

Automatic Hardening Machine Type 4-214

(Edition 2017/08)



With

- Two lower working rollers covered with structured rubber cloth
 - 1 upper adjustable working roller
 - 1 upper pressing roller
 - Adjustable pressure of the upper working rollers
 - Time switch for adjustment of felting time, 0 up to 60 seconds
 - Cycle I: adjustable from 1 up to 6 cycles, each 8 seconds
 - Cycle II: adjustable from 1 up to 4 cycles, each 12 seconds
 - Intermediate electromechanically adjustments
 - Only for fur felt hat bodies
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1. The fur felt hat bodies coming from the Large Automatic Forming Machine Type 3-212 are very soft. This Fur Felt Hardening Machine Type 4-214 is suited to increase the stability of the hat bodies so far that afterwards the bodies can go to the Pre-Fulling Multiroller VW 216 Type 7-216 and be fulled the first 10 to 20 passages.
 2. The hardening operation generally demands much manual work. To keep it economically, the felting operation is done as short as possible and the pre-fuling operation on the Pre-Fulling Multiroller VW 216 Type 7-216 or Type 8-216, alternatively with 6-216 Universal-Multiroller is followed as soon as possible.
 3. The operator rolls lap rolls, depending on the weight of the hat bodies, of 4 up to 8 pieces. This lap roll is put into the machine and the machine is switched on by the pedal. The hardening process running automatically, the worker crosses the bodies of the second lap roll. The hardening cycle is over, the machine stops automatically and opens. Then, the lap roll can be changed for the next cycle.
 4. After every cycle the lap roll has to be opened. The bodies have to be crossed to guarantee a uniform felting operation over the whole size of the body. Generally, the wet body, coming from the Large Automatic Forming Machine Type 3-212, is felted in the Fur Felt Hardening Machine Type 4-214, without any additional water or steam. In special cases, it can be advantageous to add some water or steam. A conditioning apparatus is available, as option.
 5. The Fur Felt Hardening Machine Type 4-214 has several possibilities of adjustments and electromechanical control elements. These possibilities, used sensibly, give a perfect result with high efficiency for the felting operation of the hat bodies.
 6. The two lower working rollers, covered with structured rubber cloth, are driven by a gear motor of approx. 1,1 kW. This drive is

made by a strong V-belt, mounted outside of the machine. It transmits the necessary power and has an effect of security, if necessary.

7. The two upper working rollers are moved by a gear motor with mounted lifting cam. The gear motor moves up and down the two upper working rollers in working and resting position.
8. The hardening time "T" is freely adjustable by the time switch "A 1", typically between 0 and 60 seconds.
9. The cycle "Z I" has a lifting time of 7 seconds. By the switch "S1" position I, 7 lifting steps are adjustable from 1 to 7, with final felting time of 8, 16, 24, 32, 49, 46, 53 or 60 seconds.
10. The cycle "Z II" has a lifting time of 6 seconds. By the switch "S1" position II, 10 lifting steps are adjustable from 1 to 10, with final felting time of 6, 12, 18, 24, 30, 36, 42, 48, 54 or 60 seconds.
11. The pressure of the upper working rollers can be adjusted by moving the weight with the hand wheel. With this pressure adjustment, an adjustable

flexible spring is connected. Tensioning this spring, there is higher pressure and relaxing the tension of the spring, there is lower pressure. This adjustment depends also on the material.

12. The backwards working roller moves together with the upper working roller frontwards during the working process. The position of this working roller can be adjusted in wide ranges and its final position gives an intensive or soft hardening of the hat bodies.
13. The mounted emergency switch "S4" stops the machine on demand at once and opens the machine (the upper working rollers are moving to relaxing position), then, when a lap roll is put wrong into the machine and opens during felting.
14. The relative combination of all adjustment possibilities gives high quality and high efficiency. All prescribed adjustments can be done easily by the worker during the hardening process. They are limited to the adjustment of maximal 2 electric control instruments and is very easy to use.

Technical Data

Measurements:	mm	inch
Length:	1250	49,2
Width:	1130	44,5
Height:	1362	53,6
Dimensions of seaworthy cases: 1 case length x width x height approx.	1450 x 1380 x 1820	57,1 x 54,3 x 71,7
Weight net kg / lbs	515 / 1135,38	
Connexion value: 2 gear motors with totally approx..	1,6 kW	
Power consumption:	0,8 kW	

