

1.

(byssinosis)

가

가

(National Institute for Occupational Safety and Health)가

2.

危害

가

가

,

.

가

가

가

,

가 .

危害 가

가 가 .

, 가

“ ”

가 . 10

가 . 가

. 10

가 “

(respirable)” .

, 가 “ ” “ ” 가

. Timbrell

Stober가

, 가 가 .

가 가

.

. ,

. - 가 10~100

3~4 .

가 가

.

.

.

3.

가

가 .

가

(sampler)

가

(vertical elutriator)

6 , 14

. 7.4l/min

0.667cm/sec

. 14.8

. 가

가 0.667cm/sec

가 가 .

가

.

[=7.4l/min ×

(min)]

mb/m³

.

< 1> .

가 .

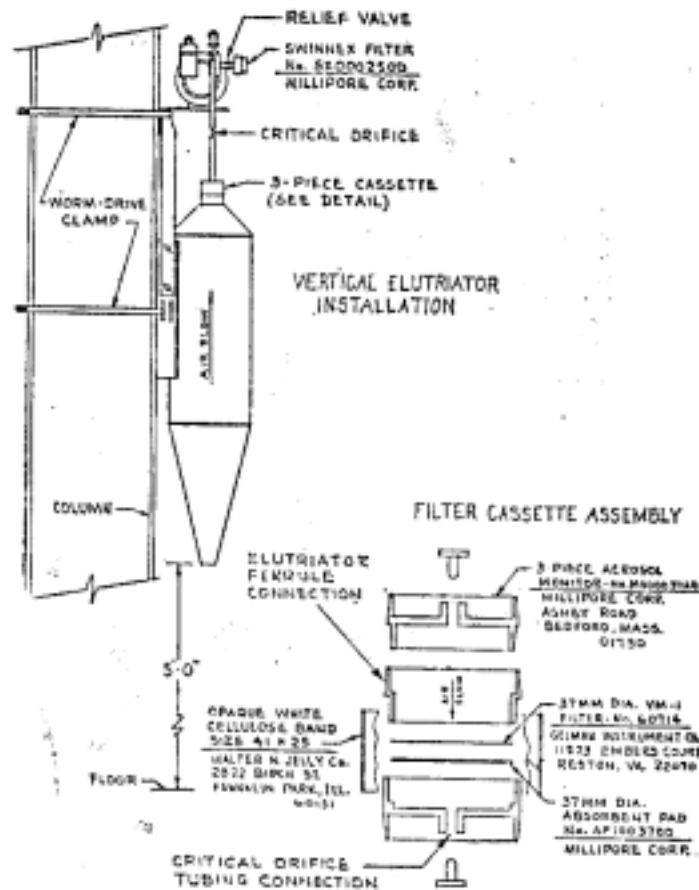
가 .

. 가

< 2>

가

가



< 1>

< 2>

(단위 : 마이크론)

	0~1	1~2	2~3	3~7	7~15	15이상
크기 비율, %	45.8	23.6	17.2	7.4	3.9	2

Merchant Kilburn 6
670 <

3>

가

가

가

< 3> (1971~1972)

공정	중량수준(mg/m ³)
개면 및 혼면	1.5
타면	1.6
소면	1.7
연조	0.8
조방	0.5
정방	0.3
편사 및 연사	0.3
제적	1.0

< 4>

0.5mg/m³

(return air)

가

0.10~0.28mg/m³

< 4>

(단위 : mg/m ³)			
공 정	* 먼지제어장치유무	총 량	먼지량
타 편	{무	—	0.6~1.6
	{유	0.4~0.7	0.3~0.4
개 먼 뿔	{무	1.5~9.1	0.2~1.9
타 편	{유	—	0.3~0.5
소 편	{무	5.2~21.2	0.3~5.4
	{유	0.5~8.4	0.1~4.2

* 먼지제어장치는 다음 절에 설명함.

4.

가

(1)

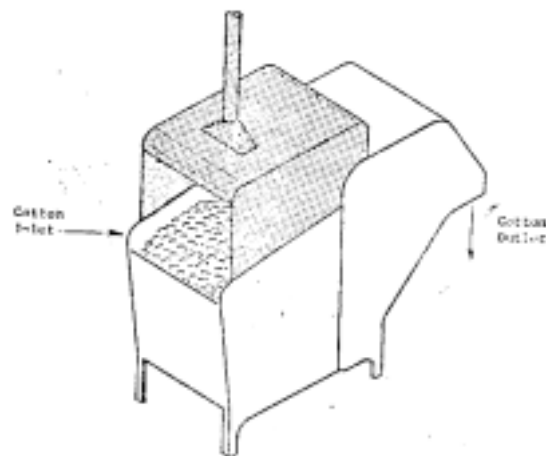
(suction hoods)

가

< 5>

< 5>

(단위 : cfm)	
피드 호퍼 후드	500
피드 테이블 후드	500
# 11 컨덴서 팬	3,000
리저브 호퍼 후드	500이상
피커 비터 팬	1,500
웨이스트 호퍼 후드	500
웨이스트 그라인더 흡입 팬	750~1,000
섬유 移送(장치의 크기와 배열에 따라 다름)	3,000~15,000

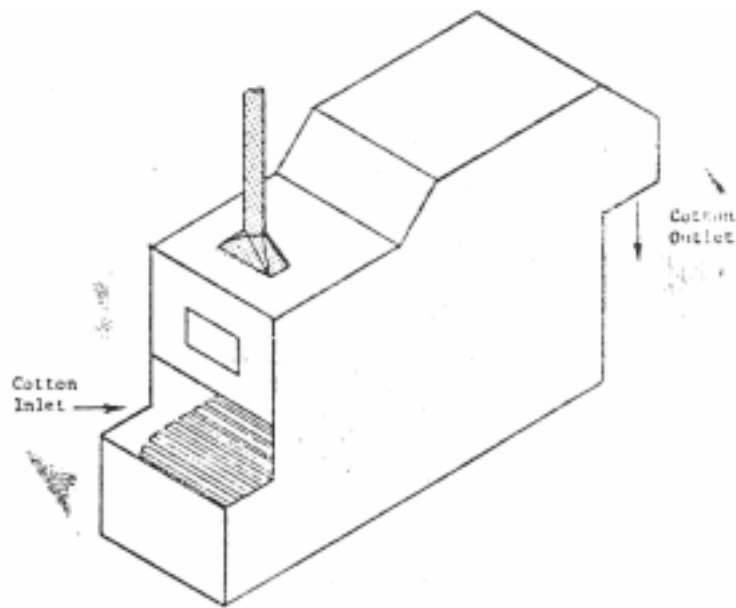


$Q = 50 \sim 75 \text{ CFM/Sq. Ft. of Open Area}$

Duct Velocity = 2500~3000FPM

Entry Loss = 0.25VP

< 2> Feeder

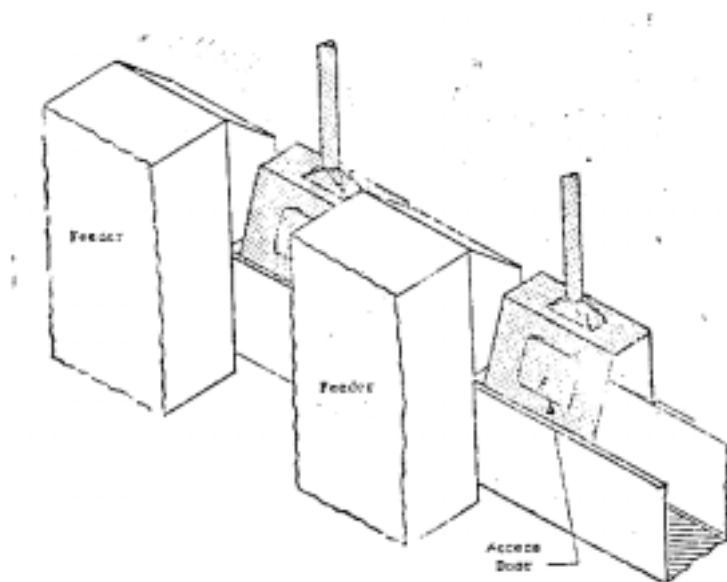


$Q = 50 \sim 75$ CFM/Sq. Ft. of Open Area

Duct Velocity = 2500~3000FPM

Entry Loss = 0.25VP

< 3> Cleaning and Blending Feeder

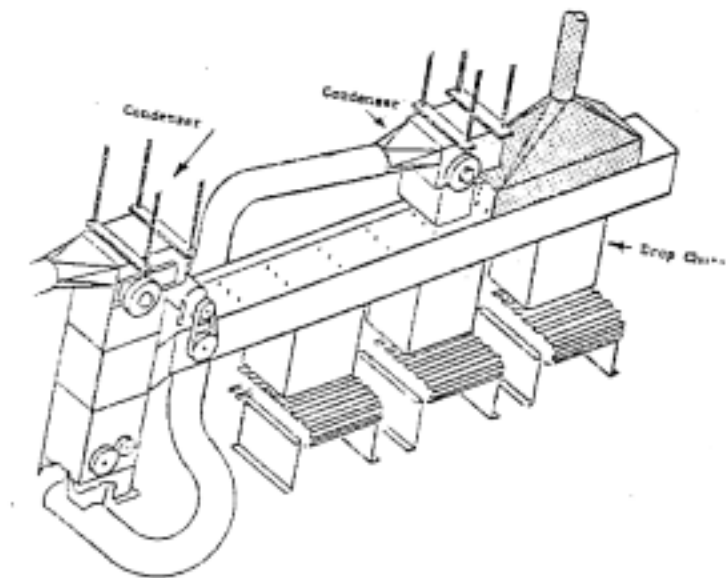


$Q = 50 \sim 75$ CFM/Sq. Ft. of Open Area

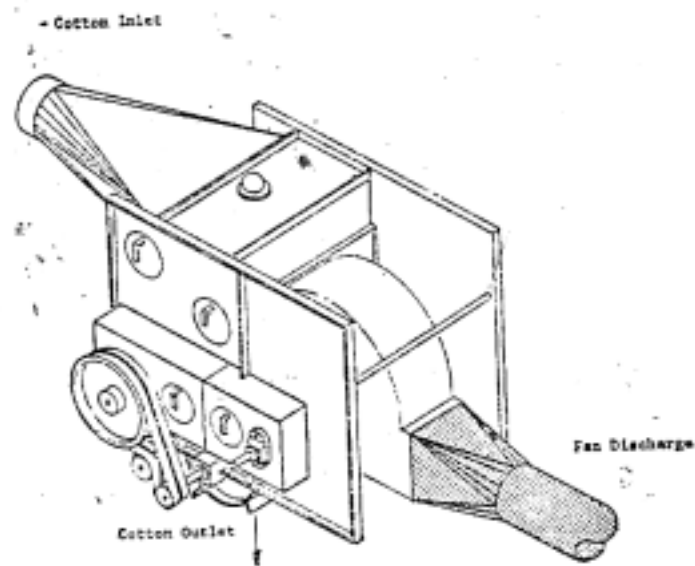
Duct Velocity = 2500~3000FPM

Entry Loss = 0.25VP

< 4> Feed Table Hoods



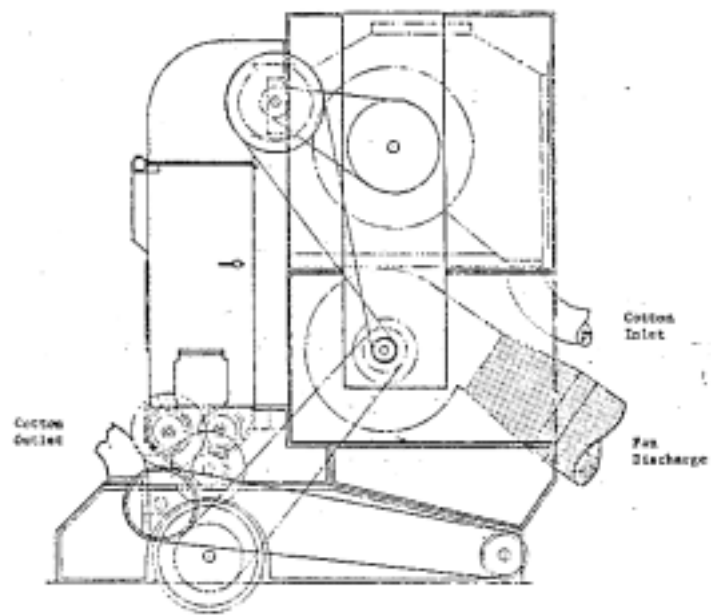
< 5> Rake Distributor



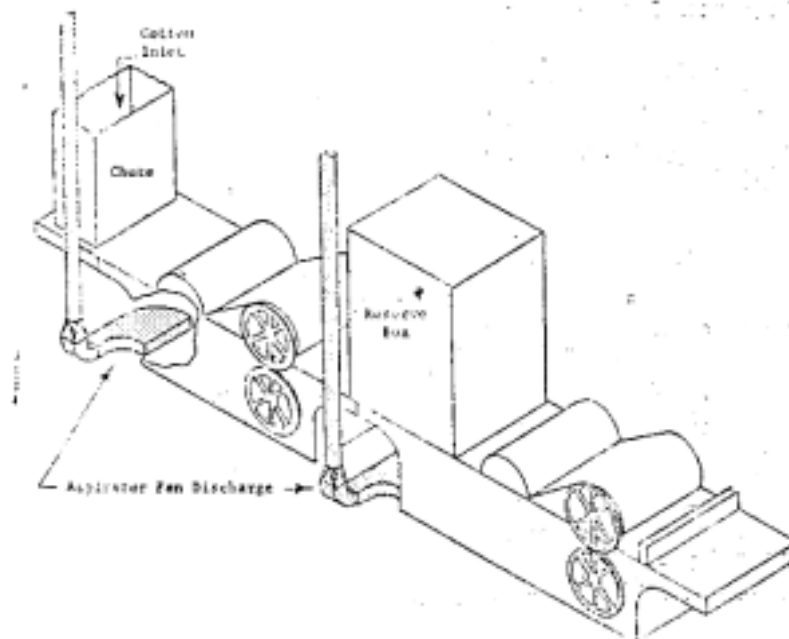
$Q = 3000 \text{ CFM(Typical)}$

Duct Velocity = 2500~3000FPM

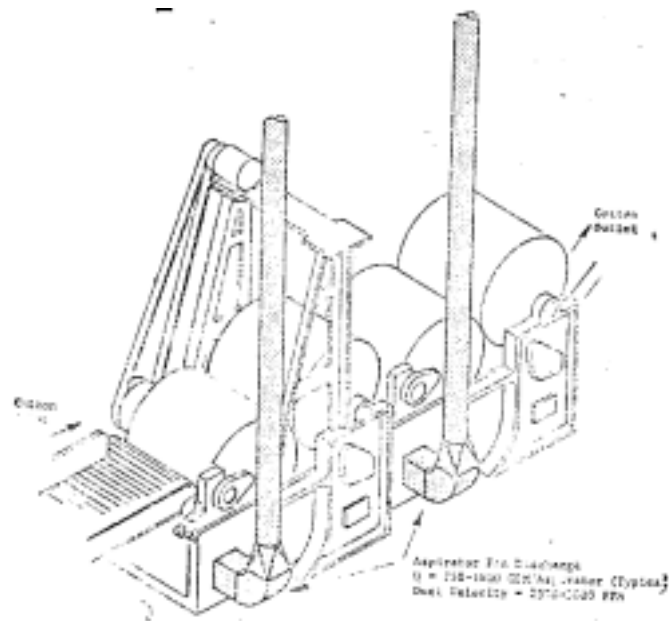
< 6> Dust and Waste Extractor(Condenser)



< 7> Lattice Opener with Dust and Waste Extractor(Condenser)



< 8> Two-Beater Picker



< 9> Waste Opener

< 6>

(1 cfm) (40lbs/hr).

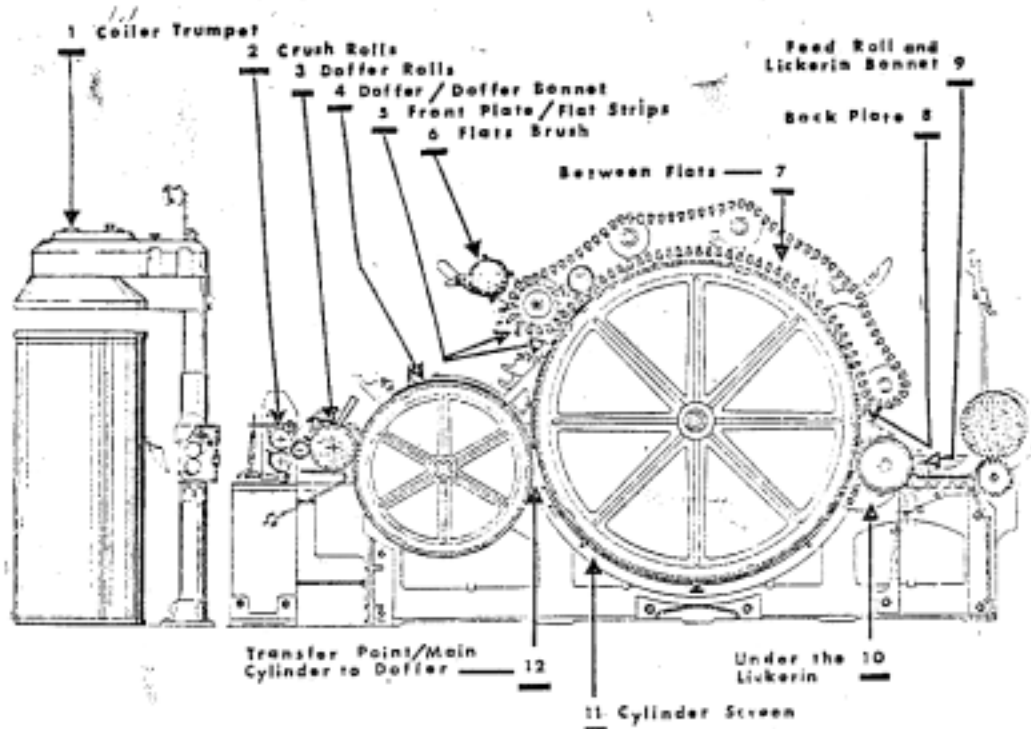
드머 플리넨	372
코일러 드래프트	31
리커린 플리넨	397
계	800
언더카드(선택)	400
계	1,200
플래트 간(선택)	200
계	1,400

(2)

< 10>

12

가



< 10> Major Points of Lint & Dust Generation

()

가

가

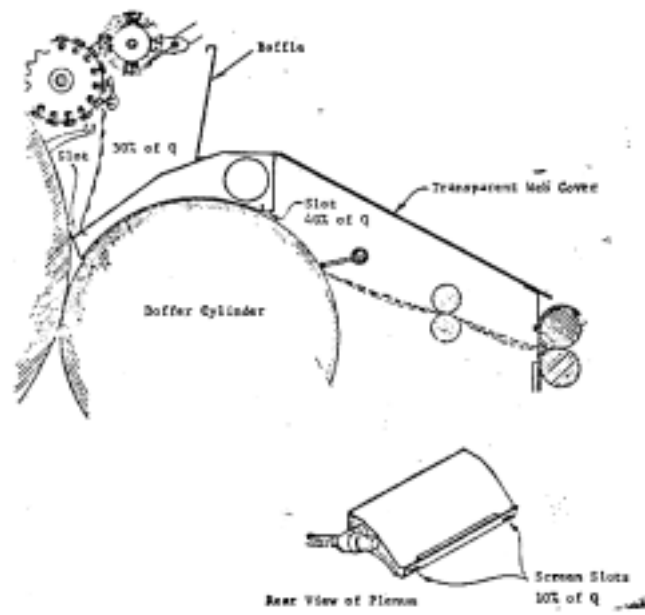
(undercard plenum)

가

. 60lbs/hr

40lbs/hr

가



$Q = 370 \text{ CFM}$

Slot Velocity = 700 FPM

Entry Loss = $1.78 \text{ Slot VP} + 0.5 \text{ Duct VP}$

< 12> Doffer Plenum for Cards

(3)

가 .

/

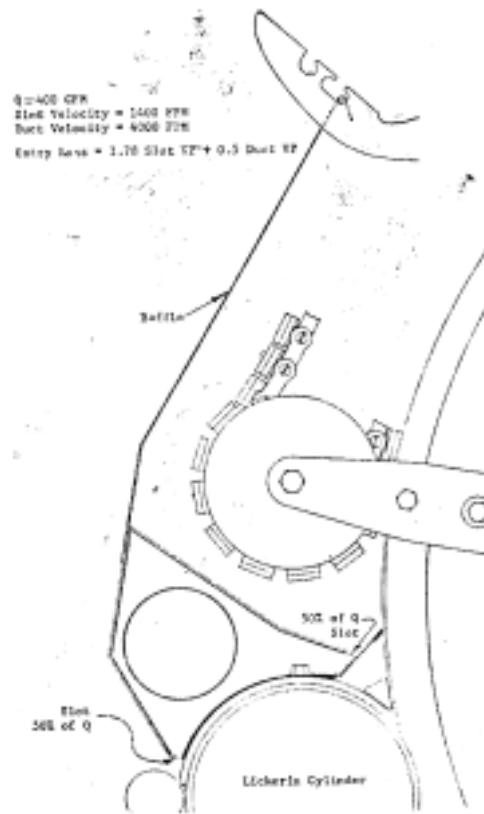
가

가 가

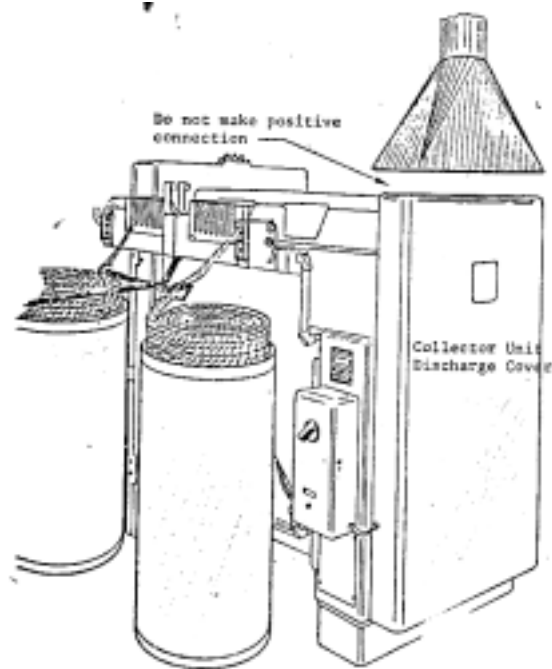
가 .

< 7>

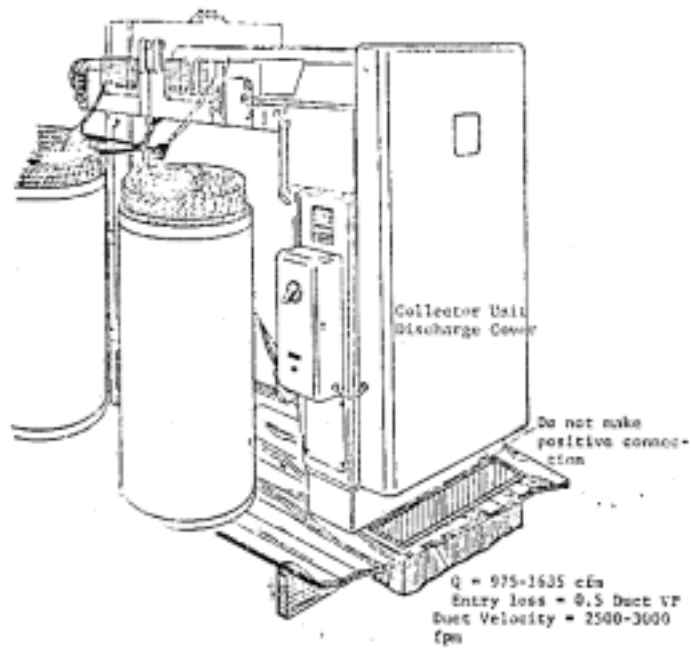
. < 14> ~ < 16>



< 13>



< 14> Whitin M7 2 Delivery Draw Frame with Top Discharge



< 15> Whitin M7 2 Delivery Draw Frame with Bottom Discharge

Collector Unit Discharge

$Q = 900\text{cfm}$ (Typical)

Entry Loss = 0.25 Duct VP

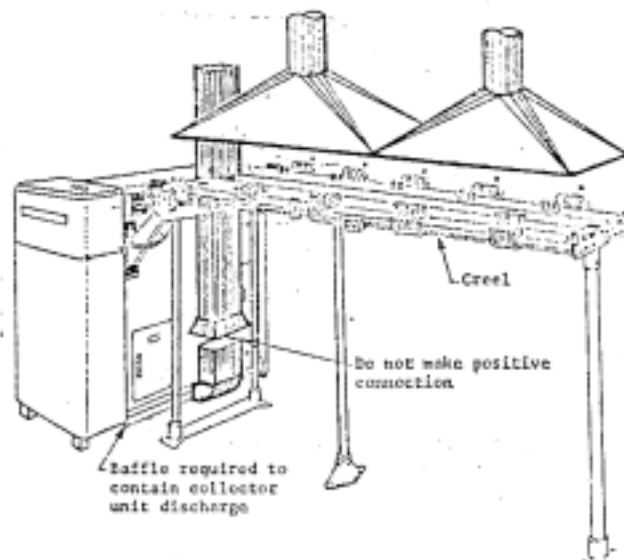
Duct Velocity = 2500~3000 fpm

Creel Hood

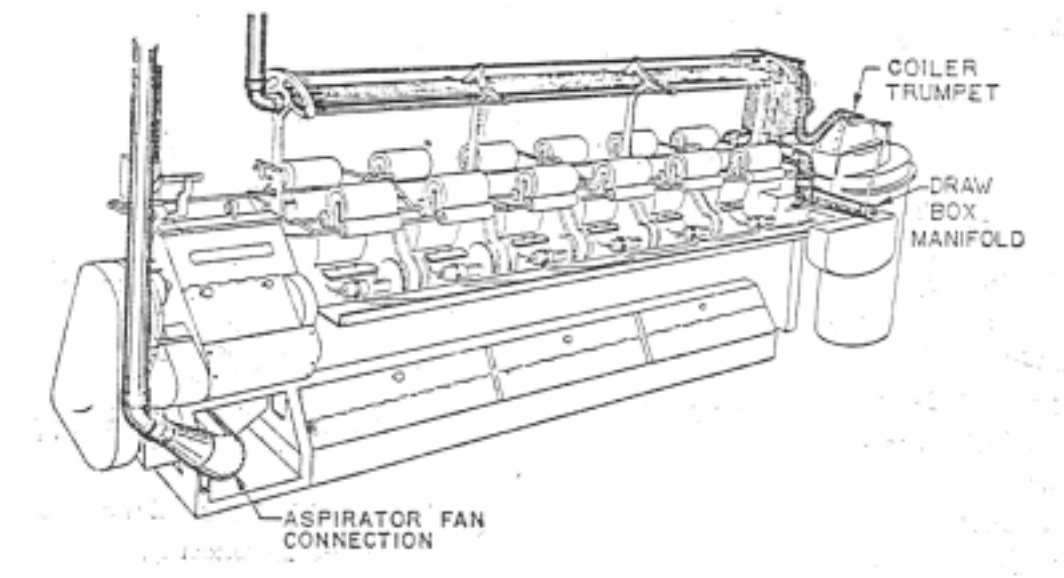
$Q = 75 \sim 150\text{cfm/ft}^2$ of open area

Entry Loss = 0.25 Duct VP

Duct Velocity = 2500 ~ 3000 fpm



< 16> Saco Lowell Versamatic 2 Delivery Draw Frame



< 17> Comber Suction Attachments

< 7>

(: cfm)

	, 2		900
		, 2	
1965		975~1,230	
1965			1,230~1,560
			1,305~1,615
			1,335~1,635

..... 75~150cfm/ft²

(4)

(aspirator fan)

가

가

0.5mg/m³

500~700cfm

< 17>

(5)

가

가

가

1

가

20

25,000cfm

가

가 4%

60lbs/hr

48lbs

, 8

384lbs,

24

1,152lbs

6

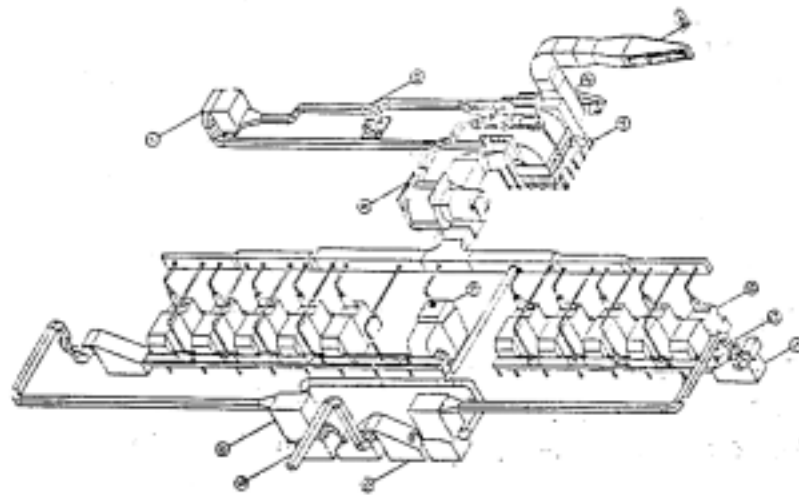
가

. 가

가

#6

- | | |
|----------------------------|----------------------------|
| 1. #6 Condenser | 8. Waste feeder hopper |
| 2. Waste fan | 9. #11/12 lattice Opener |
| 3. Stripper nozzle | 10. Duct |
| 4. Preseparator | 11. Superior cleaner |
| 5. Fan | 12. Blending feeder hopper |
| 6. Diffusor head | 13. Magnet |
| 7. Rotary drum dust filter | |



< 18> Typical Lint and Dust Control System for Opening
(Continuous – Automatic Type)

壓力降下

壓カ降下

(tandem)

가

2

가

가

< 18> ~ < 20>

가

가

(return air)

5.

, , ,

가 0.5g/m^3

가

가

0.2mg/m^3

가

15

가

0.1mg/m^3

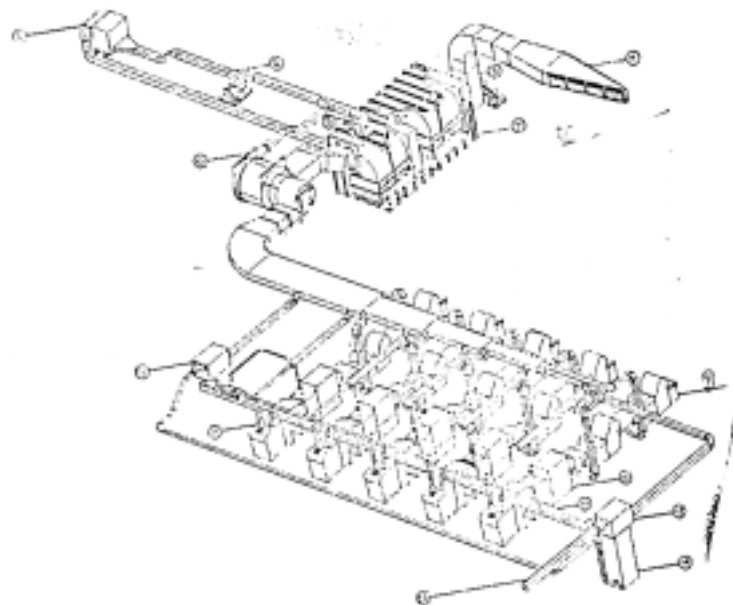
가

0.2mg/m^3

가

0.1mg/m^3

1. #6 Condenser
2. Waste fan
3. Fan
4. Diffusor-head
5. Stripper nozzle
6. Preseparator
7. Rotary drum dust filter
8. Feeder hopper
9. Two-beater picker
10. Reserve feeder hopper
11. Automatic belt or rake distributor
12. Condenser
13. Duct
14. Reserve box



< 19> Typical Lint and Dust Control System for picking
(Continuous-Automatic Type)

가 $0.2\text{mg}/\text{m}^3$

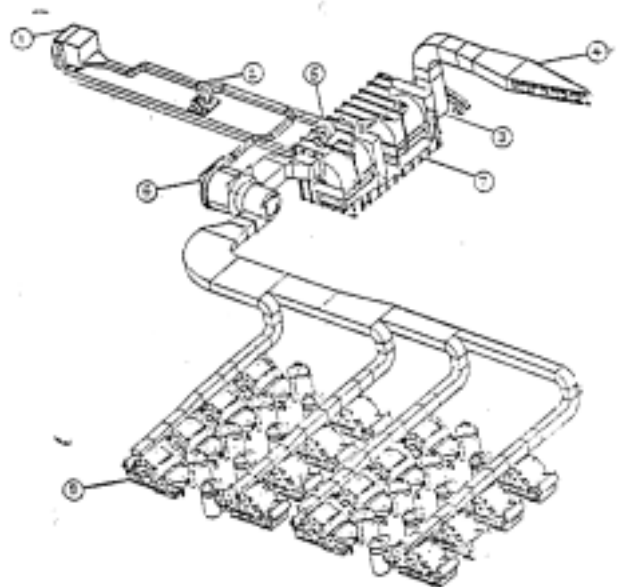
0.2mg/m³ 0.1mg/m³

가 15

가

改替

1. #6 condenser
2. Waste fan
3. Fan
4. Diffuser-head
5. Stripper nozzle
6. Preseparator
7. Rotary drum dust filter
8. High speed cards



< 20> Typical Lint and Dust Control System for Carding
(Continuous-Automatic Type)