



**||| HENNIG®**

**PROTECT** YOUR SUCCESS

# APRONS & ROLL-UPS

**ALUMINUM EXTRUSIONS | COATED FABRIC | STAINLESS STEEL | STEEL CLAD**

Safe processes are profitable processes. We make our customers successful by protecting people and machines from the manufacturing environment and waste.

# AT HENNIG, YOUR **SUCCESS** ALWAYS COMES FIRST.

Hennig Worldwide has been a global leader since 1950, specializing in chip and coolant management, machine protection, and facility safety. We work with a wide variety of manufacturers and other facilities worldwide, helping them create and maintain safe and efficient workplaces. Our commitment to excellence extends beyond our services—we actively contribute to local communities, create regional jobs, and support the global needs of machine tool customers.

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# PROTECT YOUR SUCCESS

Flexible apron covers are a critical component of machine protection. They protect the operators from moving machine components, and they protect the machine from debris and temperature fluctuations in the working environment. In addition to protecting critical machine tool components, aprons and roll-up doors can be implemented into other industries like utility and work truck vehicles, food and beverage production, water and chemical treatment plants, and a variety of applications that require vertical or overhead covers.

Available as standard mounted, roll-up, or walk-on apron (depending on the material), our engineers will work with you to design and manufacture an apron cover that's perfect for your application.

# OVERVIEW & OPTIONS

Our apron covers are fitted in highly complex modular systems. They are not only functional and space saving but also optically very appealing. Our apron covers are custom designed for your application.

## FEATURES

- Standard and custom designs based on your application
- High quality springs and ball bearing rollers with permanent lubrication
- Driven with a special spring which is mounted in a dust proof casing
- Maximum traverse speed of 80 m/min
- Maximum stroke is directly dependent on the width of the cover
- Can be used in the open air under certain conditions



## OPTIONS

### CLOSED CANNISTER

Protective cannister housings can be provided to add protection to the roll-up cover's gearing, spindle, and wound-up cover areas.



### OPEN REEL

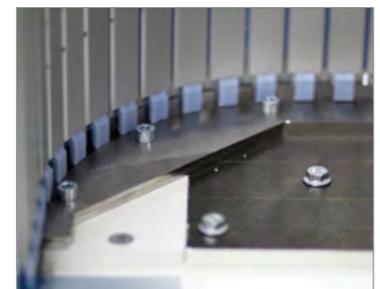
The standard option for roll-up aprons. Cost efficient and effective in most standard applications.



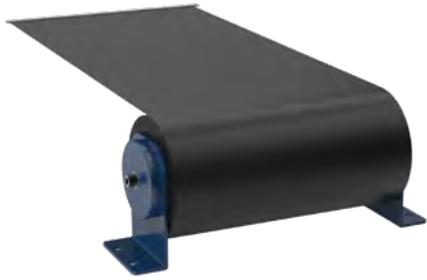
## GUIDE SYSTEMS

### MECHANICAL GUIDE SYSTEM SPECIALLY DESIGNED FOR ALUMINUM APRONS

- The deflector or take-up system, depending on apron type, guides the apron in one or two directions.
- The available space on or inside the machine determines the shape of the apron guide. Considerations include redirection into an available space, rolled-up spirally, or rolled up elliptically in any position (including overhead).
- The nearly wear-free guide system is capable of high speeds up to 100 m/min. (3936 in/min.)
- Acceleration up to 1 g.
- Extremely easy to slide and pull.



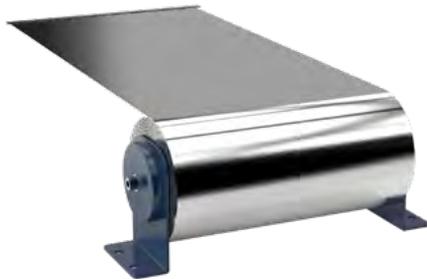
# DESIGN TYPES



## COATED FABRIC

### High-tensile polyimide fabric coated with polyurethane

- Highly resistant to wear
- Tear-resistance of approximately 500 kg over a width of 5 cm
- Can be used at temperatures ranging between -40°C and +120°C
- Special cover bands coated with viton on one side, for contact temperatures up to 400°C
- Resistant against most universal oils, greases, and coolants



## STAINLESS STEEL

### Durable, corrosion-resistant stainless steel sheets assembled in sections

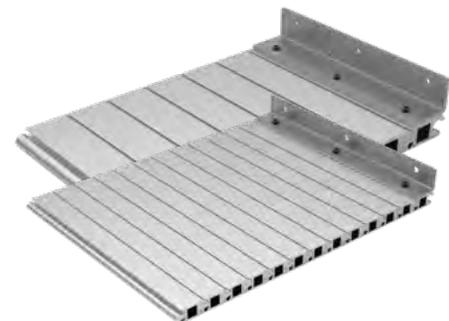
- Withstands high ambient temperatures
- Can be assembled in sections for easy replacement of damaged areas
- Completely resistant to penetration of contaminants (oils, coolant, swarf, chemicals, etc.)
- Walk-on versions available using extruded aluminum tubing for support



## ALUFLEX / GS20

### Aluminum profiles with polyurethane hinges

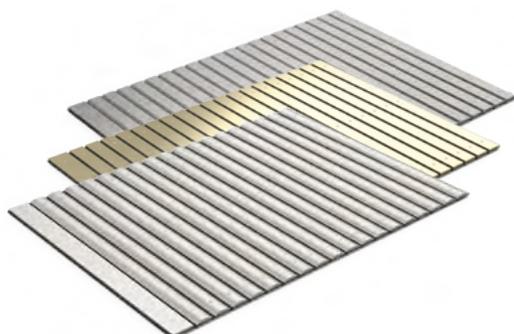
- Aluflex: High flexibility in both directions (25 mm bend radius)
- GS20: When rolled out, creates a flush surface (ideal for wipers)
- Resistant to high temperatures
- Resistant to corrosion
- Special coatings available (e.g., hard anodized)



## AGS SERIES (MINI, I, II)

### Anodized aluminum profiles & hinges

- Withstands high ambient temperatures
- High strain resistance even in long lengths
- Walk-on versions available (types I, II)



## SERIES 53-1, 53-2, 53-4

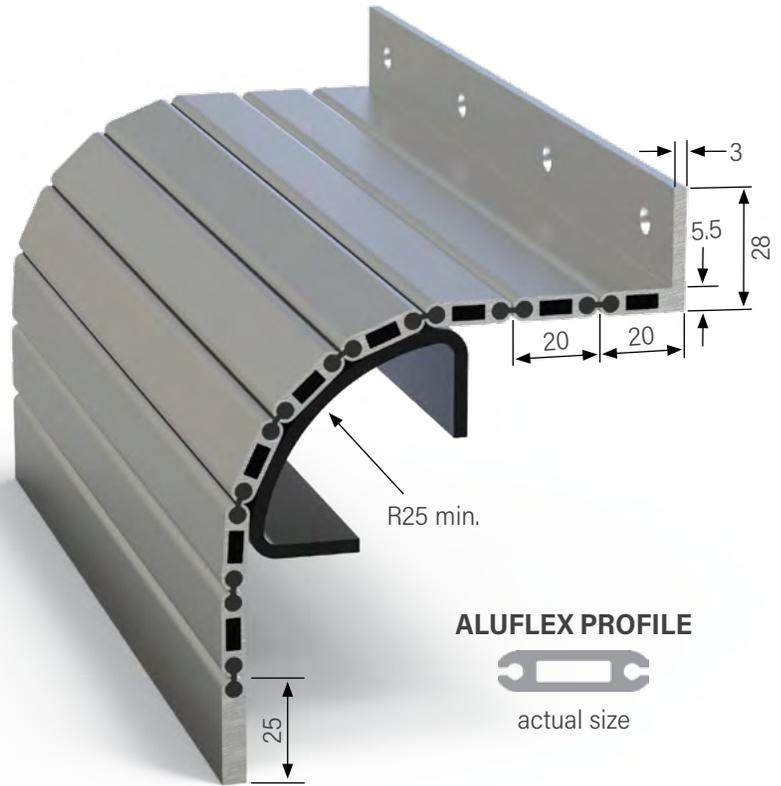
### Polyurethane/aluminum coated polyester sheets with steel, brass, or aluminum lamellas

- Suited for extreme working conditions
- Sufficient protection against high volumes of swarf
- Highly resistant against oil, grease, coolants, and hot swarf
- Small coil radius/space saving design

# ALUFLEX

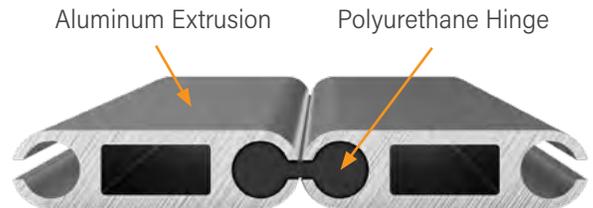
## FEATURES

- Light, highly-flexible, hinge-type aluminum apron
- Anodized aluminum precision profiles that are positively interlocked with polyurethane hinges (joints)
- Symmetric design of profile assures high flexibility in both bending directions of the hinge
- Easy extension and assembly design
- Splash-proof design
- Suited for the protection of machine parts that are not permanently exposed to hot chips



## DESIGN HIGHLIGHT

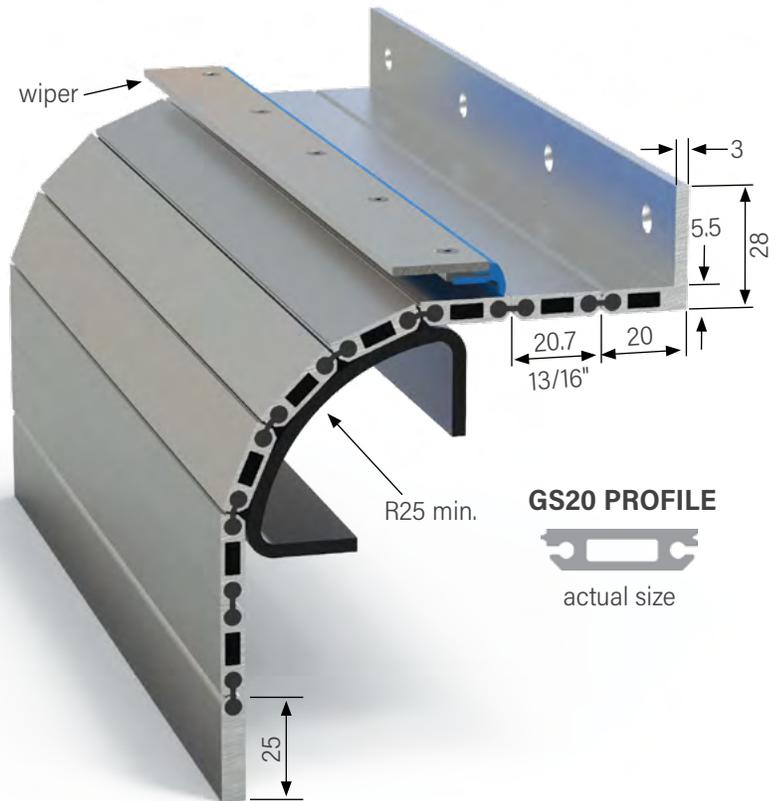
Symmetric design allows for high flexibility in both directions.



# GS20

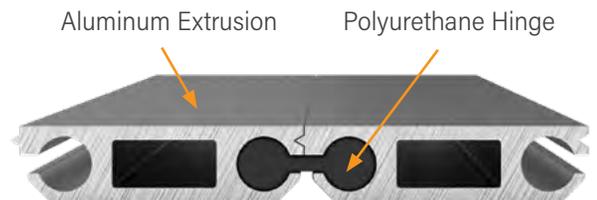
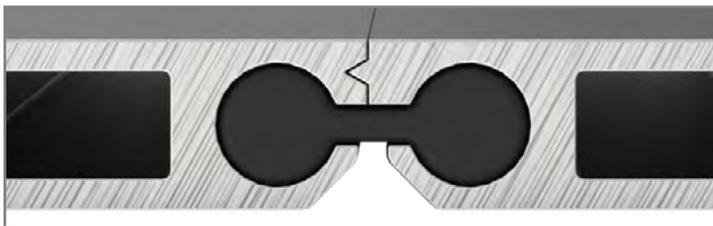
## FEATURES

- Aluminum apron with a rigid interlock
- When rolled-out, creates flush surface which can be wiped clean using one of Hennig's wiper systems
- With the interlock, the polyurethane hinges are additionally protected
- High torsional stiffness
- Not recommended for horizontal deployment with simultaneous chip production
- Acceleration of 1.5 g and speed of 150 m/min are feasible
- Special coatings available (e.g., hard anodized)



## DESIGN HIGHLIGHT

Locking design provides a flush surface suitable for wiper systems.



## HARD ANODIZED COATING

### FOR DEMANDING ENVIRONMENTAL CONDITIONS

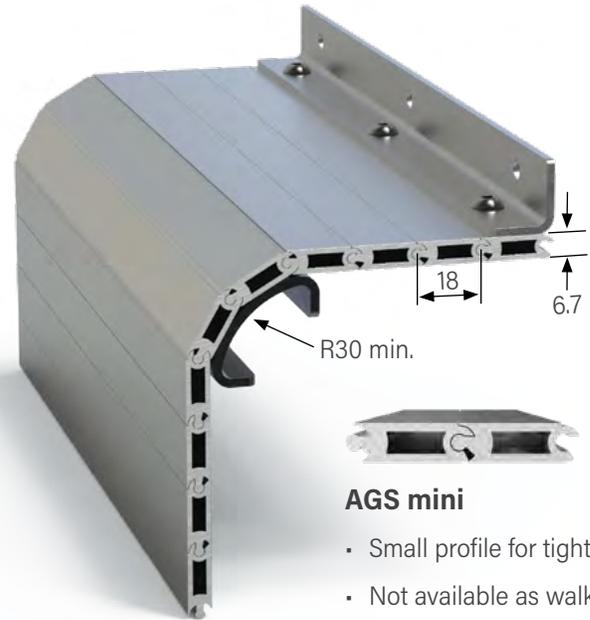
- The hard eloxal technique creates a hard, ceramic-like surface on the hard anodized aluminum profiles
- Extra protection against corrosion, abrasion, and wear
- Coating thickness of 50 µm
- Protection against all kinds of chips and direct hits
- Appropriate for all kinds of materials (e.g., grey cast iron, titanium)



# AGS (MINI, I, II)

## FEATURES

- Anodized aluminum profiles and hinges
- Precision profiles are perfectly interlocked
- Stable and flexible protection when space is limited
- Special hinges prevent coarse dirt from entering and allow self-cleaning during movement
- Withstands high ambient temperatures up to 500°C
- Resistant to corrosion by using anodized aluminum
- High strain resistance, even in long lengths
- Especially suitable for roll-up mechanisms
- Walk-on versions available for AGS I, II
- Interchangeability of individual profiles
- Side guides not required
- The AGS mini, AGS I, and AGS II differ in the profile cross sections and loading capacity
- Standard version comes with protruding rivets—2 mm on each side (AGS I and AGS II are available with protruding or flat head rivets.)



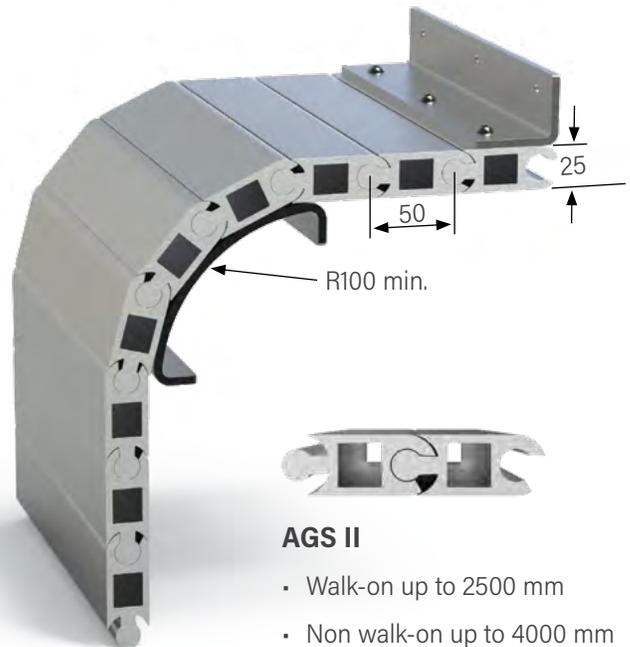
**AGS mini**

- Small profile for tight spaces
- Not available as walk-on



**AGS I**

- Walk-on up to 1100 mm
- Non walk-on up to 3000 mm



**AGS II**

- Walk-on up to 2500 mm
- Non walk-on up to 4000 mm

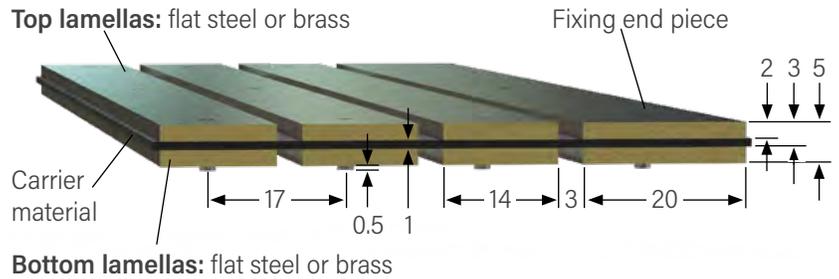
# SERIES 53-1, 53-2, 53-4

These apron covers are highly flexible and designed for optimum protection against swarf and falling work pieces, especially suited for extreme working conditions.

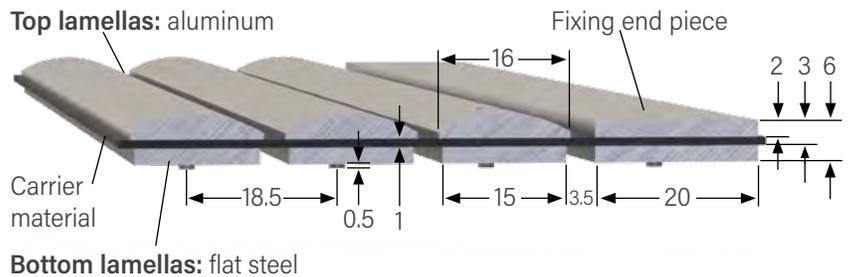
## FEATURES

- Two layer carrier material; PUR-coated fabric at the bottom, aluminum-coated glass fiber fabric at the top for heat resistance
- Sufficient protection in case of high volumes of swarf (e.g., at lathe tool posts)
- Metal lamellas reinforce both sides with steel, brass, or aluminum
- Highly resistant against oil, grease, coolants, and hot swarf (contact temperature of up to +300°C)
- Splash-proof according to IP54
- Space-saving design with small coil radius
- Fastening is possible alternatively with angle brackets, hinges, or custom fittings

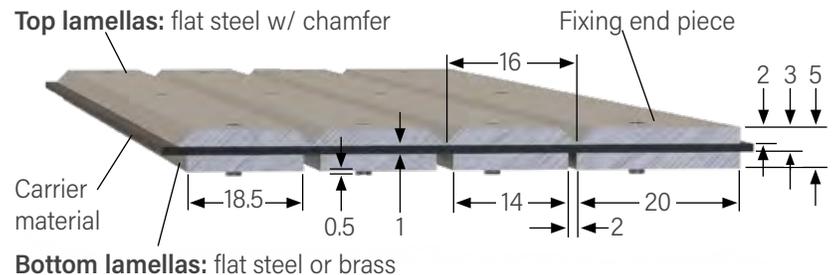
### TYPE 53-1



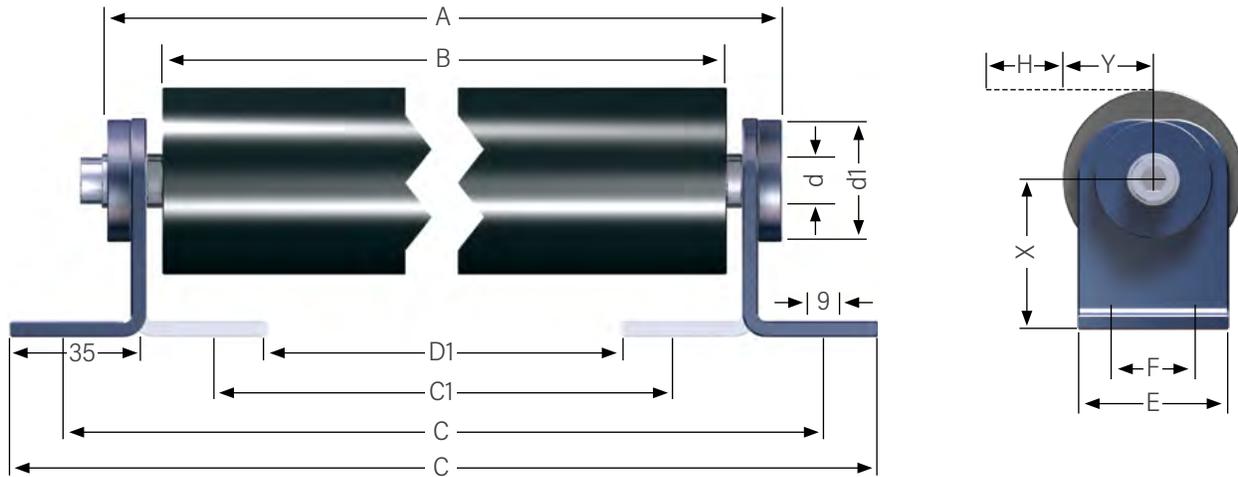
### TYPE 53-2



### TYPE 53-4



# SERIES R-32, R-46, R-60



Type	d1	d	E	F	X
R-32	32	12	40	20	40
R-46	46	20	50	30	50
R-60	60	30	60	40	60

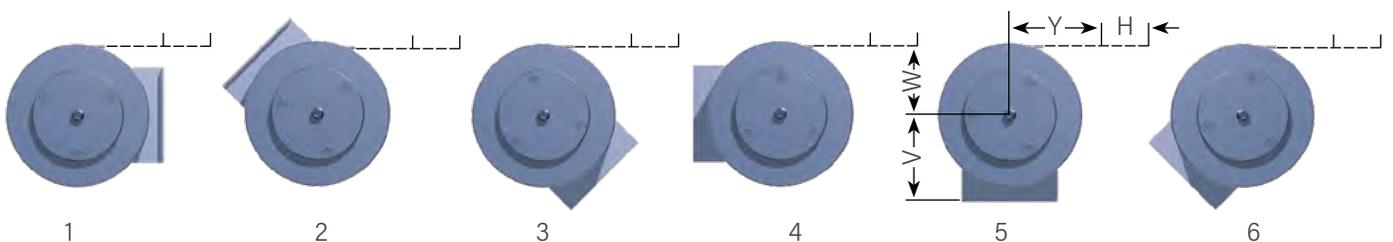
- A = B + 30 mm
- B = Band width
- C = Hole pattern: B + 55 mm
- C1 = Hole pattern: B - 15 mm
- D = B + 80 mm
- D1 = B - 40 mm center and bracket
- d = Diameter of shaft

- d1 = Diameter of tube
- E = Width of lateral brackets
- F = Hole pattern
- H\* = Stroke
- X = Distance between shaft
- Y\* = Pre-travel
- \* to be indicated in the inquiry

Type	Band Width	≥ 100	≥ 150	≥ 200	≥ 250	≥ 300	≥ 350	≥ 400	≥ 450	≥ 500	≥ 600	≥ 700	≥ 800	≥ 900	≥ 1000	≥ 1150	≥ 1300
R-32	Stroke H	100	300	400	500	600	750	850	950	-	-	-	-	-	-	-	-
	Pre-load/windings	1	1	1	1.5	1.5	2	2.5	2.5	-	-	-	-	-	-	-	-
R-46	Stroke H	-	200	400	600	750	875	1025	1150	1300	1500	1700	2000	2300	2600	-	-
	Pre-load/windings	-	1.5	2	2.5	2.5	3	3.5	3.5	4	4	4.5	4.5	5	5	-	-
R-60	Stroke H	-	-	350	600	900	1050	1200	1350	1550	1750	2000	2325	2650	3000	3400	4000
	Pre-load/windings	-	-	2.5	3	3	3.5	4	4	4.5	4.5	5	5.5	5.5	6	7	8

All dimensions in mm

## STANDARD MOUNTING OPTIONS FOR R-2000, R-4000, R-6000 (see next page)

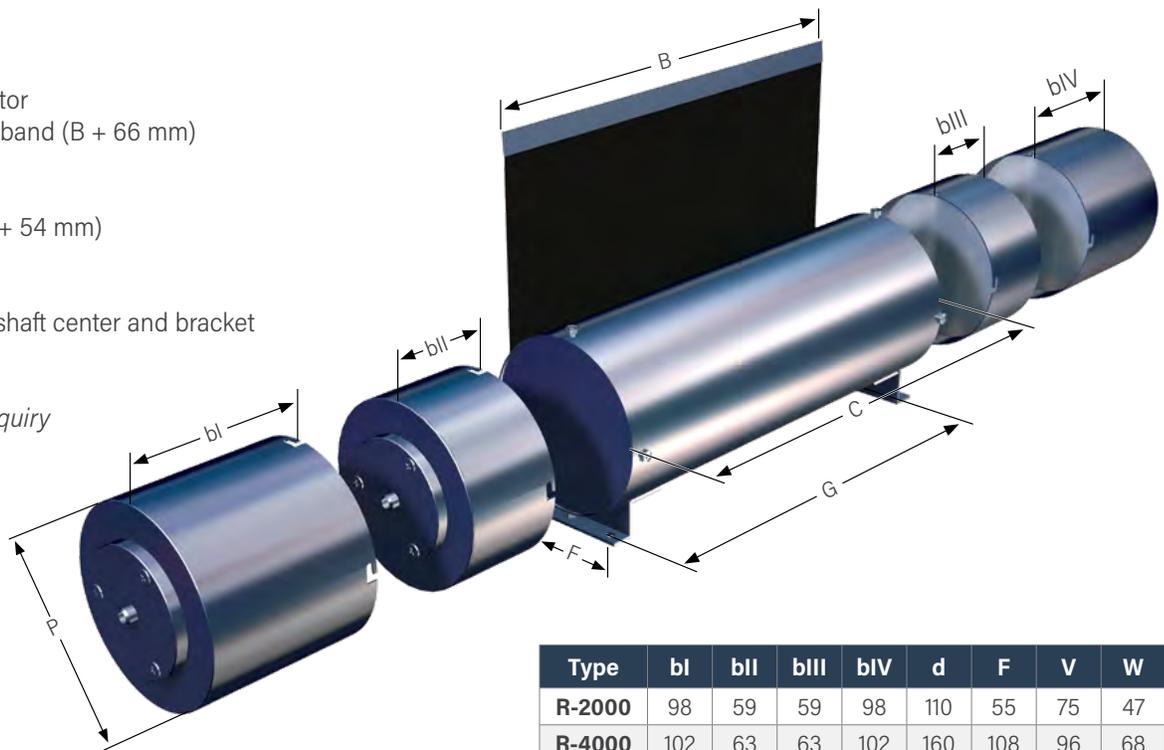


# SERIES R-2000, R-4000, R-6000

## CLOCK SPRING DESIGN

- The fastening brackets at the roll-up covers casing can be offset by 45° (see mounting options 1–6 on page 10)
- The number of springs depends on the recoil force or traverse speed
- No need to disassemble the cover when replacing the recoil motors (bayonet fixing)
- Width of cover band from 100 to 2000 mm (housing in cylindrical shape); larger widths available upon request however unsupported larger width versions are not recommended
- Completely enclosed metal casing with wipers keeps the cover band clean
- Spring motor can be completely replaced if the spring breaks

- B\*** = Band width  
**bx** = Width of spring motor  
**C** = Hole pattern at the band (B + 66 mm)  
**d** = Diameter of casing  
**F** = Hole pattern  
**G** = Width of casing (B + 54 mm)  
**H\*** = Stroke  
**P** = Recoil force  
**V** = Distance between shaft center and bracket  
**W** = Cover band outlet  
**Y\*** = Pre-travel  
*\* to be indicated in the inquiry*



Type	bl	bII	bIII	bIV	d	F	V	W
R-2000	98	59	59	98	110	55	75	47
R-4000	102	63	63	102	160	108	96	68
R-6000	112	68	68	112	190	134	106	81

All dimensions in mm

## SERIES R-2000

max stroke 2000mm

Type	Spring Motor	p* (N)
R-2000/A	I + IV	200
R-2000/B	II + IV	150
R-2000/C	I + III	150
R-2000/D	II + III	100
R-2000/E	IV	100
R-2000/F	I	100
R-2000/G	III	50
R-2000/H	II	50

## SERIES R-4000

max stroke 4000mm

Type	Spring Motor	p* (N)
R-4000/A	I + IV	160
R-4000/B	II + IV	120
R-4000/C	I + III	120
R-4000/D	II + III	80
R-4000/E	IV	80
R-4000/F	I	80
R-4000/G	III	50
R-4000/H	II	50

## SERIES R-6000

max stroke 6000mm

Type	Spring Motor	p* (N)
R-6000/A	I + IV	300
R-6000/B	II + IV	230
R-6000/C	I + III	230
R-6000/D	II + III	140
R-6000/E	IV	140
R-6000/F	I	140
R-6000/G	III	70
R-6000/H	II	70

# MATERIAL PROPERTIES

## ALUFLEX / GS20 / AGS SERIES

		Aluflex	GS20	AGS Mini	AGS I	AGS II
<b>Material</b>	Shape					
	Profile/Hinge	AL/PUR	AL/PUR	AL/-	AL/-	AL/-
	Width x Thickness (mm)	20.0 x 5.5	20.7 x 5.5	22.4 x 6.7	34.9 x 13.8	68.3 x 25.0
<b>Technical Data</b>	Return/Coil Radius (min.)	25	25	30	42	100
	Net Weight (N/m <sup>2</sup> )	80	80	120	240	380
	Max Intermittent Contact Temp (°C)	150	350	500	500	500
	Max Permanent Contact Temp (°C)	120	120	200	500	500
<b>Properties</b>	Water Tightness (according to IP 54)	●	●	◐	◐	◐
	Resistance to Emulsions	◐	◐	●	●	●
	Suited for Chip Production Areas	○	●	○	○	○
	Resistance to Corrosion	●	●	●	●	●

Characteristics: ● Excellent ◐ Good ○ Suited under certain conditions      Material Guide: AL=Aluminum PUR=Polyurethane

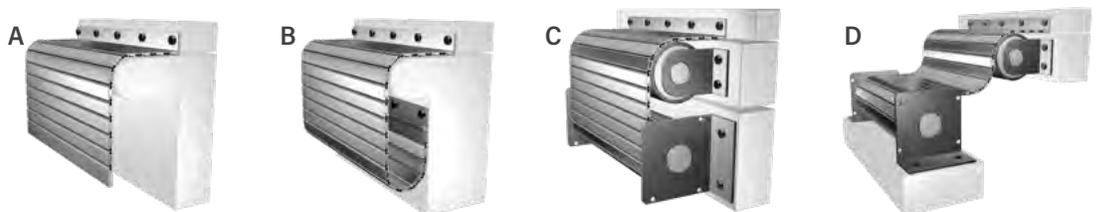
## SERIES 53

		53-1	53-1	53-1	53-2	53-4	53-4
<b>Material</b>	Top (side of swarf)						
		ST 14x2	ST 14x2	MS 14x2	AL16x3	ST 16x2	ST 16x2
	Bottom (side of slideway)						
	ST 14x2	MS 14x2	MS 14x2	ST 15x2	ST 14x2	MS 14x2	
	Carrier (hinge) material	PUR/AL	PUR/AL	PUR/AL	PUR/AL	PUR/AL	PUR/AL
<b>Technical Data</b>	Thickness (mm)	5.5	5.5	5.5	6.5	5.5	5.5
	Return Radius (min.)	40	40	40	40	40	40
	Net Weight (N/m <sup>2</sup> )	280	280	280	290	300	300
	Max Intermittent Contact Temp (°C)	300	300	300	300	300	300
	Max Permanent Contact Temp (°C)	120	120	120	120	120	120
	Coil Radius ≥ R25	25	25	25	25	25	25
<b>Properties</b>	Water Tightness (according to IP54)	●	●	●	●	●	●
	Resistance to Emulsions	◐	◐	◐	◐	◐	◐
	Suited for swarf production areas	●	●	●	○	●	●

Characteristics: ● Excellent ◐ Good ○ Suited under certain conditions      Material Guide: ST=Steel MS=Brass AL=Aluminum PUR=Polyurethane

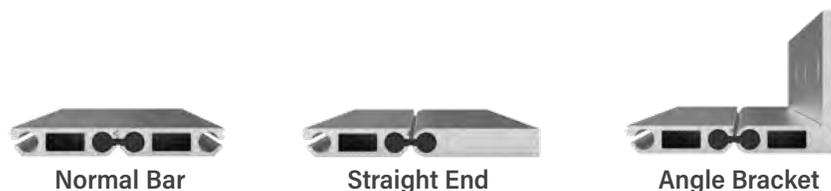
## MOUNTING CONFIGURATIONS

Custom mounting devices and combinations available upon request.



## END PIECES

Custom end pieces available upon request.



# QUOTE REQUEST

Please complete this form and email to info@hennig-inc.com.

## COMPANY

Company Name \_\_\_\_\_  
 Company Address \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Name \_\_\_\_\_  
 Title \_\_\_\_\_  
 E-mail \_\_\_\_\_  
 Phone \_\_\_\_\_ Fax \_\_\_\_\_

## APPLICATION INFO

Quantity \_\_\_\_\_

Apron Design  Roll-up  Non-roll-up

Apron Type  Coated fabric  Stainless steel  Aluflex  GS20  AGS mini  AGS I  AGS II  
 53-1 (ST/ST)  53-1 (ST/MS)  53-1 (MS/MS)  53-2 (AL/ST)  53-4 (ST/ST)  53-4 (ST/MS)

Cover Exposed to  Coolant  Chips  Hot chips  Outdoor elements  Other \_\_\_\_\_

Machine Make (if applicable) \_\_\_\_\_

Machine Model (if applicable) \_\_\_\_\_ Year \_\_\_\_\_

## TECHNICAL DATA

Unit of measurement  inches  millimeters

A Fully extended cover length \_\_\_\_\_

B Fully extended cover length \_\_\_\_\_

Length of travel \_\_\_\_\_

Speed  m/min  in/min \_\_\_\_\_

Acceleration (g) \_\_\_\_\_

## NON ROLL-UP DETAILS

\* Complete this section only if "Non-Roll-Up" is selected under Application Info section.

Mounting Configuration  A  B  C  D  Other

Mounting Type (End 1)  Normal bar  Straight  Angle  Custom

Mounting Type (End 2)  Normal bar  Straight  Angle  Custom

## ROLL-UP DETAILS

\* Complete this section only if "Non-Roll-Up" is selected under Application Info section.

C Maximum width allowable with mounting brackets/canister \_\_\_\_\_

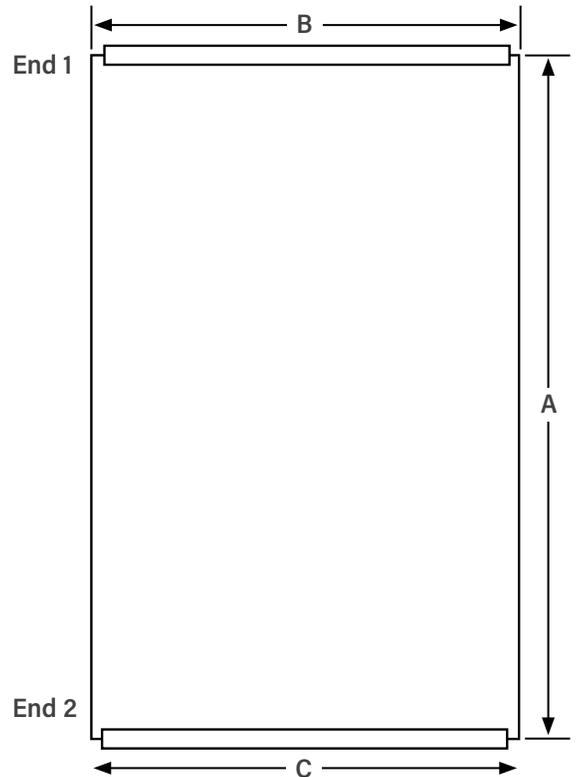
Roll-Up Design  Canister  Open-reel

Mounting Configuration  A  B  C  D  Other

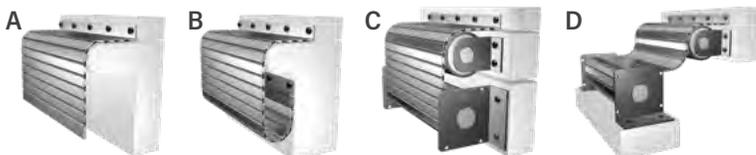
Mounting Type (End 1) For roll-up covers, end 1 is the mounting end

Mounting Type (End 2)  Normal bar  Straight  Angle  Custom

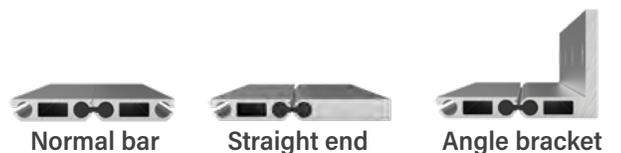
Include Mounting Brackets  Yes  No



## MOUNTING CONFIGURATIONS (NON-ROLL-UP DESIGNS)



## MOUNTING TYPES



# FACILITIES & CONTACTS



- Headquarters / Manufacturing / Distribution / Service Center
- Manufacturing / Distribution / Service Center
- Manufacturing / Distribution
- Sales Partner
- Service Center



**1 Hennig, Inc. Global Headquarters**  
9900 North Alpine Road  
Machesney Park, IL 61115  
P: + 01 815-636-9900  
F: + 01 815-636-1988  
info@hennig-inc.com

**4 Hennig, Inc. Ohio Service Center**  
11431 Williamson Road  
Blue Ash, OH 45241  
P: + 01 513-247-0838  
F: + 01 513-247-0840  
info@hennig-inc.com

**7 Cobsen Ltda.**  
R. Benedito Mazulquim, 425  
18550-000 Boituva CEP, Brazil  
P: + 55 15 3263-4042  
F: + 55 15 3263-4070  
cobsen@cobsen.com.br

**2 Hennig, Inc. Oklahoma Service Center**  
900395 S. 3420 Road  
Chandler, OK 74834  
P: + 01 405-258-6702  
F: + 01 405-258-9971  
info@hennig-inc.com

**5 Hennig / Gaden, S.A. de C.V.**  
Calle Primera N° 1037  
Col. Ministro Nazario Ortiz  
Saltillo, Coahuila, C.P. 25100  
P: + 01 (844) 180 0294  
F: + 01 (844) 180 029  
ventas@grupogaden.com

**3 Hennig, Inc. Michigan Service Center**  
11879 Brookfield Road  
Livonia, MI 48150  
P: + 01 734-523-8274  
F: + 01 855-427-1549  
info@hennig-inc.com

**6 Hennig / Gaden, S.A. de C.V.**  
Silca N° 4, Col. Vista Hermosa  
Tlalnepantla, Mexico, C.P. 54080  
P: + 52 (55) 5318 4146  
F: + 52 (55) 5319 32  
ventas@grupogaden.com



**8 Hennig GmbH European Headquarters**

Überrheinerstrasse 5  
85551 Kirchheim, Germany  
P: + 49 89 96096-0  
F: + 49 89 96096-120  
info@hennig-gmbh.de

**9 Hennig CZ s.r.o.**

Klánovická 334  
250 82 Úvaly, Czech Republic  
P: + 420 2810 91610  
F: + 420 2810 91625  
info@hennig-cz.com

**10 Hennig France sas**

19, rue de Rebrillon  
03300 Creuzier-le-Neuf, France  
P: + 33 470 58 4740  
F: + 33 470 58 0022  
contact@hennig-france.com

**11 Hennig U.K. Ltd.**

Unit 6, Challenge Close  
Coventry CV1 5JG, United Kingdom  
P: + 44 24 76555690  
F: + 44 24 76256591  
sales@henniguk.com

**12 Hennig BH doo.**

Ciljuge II bb – poslovna zona  
75270 Zivinice, Bosnia Herzegovina  
P: + 387 35 95 1876  
kontakt@hennig-bh.com

**13 B & S Industrieel Onderhoud**

Zirkoonstraat 7, 7554 TT Hengelo (Ov.)  
Postbus 69  
7550 AB Hengelo (Ov.), Netherlands  
P: + 31 74 8510600  
F: + 31 74 8510605  
hinders@bs.nl

**14 Svenska Maskinkomponenter AB**

Brunnsäkersvägen 9  
64593 Strängnäs, Sweden  
P: + 46 8 53470770  
F: + 46 8 53470775  
info@svemako.se

**15 Osung Mechatronics Co. Ltd.**

Jinbuk-myun Shincon-li 413-2  
Gyungnam Masan-city, South Korea  
P: + 82 55 271 1821  
F: + 82 55 271 1820  
osgijeon@naver.com

**16 Enomoto BeA Co., Ltd.**

5-10 Sohara Koa-Cho  
Kakamigahara-Shi,  
Gifu 504-8551, Japan  
P: + 81 583 832178  
F: + 81 583 897435  
kashida@enomotoweb.com



**|||| HENNIG®**

**PROTECT** YOUR SUCCESS

# WE'VE GOT YOUR BACK

Hennig Worldwide has been a global leader since 1950, specializing in chip and coolant management, machine protection, and facility safety. We work with a wide variety of manufacturers and other facilities worldwide, helping them create and maintain safe and efficient workplaces. Our commitment to excellence extends beyond our services—we actively contribute to local communities, create regional jobs, and support the global needs of machine tool customers.

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9900 North Alpine Road  
Machesney Park, IL 61115  
815.636.9900

[hennigworldwide.com](http://hennigworldwide.com)

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