

# OPTIMA.

## Welded wedge wire sieves

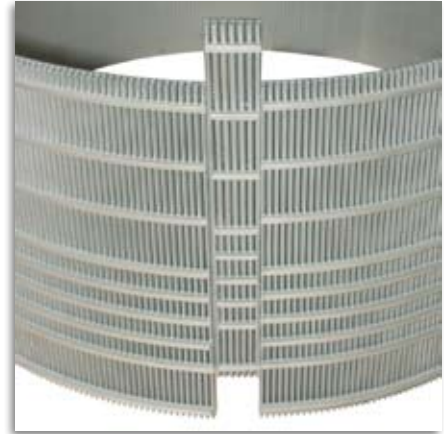
 **STEINHAUS**

# OPTIMA

Slotted sieves, made of longitudinal profil wires and cross bars to a rigid sieve panel, are available in mild steel, in alloyed, wear-resistant and corrosion-proof steel grades and also in special qualities. The slots do not impede the material flow. The slotted openings widen downwards, thus effectively preventing pegging by marginal particles.

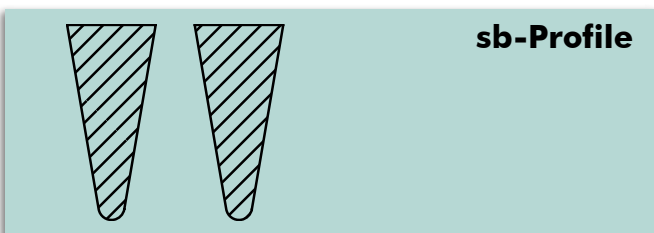
OPTIMA slotted sieves are supplied ready to be build in, with or without reinforcement.

OPTIMA slotted sieves are used for dewatering, des-lurring and classifying on screening machines, sieve bends, centrifuges and dewatering troughs, as plain filter segments for extraction and diffusion bottom installations, kiln floors, etc.



## Longitudinal Profile Shapes

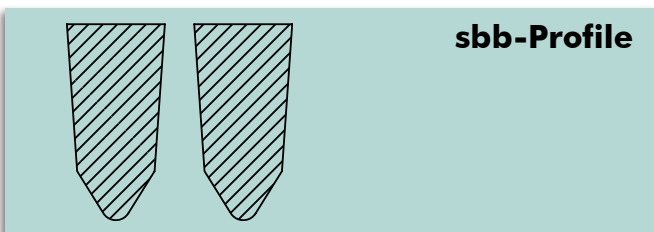
The profile shape determines the characteristics of the downward widening slots and affects the extent to which the slots remain open. Special profile shapes for special applications can be supplied on request.



**sb-Profile**

**Profile - sb -  
with single-conical sides. Standard profile.**

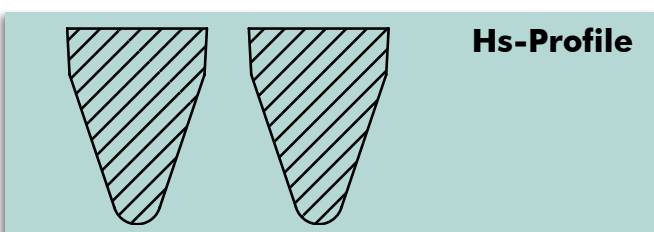
The optimum angle of the profile sides prevents pegging by marginal particles; wear has little effect on the slot width. The profile shape does not restrict the throughput and thus enhances the dewatering capacity.



**sbb-Profile**

**Profile - sbb -  
with double-conical sides.**

The less steep upper parts of the sides considerably reduce the widening of the slots by wear. The life time is much longer, but an increased proportion of marginal particles may cause some pegging.



**Hs-Profile**

**Profile - Hs -  
with weartop and single-conical sides.  
Heavy execution.**

Wear top with parallel sides and a smooth run into angled sides. Even if the weartop is worn there is only a slow widening of the slots. Recommended for highly abrasive materials.

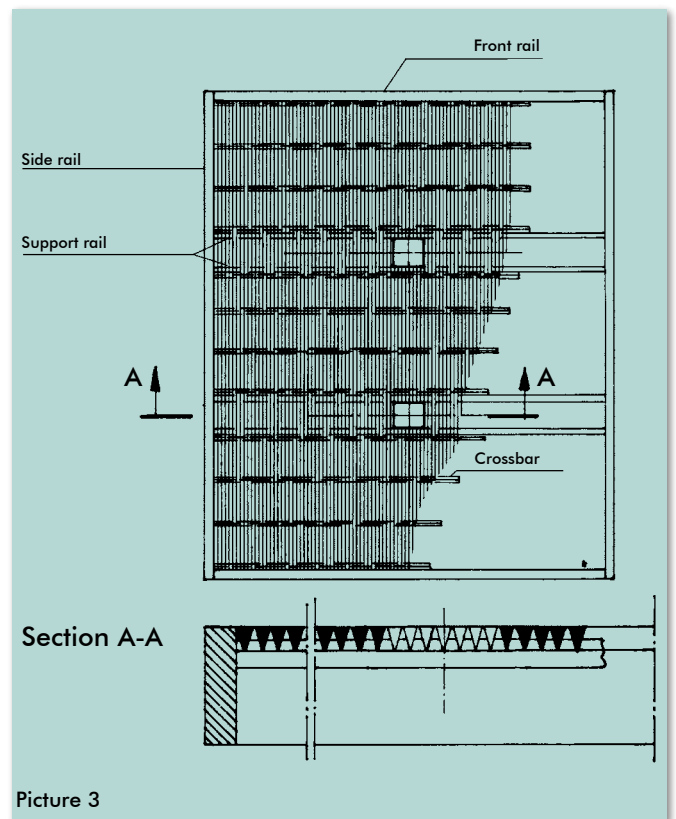
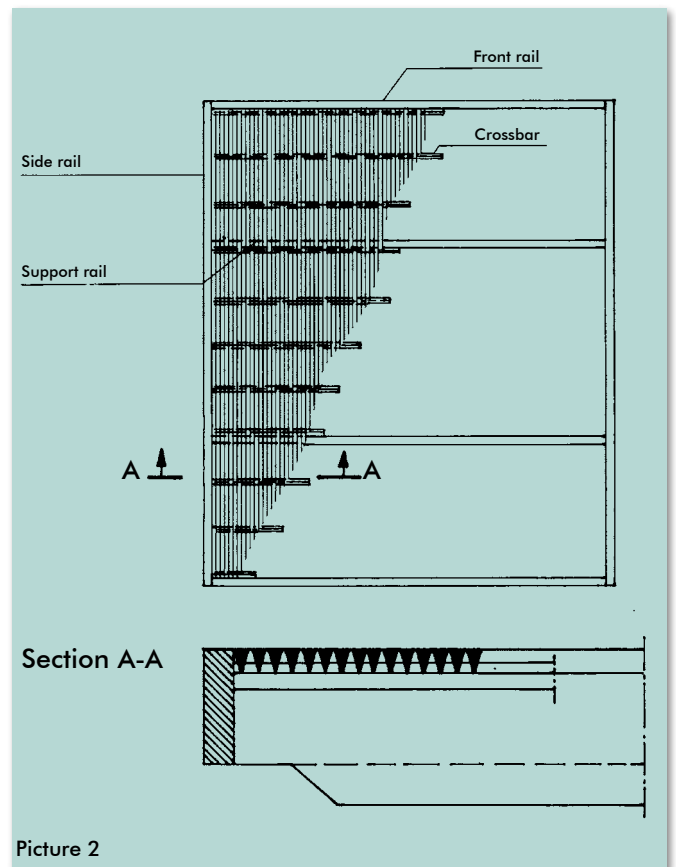
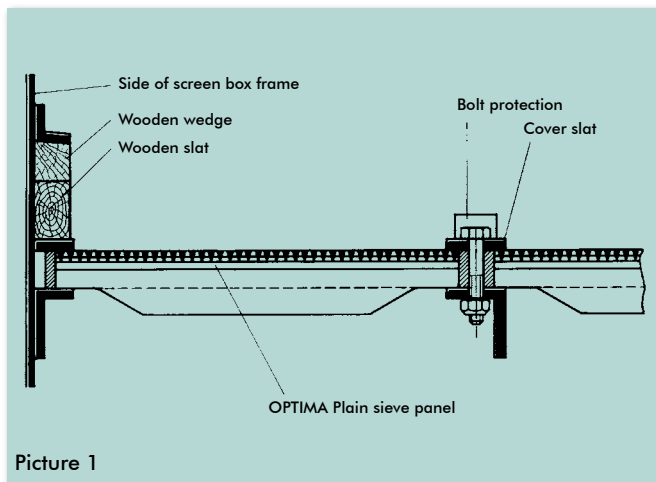
## OPTIMA plain sieve panels for screening machines.

Plain sieve panels are ready-to-install sieves, with or without frame and/or reinforcement depending on: the load of the sieves, the distance between supports and the frame construction. The reinforcement is understood to be a frame which is firmly connected to the panel, as well as support rails etc. Vibration-proof fastening to the machines substructure is important to prevent premature damages and loss of production.

Plain sieve panels are fastened by slats and wedges along the sides of the machine and in the deck area by bolting to the lengthwise or crosswise running support structure. The fastening bolts are either going through provided holes in the panel itself or between the connection joints of two panels by means of cover slats.

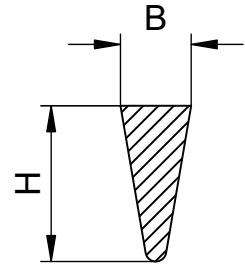
**Picture 1** shows the fastening with slats at the side wall and with a cover slats in the centre of the machine.

**Picture 2** and **3** show reinforcements such as frames and support rails. In all vibrating sieve decks the reinforcement rails run preferably across the direction of the slots. The distance between the reinforcement rails is chosen in accordance with the load and the section modulus of the longitudinal wires. **Picture 2** shows a sieve panel without and **Picture 3** with fastenings holes.



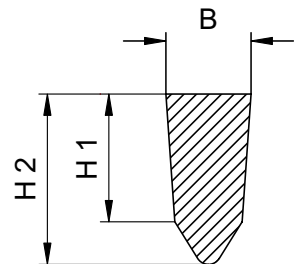
The information and illustrations in this product information are non-binding and only represent an approximate description. The properties are not guaranteed.

Longitudinal profiles	B = 1,8 H = 3,7		B = 2,2 H = 4,5		B = 2,8 H = 5,0		B = 3,4 H = 6,5		B = 3,4 H = 7,5	
	<b>22</b>		<b>28</b>		<b>34</b>		<b>42</b>		<b>50</b>	
<b>W<sub>x</sub> (cm<sup>3</sup>)</b>	0,0019		0,0034		0,0053		0,0109		0,0142	
<b>Crossbar</b>	Q 55		Q 55		Q 55		Q 55		Q 55	
<b>t<sub>qst</sub> (mm)</b>	40		50		50		50		50	
<b>s (mm)</b>	~ 9		~ 9,5		~ 10		~ 11,5		~ 12,5	
<b>Slot width w (mm)</b>	<b>α<sub>o</sub> (%)</b>	<b>Weight (kg/m<sup>2</sup>)</b>	<b>α<sub>o</sub> (%)</b>	<b>Weight (kg/m<sup>2</sup>)</b>	<b>α<sub>o</sub> (%)</b>	<b>Weight (kg/m<sup>2</sup>)</b>	<b>α<sub>o</sub> (%)</b>	<b>Weight (kg/m<sup>2</sup>)</b>	<b>α<sub>o</sub> (%)</b>	<b>Weight (kg/m<sup>2</sup>)</b>
<b>0,16</b>	8,2	22,3	6,8	24,6						
<b>0,2</b>	10,0	21,9	8,3	24,3	6,7	26,9				
<b>0,25</b>	12,2	21,5	10,2	23,9	8,2	26,5				
<b>0,315</b>	14,9	21,0	12,5	23,4	10,1	26,1	8,5	32,3		
<b>0,4</b>	18,2	20,4	15,4	22,7	12,5	25,5	10,5	31,7	10,5	36,8
<b>0,5</b>	21,7	19,7	18,5	22,0	15,2	24,8	12,8	30,9	12,8	36,0
<b>0,63</b>	25,9	18,9	22,3	21,2	18,4	24,0	15,6	30,1	15,6	35,0
<b>0,8</b>	30,8	18,0	26,7	20,2	22,2	23,1	19,0	29,0	19,0	33,7
<b>1,0</b>	35,7	17,1	31,2	19,2	26,3	22,1	22,7	27,9	22,7	32,3
<b>1,25</b>	41,0	16,1	36,2	18,1	30,9	20,9	26,9	26,6	26,9	30,8
<b>1,4</b>	43,8	15,6	38,9	17,5	33,3	20,3	29,1	25,9	29,1	30,0
<b>1,6</b>	47,1	15,0	42,1	16,7	36,4	19,6	32,0	25,0	32,0	28,9
<b>1,8</b>	50,0	14,4	45,0	16,1	39,1	18,9	34,6	24,2	34,6	28,0
<b>2,0</b>	52,6	13,9	47,6	15,5	41,7	18,3	37,0	23,4	37,0	27,1
<b>2,24</b>	55,5	13,4	50,4	14,9	44,4	17,6	39,7	22,6	39,7	26,1
<b>2,5</b>	58,1	12,9	53,2	14,3	47,2	16,9	42,4	21,8	42,4	25,1
<b>2,8</b>	60,9	12,4	56,0	13,6	50,0	16,2	45,2	20,9	45,2	24,1
<b>3,15</b>	63,6	11,9	58,9	13,0	52,9	15,5	48,0	20,0	48,0	23,0
<b>3,55</b>	66,4	11,3	61,7	12,3	55,9	14,7	51,0	19,1	51,0	21,9
<b>4,0</b>	69,0	10,9	64,5	11,7	58,8	14,0	54,0	18,1	54,0	20,8
<b>4,5</b>			67,2	11,1	61,6	13,3	57,0	17,2	57,0	19,7
<b>5,0</b>			69,4	10,6	64,1	12,7	59,5	16,4	59,5	18,8
<b>5,6</b>					66,7	12,1	62,2	15,6	62,2	17,8
<b>6,3</b>					69,2	11,4	64,9	14,7	64,9	16,8
<b>7,1</b>					71,7	10,8	68,2	13,9	68,2	15,8
<b>8,0</b>					74,0	10,2	70,2	13,1	70,2	14,9
<b>10,0</b>					78,1	9,2	74,6	11,7	74,6	13,2

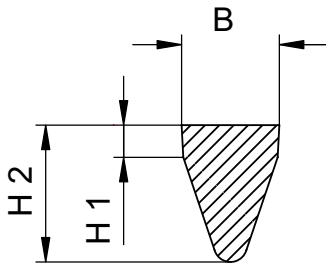


The slot widths in the tables are as per DIN 323. Intermediate sizes are available on request.

Longitudinal profiles	B = 2,2 H1 = 3,0 H2 = 5,0		B = 2,8 H1 = 4,0 H2 = 6,5		B = 3,4 H1 = 5,0 H2 = 7,5		B = 5,0 H1 = 7 H2 = 10		B = 10 H1 = 15 H2 = 20	
	<b>34</b>		<b>42</b>		<b>50</b>		<b>76</b>		<b>150</b>	
<b>W<sub>x</sub> (cm<sup>3</sup>)</b>	0,0055		0,0110		0,0174		0,0450		0,3927	
<b>Crossbar</b>	Q 55		Q 55		Q 55		76 sbb		Hs 12	
<b>t<sub>qst</sub> (mm)</b>	50		50		50		50		100	
<b>s (mm)</b>	~ 10		~ 11,5		~ 12,5		~ 17		27 - 30	
<b>Slot width w (mm)</b>	<b>α<sub>o</sub> (%)</b>	<b>Weight (kg/m<sup>2</sup>)</b>	<b>α<sub>o</sub> (%)</b>	<b>Weight (kg/m<sup>2</sup>)</b>	<b>α<sub>o</sub> (%)</b>	<b>Weight (kg/m<sup>2</sup>)</b>	<b>α<sub>o</sub> (%)</b>	<b>Weight (kg/m<sup>2</sup>)</b>	<b>α<sub>o</sub> (%)</b>	<b>Weight (kg/m<sup>2</sup>)</b>
<b>0,2</b>	8,3	32,2								
<b>0,25</b>	10,2	31,6								
<b>0,315</b>	12,5	30,9	10,1	38,7						
<b>0,4</b>	15,4	30,0	12,5	37,8	10,5	44,3				
<b>0,5</b>	18,5	29,0	15,2	36,8	12,8	43,2	9,1	61,9		
<b>0,63</b>	22,3	27,9	18,4	35,5	15,6	42,0	11,2	60,6		
<b>0,8</b>	26,7	26,5	22,2	34,0	19,0	40,4	13,8	59,1		
<b>1,0</b>	31,2	25,1	26,3	32,4	22,7	38,8	16,7	57,3		
<b>1,25</b>	36,2	23,5	30,8	30,7	26,9	36,9	20,0	55,3		
<b>1,4</b>	38,9	22,7	33,3	29,7	29,1	35,8	21,9	54,1		
<b>1,6</b>	42,1	21,7	36,3	28,5	32,0	34,6	24,2	52,7		
<b>1,8</b>	45,0	20,8	39,1	27,5	34,6	33,4	26,5	51,3		
<b>2,0</b>	47,6	20,0	41,6	26,5	37,0	32,3	28,6	50,1		
<b>2,24</b>	50,4	19,1	44,5	25,4	39,7	31,1	30,9	48,6		
<b>2,5</b>	53,2	18,3	47,1	24,3	42,4	29,9	33,3	47,2		
<b>2,8</b>	56,0	17,4	50,0	23,2	45,2	28,6	35,9	45,6		
<b>3,15</b>	58,9	16,5	52,9	22,1	48,0	27,3	38,6	44,0		
<b>3,55</b>	61,7	15,6	55,9	21,0	51,0	26,0	41,5	42,2	26,2	101,7
<b>4,0</b>	64,5	14,8	58,8	19,8	54,0	24,6	44,4	40,4	28,6	98,8
<b>4,5</b>	67,2	14,0	61,6	18,7	57,0	23,3	47,4	38,7	31,0	95,7
<b>5,0</b>	69,4	13,3	64,1	17,8	59,5	22,2	50,0	37,1	33,3	92,8
<b>5,6</b>	71,8	12,5	66,6	16,8	62,2	20,9	52,8	35,3	35,9	89,6
<b>6,3</b>	74,1	11,8	69,2	15,8	64,9	19,7	55,7	33,6	38,6	86,2
<b>7,1</b>	76,3	11,1	71,7	14,8	68,2	18,5	58,7	31,8	41,5	82,6
<b>8,0</b>	78,4	10,5	74,0	13,9	70,2	17,3	61,5	30,0	44,4	79,0
<b>10,0</b>	82,0	9,4	78,1	12,3	74,6	15,3	66,6	26,9	50,0	72,0



Designs other than those shown here are available on request. Subject to change serving technical progress without notice.



Longitudinal profiles	B = 5		B = 6,8		B = 8,5		B = 10	
	H1 = 1,6 H2 = 7,0		H1 = 2,2 H2 = 9,4		H1 = 2,7 H2 = 11,5		H1 = 3,3 H2 = 14,0	
Hs	6		8		10		12	
W <sub>x</sub> (cm <sup>3</sup> )	0,0188		0,0463		0,0859		0,1540	
Crossbar	Hs 6		Hs 8		Hs 10		Hs 12	
t <sub>Qst</sub> (mm)	60		100		100		100	
s (mm)	~ 12,5		~ 16		~ 19		~ 21	
Slot width w (mm)	a <sub>o</sub> (%)	Weight (kg/m <sup>2</sup> )	a <sub>o</sub> (%)	Weight (kg/m <sup>2</sup> )	a <sub>o</sub> (%)	Weight (kg/m <sup>2</sup> )	a <sub>o</sub> (%)	Weight (kg/m <sup>2</sup> )
1,0	16,7	35,0						
1,25	20,0	33,7						
1,4	21,9	33,0						
1,6	24,2	32,1						
1,8	26,5	31,3						
2,0	28,6	30,5	22,7	43,4				
2,24	30,9	29,6	24,8	42,4				
2,5	33,3	28,7	26,9	41,3				
2,8	35,9	27,7	29,2	40,2				
3,15	38,6	26,7	31,7	38,9	27,0	51,6		
3,55	41,5	25,6	34,3	37,6	29,5	50,1		
4,0	44,4	24,5	37,0	36,2	32,0	48,5	28,6	63,7
4,5	47,4	23,4	39,8	34,7	34,6	46,9	31,0	61,8
5,0	50,0	22,4	42,4	33,5	37,1	45,4	33,3	60,0
5,6	52,8	21,3	45,2	32,0	39,7	43,7	35,9	58,1
6,3	55,7	20,2	48,1	30,5	42,6	42,0	38,6	56,0
7,1	58,7	19,1	51,1	29,0	45,5	40,1	41,5	53,8
8,0	61,5	18,0	54,0	27,5	48,5	38,3	44,4	51,5
10,0	66,6	16,1	59,5	24,7	54,0	34,8	50,0	47,3
12,5	71,4	14,3	64,8	22,1	59,5	31,4	55,5	43,1
14,0	73,7	13,5	67,3	20,8	62,2	29,8	58,3	40,9
16,0	76,2	12,5	70,2	19,3	65,3	27,9	61,5	38,5
18,0	78,3	11,7	72,6	18,1	67,9	26,2	64,3	36,4
20,0	80,0	11,1	74,6	17,1	70,2	24,8	66,6	34,6
22,4					72,5	23,4	69,1	32,7
25,0					74,6	22,1	71,4	31,0
28,0					76,7	20,8	73,7	29,2

## Crossbar shapes

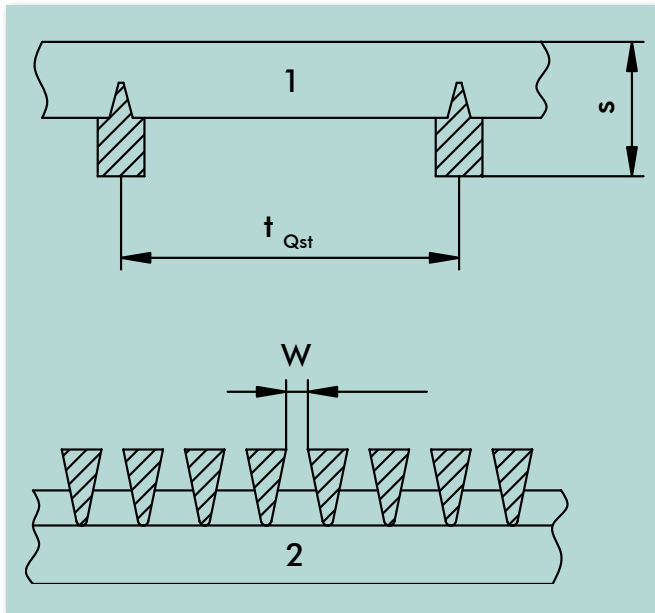
**Q 55**

**Qualities**  
Mild steel, chrome- and chrome nickel steel grades  
W<sub>x</sub> = 0,0212

B = 4,0  
H1 = 5,0  
H2 = 8,0

For all profiles except 76 sbb, 150 sbb and Hs-profiles.

Apart from the profile shown, longitudinal profiles can also be used as crossbars, or flat bars 10 x 2 to 60 x 3 mm. Other shapes of crossbars on request.



- 1 = Longitudinal profiles with section modulus W<sub>x</sub>
- 2 = Crossbars
- t<sub>Qst</sub> = Crossbar pitch (of normally abt. 50 mm but changeable)
- s = Headroom
- w = Slot width
- a<sub>o</sub> = Relative open screening area

## MATERIAL QUALITIES

### Mild steel

For sieves and reinforcements when the feed material is neither abrasive nor corrosive. For slot widths under 1 mm chrome and chrome nickel steel are to be preferred, for slot widths below 0.63 mm only these materials are used, to prevent the risk of blocking by rust.

### MnS

Special manganese steel, especially for profiles 76 sbb, 150 sbb and for Hs-profiles.

### Chrome steel

Very high wear and corrosion resistance in normal atmosphere and with weak acids and lyes.

### Special chrome steel

Corrosion resistant equivalent to chrome steel but with higher wear resistance.

### Chrome nickel steel

Various alloyed qualities suitable for various requirements are available. Good to excellent corrosion resistance, also against pitting.

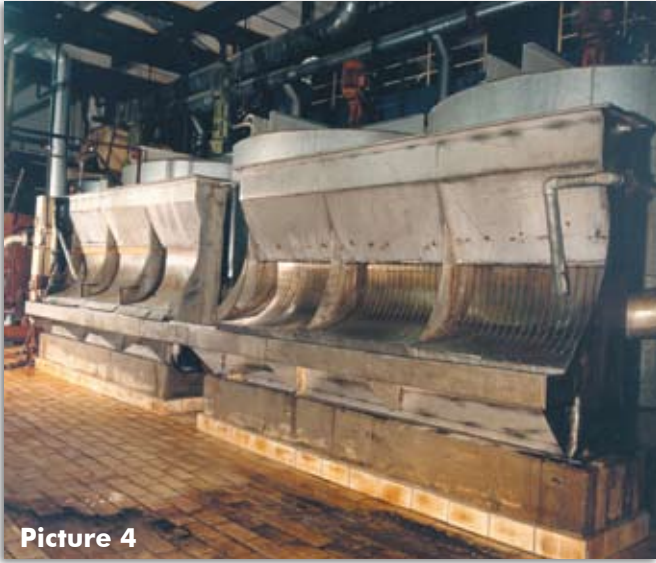
### Non-ferrous metals

Brass, copper, phosphorbronze and other materials on request.



# OPTIMA slotted sieves

as plain panels, sieve bends, cylindrical sieves can be supplied with any technically possible reinforcement and/or frame. Many different profiles, slot widths, qualities and material combinations are available.



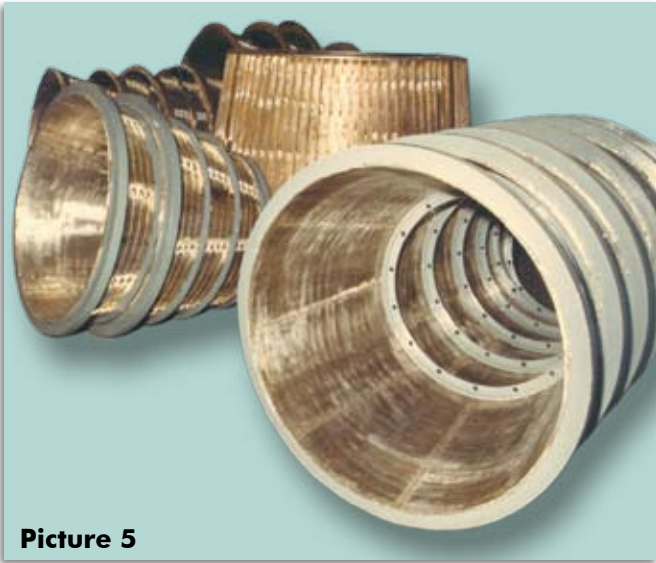
Picture 4

## OPTIMA sieve bend panels

have a large open screen area allowing a high throughput. Sieve bends have the slots running across the flow direction. The feed causes unproportional wear of the profile edges on one side only, leading to an increasingly inaccurate cut size. This can be kept within limits by early turning of the sieve bend. This turning can be repeated regularly until the sieve slot widening is too big.

### Picture 4

Sieve bend installation with OPTIMA sieves in the sugar industry.



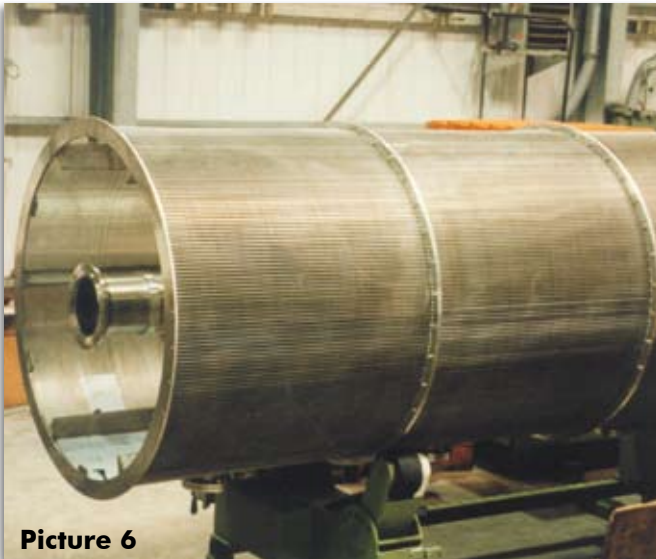
Picture 5

## OPTIMA cylindrical sieve constructions

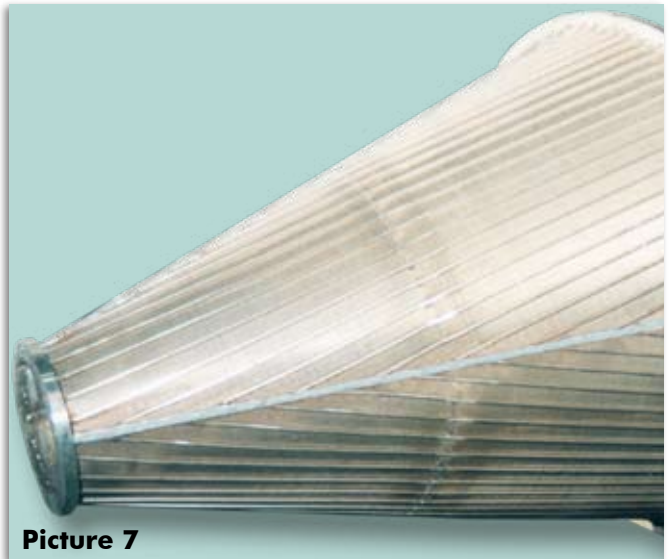
with or without reinforcement, in one or several segments, as centrifuge, filter or support baskets, discharge and dewatering elements, oversize separators for wet mills, etc., can be supplied in all technically feasible sizes and executions in various qualities, with axial or circumferential slot direction, profiles and slot widths as per the tables on page 4 and 5.

### Picture 5 / 6 / 7

OPTIMA centrifuge baskets and cylinders in different executions.



Picture 6



Picture 7

# OPTIMA slotted sieves

## Picture 8

**OPTIMA cylinder** being finally inspected by our experts.

Length: abt. 9000 mm, diameter: abt. 2100 mm



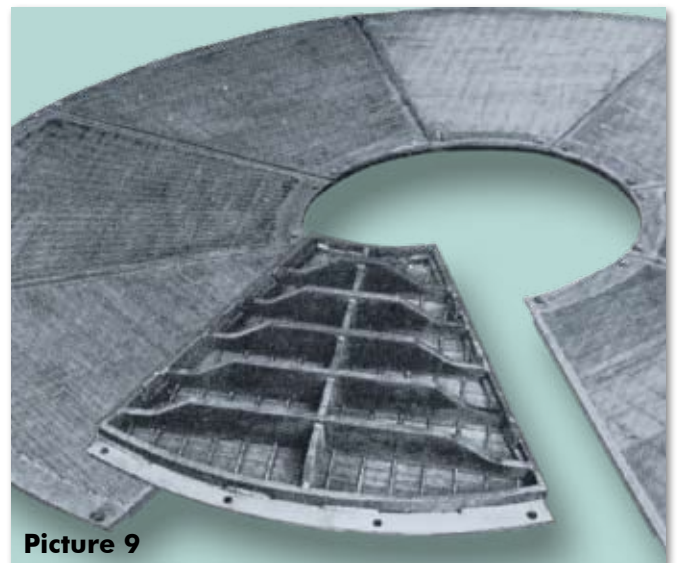
Picture 8

## OPTIMA filter bottom segments

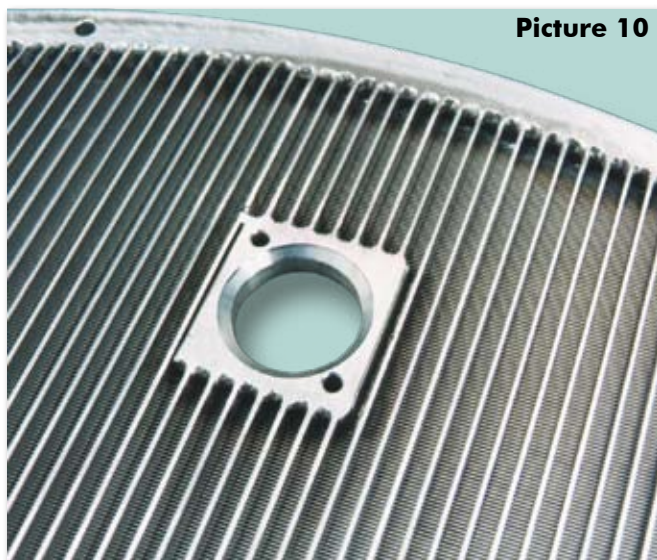
with or without reinforcement, for diffusion towers, extractors, plain filters, ion exchangers, etc. are supplied in all sizes required ready for installation, small diameters completely bolted, bigger diameters in individual segments, with or without manholes.

## Picture 9 / 10 / 11

OPTIMA filter bottom segments in different executions.



Picture 9



Picture 10



Picture 11



# OPTIMA kiln floors for germinating and kiln-drying



**Picture 12**

Ready for installation and reinforced as plain panels for rectangular and round kiln floors as well as for tipping and vertical kiln devices.

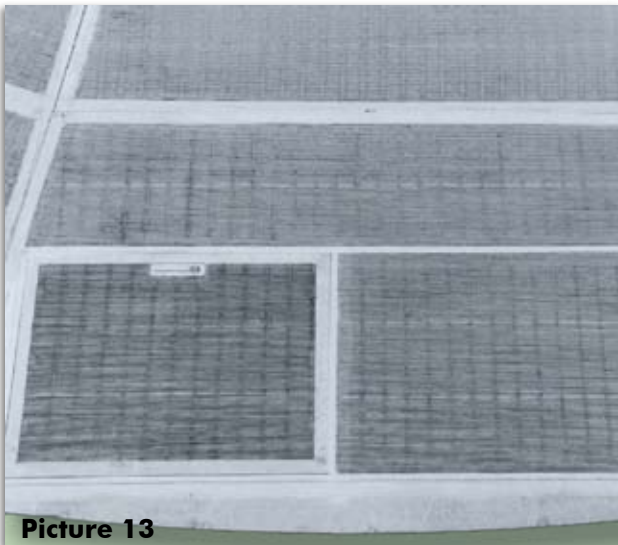
## Advantages:

- light weight,
- throughgoing slots,
- large open screen area,
- good ventilation,
- easy cleaning and maintenance.

As a rule, we supply OPTIMA kiln floors with slot widths between 1.25 and 1.75 mm, preferable 1.5 mm. If the corrosion risk is low, they are made of mild steel, untreated or galvanised, in rare cases of chrome or chrome nickel steel grades.

## Picture 12

shows a modern, round OPTIMA kiln floor, of trapezoidal shaped segments, with slots running along the circumference with a manhole opened.



**Picture 13**

## Picture 13

shows a rectangular germination box, completely reinforced with maintenance hole. The size and number of the reinforcement rails depend on the load which are as a rule between 6000 and 10000 N/m<sup>2</sup>.

For enquiries and orders we request the following data:

- Exact sizes of the screen deck, screen segment or cylindrical screen (centrifuge basket).
- Profile, type, slot width and crossbar pitch (see tables pages. 4 and 5).
- Direction of slot with regard to the flow direction.
- Quantity required.
- Quality for sieve and reinforcement/frame.
- For framed sieve panels, if available, drawing or sketch with details about sizes, tolerances and finish but also direction of flow.
- If you want us to give recommendations, please fully describe the application, mechanical, chemical and thermic loads and existing build-in situation.

With regard to the topic of "Slotted Sieves" please also refer to our following catalogues:

- OPTIMA SPIRAL
- OPTIMA SYSTEM
- PRÄZISSA / CADETTA
- Polyurethane System Screen Panels

