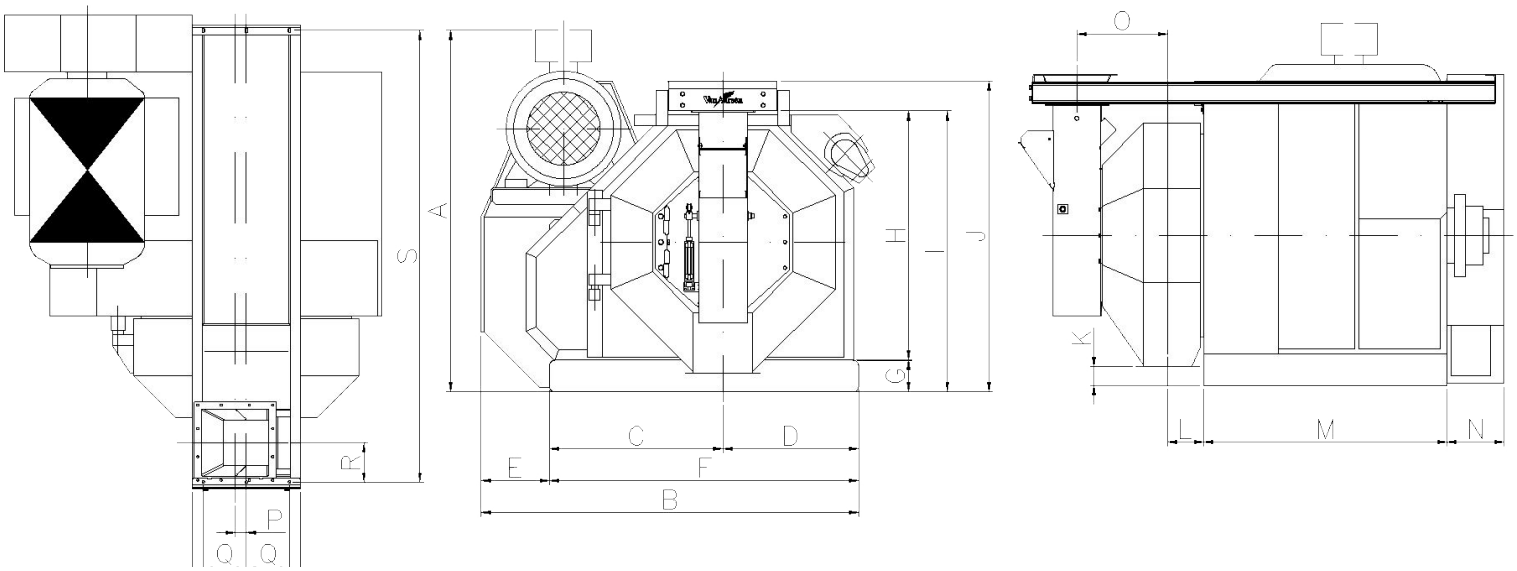
Production control
- Continuous checks of the entire system for possible leaks
- Monitoring of the quality of the oil
- Monitoring the possible maintenance requirement for the system
- Temperature measurement of the rollers, giving an indication of process temperature and roller bearing condition (optional)



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			C500	C600	C750 / CU750	C900 / CU900	C900XL / CU900XL
Die	Inside diameter	mm	500	600	750	900	900
	Pelleting width	mm	190	225	250	175 / 225 / 275	325
	Pelleting area	cm^2	2.985	4.220	5.890	4.950 / 6360 / 7.775	9.190
	Velocity at 50 Hz	m/s	4.7/6.0/6.7	4.9/6.2/7.4	5.1/5.8/6.2/7.7	4.7/5.3/6.7/7.0/8.4/9.4	7.0/8.4/9.4
	Velocity at 60 Hz	m/s	5.6/7.2/8.0	5.9/7.5	6.1/6.9/7.4	6.4/7.1/8.0/8.5	6.4/7.1/8.0/8.5
Rollers	Quantity		2	2	2	2	2
	Diameter	mm	240	285	360	435	435
Main motor							
	1500 rpm. - 50 Hz	kW	75/90/110/132	110/132/160	132/160/200/250	200/250/315/355	315/355/400
	1800 rpm. - 60 Hz	kW	86/103/126	126/152	152/184/230	230/285/360	285/360/405
Weight	(static / dynamic)	kg	4.600 / 7.130	5.600 / 8.150	7.645 / 11.210	10.500 / 16.000	11.250 / 17.000



Type	Dimensions for sketch (mm)									
	A	B	C	D	E	F	G	H	I	J
C500	1774	1800	800	600	400	1400	140	1060	1200	1360
C600	1852	1875	850	650	375	1500	140	1160	1300	1460
C750 / CU750	2160	2015	925	725	365	1650	170	1330	1500	1660
C900 / CU900	2250	2457	1200	800	457	2000	220	1480	1700	1840
C900XL / CU900XL	2250	2457	1200	800	457	2000	220	1480	1700	1840

	K	L	M	N	O	P	Q	R	S	T
C500	95	192	1150	304	390	60	230	200	1900	570
C600	75	187	1200	304	445	60	230	200	1900	570
C750 / CU750	100	192	1300	304	490	60	230	200	2400	580
C900 / CU900	150	212	1470	340	510	60	230	200	2400	710
C900XL / CU900XL	150	262	1470	340	560	60	230	200	2400	710

VanAarsen

Heelderweg 11 6097 EW Panheel, P.O. Box 5010 6097 ZG Heel The Netherlands
Phone +31 (0)475 579 444 Fax +31 (0)475 579 223 info@aarsen.com www.aarsen.com