

## Splitter sound attenuators

### Type SQSA



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For high insertion loss with broadband damping, even in the high-frequency range

Splitter sound attenuators with splitters, suitable for air conditioning systems

- Attenuation effect due to absorption
- Energy efficient due to aerodynamically profiled frame (radius > 15 mm)
- Acoustic data measured to ISO 7235
- Absorption material is biosoluble and hence hygienically safe
- Absorption material faced with glass fibre fabric as a protection against erosion due to airflow velocities up to 20 m/s
- Absorption material non-combustible, to EN 13501, fire rating class A1
- Intermediate sizes in increments of 1 mm
- For use in zones 1 and 2 as well as in zones 21 and 22 according to EU Directive 9/94/EC (ATEX)
- Operating temperature up to 100 °C

Optional equipment and accessories

- Additional perforated sheet metal to protect the absorption material
- Stainless steel, aluminium and PUR-coated constructions upon request



SAIF QATAR DUCT-FAB  
P.O.Box: 12438 | Doha - QATAR  
Tel. No. +974 4417 1230  
Fax No. +974 4460 1250  
Email: info@saif-qatar.com  
www.saif-qatar.com



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## Splitter sound attenuators

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Application	Application	2400 ,2200 ,2000 ,1800 ,1600 ,1400 ,1200
	<ul style="list-style-type: none"> <li>– Splitter sound attenuators of Type SQSA used for the reduction of fan noise and air-regenerated noise in air conditioning systems</li> <li>– Attenuation effect due to absorption</li> <li>– Broadband attenuation even in the high frequency range</li> </ul>	
	<p><b>Special characteristics</b></p> <ul style="list-style-type: none"> <li>– Increased insertion loss even in the high-frequency range</li> <li>– Up to 30 % lower differential pressure</li> <li>– Energy efficient and/or space saving due to aerodynamically profiled frame</li> <li>– Multi-section construction available for large dimensions</li> </ul>	

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Description	Variants	
	<ul style="list-style-type: none"> <li>– SQSA 100: splitter thickness of 100 mm</li> <li>– SQSA 200: splitter thickness of 200 mm</li> <li>– SQSA 230: splitter thickness of 230 mm</li> <li>– SQSA 300: splitter thickness of 300 mm</li> </ul>	
	<p><b>Construction</b></p> <p><b>Splitter surface</b></p> <ul style="list-style-type: none"> <li>– L: Glass fibre fabric and additional perforated sheet metal to protect the absorption material</li> </ul>	<ul style="list-style-type: none"> <li>– Aerodynamically profiled splitter frame (radius &gt; 15 mm) that enables a reduction of turbulence both upstream and downstream; frame with grooves for increased rigidity</li> <li>– Frame edges are folded to protect the infill</li> <li>– Attenuators with width or height subdivided have an angle section frame</li> <li>– Operating temperature up to 100 °C</li> </ul>
	<p><b>Parts and characteristics</b></p> <ul style="list-style-type: none"> <li>– Casing</li> <li>– Aerodynamically profiled frame</li> <li>– Absorption material fitted to reduce noise</li> </ul>	<p><b>Materials and surfaces</b></p> <ul style="list-style-type: none"> <li>– Casing and splitter frames made of galvanised sheet steel</li> <li>– Standard flange and angle sections made of galvanised steel</li> <li>– Absorption material is Glass wool or Mineral wool</li> <li>– To EN 13501, fire rating class A1, non-combustible</li> </ul>
	<p><b>Construction features</b></p> <p>Casing with grooves for increased rigidity;</p>	

## Splitter sound attenuators

### General information

Rules for Hazardous Substances) and  
EU directive 69/97/EC

- Faced with glass fibre fabric as a protection against erosion through airflow velocities of up to 20 m/s
- Inert to fungal and bacterial growth

#### Standards and guidelines

- Insertion loss and sound power level of air-regenerated noise tested to ISO 7235



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#### Maintenance

- Maintenance-free as construction and materials are not subject to wear



SAIF QATAR DUCT-FAB  
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Fax No. +974 4460 1250  
Email: [info@saif-qatar.com](mailto:info@saif-qatar.com)  
[www.saif-qatar.com](http://www.saif-qatar.com)

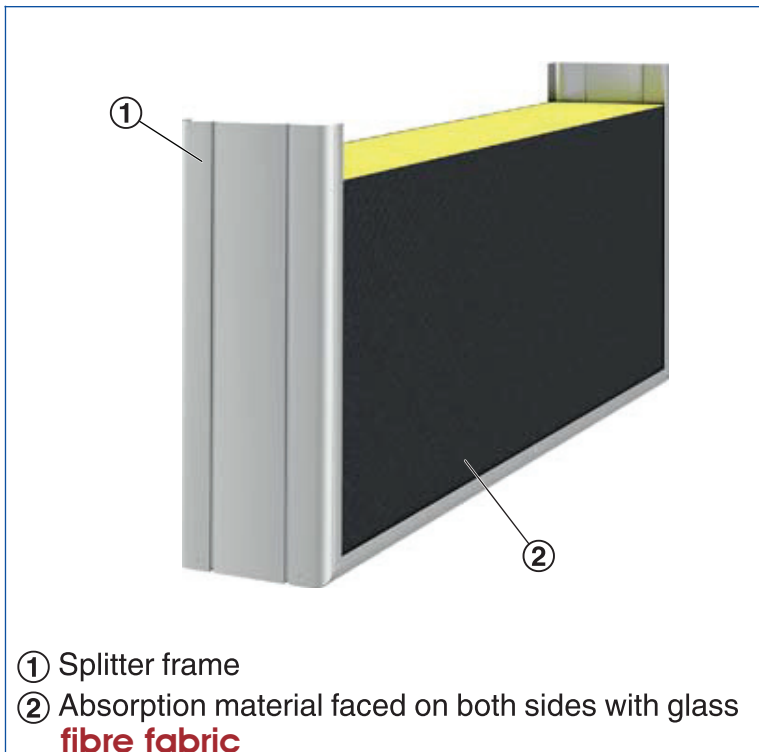
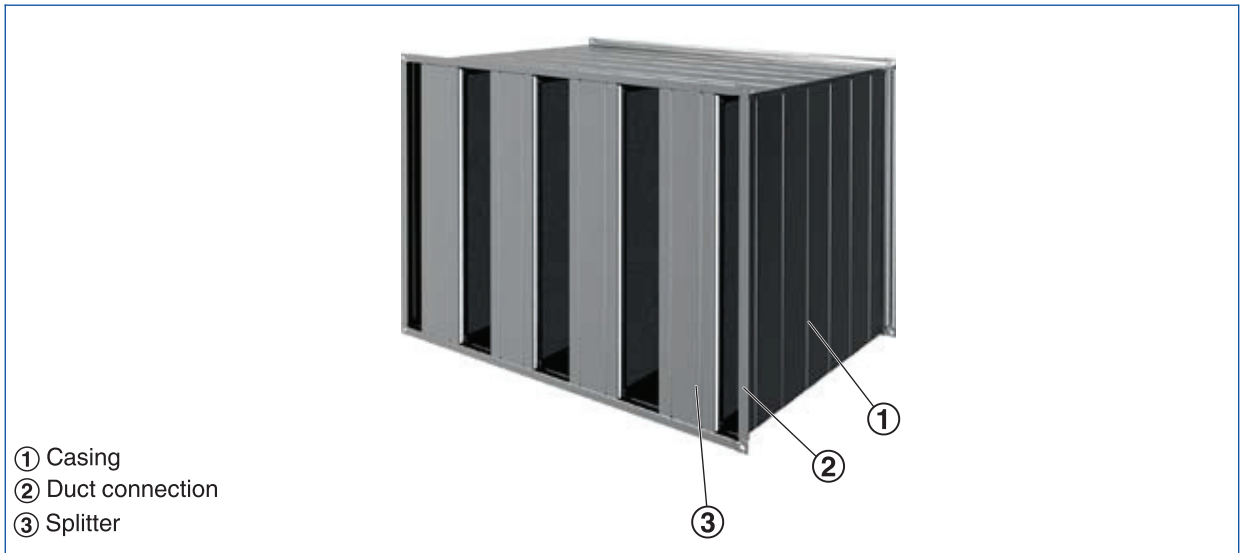
#### Functional description

Splitter sound attenuators of Type SQSA contain splitters of Type SQKA.

The attenuation effect of the SQSA splitters is due to absorption.

The splitters have a glass wool or mineral wool infill as absorption material.

#### Schematic illustration of SQSA, SQKA



## Splitter sound attenuators

### Technical data



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Splitter thickness	300 ,230 ,200 ,100 mm
Nominal sizes	SQSA 500 × 150 × 140 :100 mm – 1500 × 1800 × 2400 mm, SQSA500 × 150 × 250 :200 mm – 1500 × 1800 × 2400 mm, SQSA500 × 150 × 288 :230 mm – 1500 × 1800 × 2400 mm, SQSA500 × 150 × 375 :300 mm – 1500 × 1800 × 2400 mm
Width subdivided	4800 – 2401 mm
Height subdivided	3600 – 1801 mm
Length subdivided	3000 – 1501 mm
Operating temperature	– 100 °C

The length (L) of splitter attenuators refers to the airflow direction.



Quick sizing tables provide a good overview of the insertion loss and of differential pressures for different airway widths and airflow velocities.

Intermediate values can be calculated with our Easy Product Finder design programme.

The sound power levels  $L_{WA}$  apply to sound attenuators with a cross-sectional area ( $B \times H$ ) of  $1 \text{ m}^2$ .

The differential pressures apply to sound attenuators with a height of 1 m.

**SQSA, SQKA ait- regenerated noise**

$v_s$	m/s	4	6	8	10	12	14	16	18	20
$L_{WA}$	dB(A)	21	31	38	43	48	51	55	58	60

**SQSA100, SQKA100, insertion loss and differential pressure**

L	S	Centre frequency $f_m$ [Hz]								$v_s$ [m/s]		
		63	125	250	500	1000	2000	4000	8000	4	10	20
mm	mm	$D_e$								$\Delta p_{st}$		
		Hz								Pa		
500	40	3	5	10	18	37	45	31	23	5	32	>80
	60	4	8	19	29	46	50	39	32	7	44	>80
1000	40	4	7	16	26	42	47	34	26	5	33	>80
	60	6	11	27	39	50	50	47	40	9	55	>80
1500	60	6	9	23	35	50	50	42	34	6	38	>80
	100	5	5	14	27	44	46	31	20	5	29	>80
2000	40	7	14	36	50	50	50	50	49	11	66	>80
	60	7	12	30	45	50	50	50	41	7	44	>80
	100	6	7	19	34	50	50	39	26	5	32	>80
	200	3	4	11	24	38	24	14	10	4	25	>80
2500	40	9	18	44	50	50	50	50	50	12	77	>80
	60	8	14	37	50	50	50	50	49	8	50	>80
	100	7	8	23	42	50	50	48	32	6	34	>80
	200	4	5	13	29	46	30	17	12	4	26	>80
3000	40	10	21	50	50	50	50	50	50	14	>80	>80
	60	10	17	44	50	50	50	50	50	9	56	>80
	100	8	9	28	49	50	50	50	37	6	37	>80
	200	5	6	16	34	50	35	20	13	4	27	>80

# Splitter sound attenuators

## Quick sizing



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### SQSA230, SQKA230, insertion loss and differential pressure

L	S	Centre frequency $f_m$ [Hz]								$v_s$ [m/s]		
		63	125	250	500	1000	2000	4000	8000	4	10	20
		$D_e$								$\Delta p_{st}$		
mm	mm	Hz								Pa		
500	50	2	12	18	31	44	42	29	23	9	58	>80
	1000	50	6	14	22	44	50	50	36	27	11	67
1000	100	3	8	15	32	46	38	23	16	6	35	>80
	200	2	5	11	22	25	18	11	7	3	21	>80
1500	50	8	20	31	50	50	50	48	33	12	75	>80
	100	5	12	22	47	50	50	31	20	6	40	>80
	200	3	7	15	31	35	24	14	8	4	23	>80
	400	2	4	11	18	15	9	6	5	2	15	61
2000	50	10	27	40	50	50	50	50	39	13	>80	>80
	100	6	16	28	50	50	50	39	24	7	44	>80
	200	4	9	20	41	45	30	17	10	4	25	>80
	400	2	5	14	24	19	11	7	6	3	17	67
2500	50	13	34	47	50	50	50	50	45	15	>80	>80
	100	7	21	34	50	50	50	45	27	8	48	>80
	200	4	11	23	50	50	36	19	11	4	28	>80
	400	3	7	16	29	21	13	8	6	3	18	72
3000	50	16	42	50	50	50	50	50	50	16	>80	>80
	100	8	26	39	50	50	50	50	31	8	53	>80
	200	5	13	27	50	50	41	21	12	5	30	>80
	400	3	8	18	34	24	14	9	7	3	19	77

### SQSA230, SQKA230, insertion loss and differential pressure

L	S	Centre frequency $f_m$ [Hz]								$v_s$ [m/s]		
		63	125	250	500	1000	2000	4000	8000	4	10	20
		$D_e$								$\Delta p_{st}$		
mm	mm	Hz								Pa		
500	60	4	7	12	25	34	25	19	18	9	57	>80
	1000	60	5	12	20	35	48	40	27	21	10	66
1000	115	4	8	16	27	35	27	18	15	6	35	>80
	230	3	5	12	18	20	14	10	9	3	20	>80
1500	60	6	16	27	46	50	50	35	25	12	74	>80
	115	5	12	22	36	46	37	24	18	6	40	>80
	230	3	7	16	25	28	19	12	11	4	23	>80
	460	2	2	11	15	10	1	0	3	2	15	59
2000	60	7	21	35	50	50	50	43	29	13	>80	>80
	115	5	15	28	45	50	47	29	21	7	44	>80
	230	4	9	21	32	36	24	14	13	4	25	>80
	460	3	4	14	20	15	1	0	4	3	16	64
2500	60	8	25	43	50	50	50	50	33	15	>80	>80
	115	6	19	35	50	50	50	34	24	8	48	>80
	230	5	12	26	40	43	28	17	14	4	27	>80
	460	4	5	18	25	19	0	0	5	3	17	69
3000	60	9	30	50	50	50	50	50	37	16	>80	>80
	115	7	22	41	50	50	50	40	27	8	52	>80
	230	6	14	31	47	50	33	19	16	5	29	>80
	460	5	6	21	31	23	0	0	5	3	19	74





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Splitter sound attenuators

Quick sizing

SQSA300, SQKA300, insertion loss and differential pressure

L	S	Centre frequency $f_m$ [Hz]								$v_s$ [m/s]		
		63	125	250	500	1000	2000	4000	8000	4	10	20
mm	mm	$D_e$								$\Delta p_{st}$		
		Hz								Pa		
500	75	4	7	17	25	34	32	22	18	10	63	>80
	150	2	5	11	16	19	17	12	9	5	33	>80
1000	75	6	15	24	42	48	50	33	26	11	71	>80
	150	3	9	18	27	34	28	17	11	6	36	>80
	300	1	6	11	15	16	13	8	7	3	21	>80
1500	75	8	20	33	50	50	50	44	30	13	79	>80
	150	3	14	26	38	46	39	21	13	6	39	>80
	300	2	8	16	21	21	17	10	8	4	22	>80
	600	1	6	11	12	9	6	4	5	2	15	60
2000	75	10	25	42	50	50	50	50	34	14	>80	>80
	150	4	18	33	48	50	50	26	16	7	42	>80
	300	2	11	20	26	26	21	12	9	4	23	>80
	600	1	7	14	16	11	7	5	5	2	15	60
2500	75	13	30	50	50	50	50	50	38	15	>80	>80
	150	5	23	40	50	50	50	30	18	7	45	>80
	300	3	14	25	32	32	25	13	10	4	25	>80
	600	1	9	17	19	13	7	5	6	3	16	64
3000	75	15	35	50	50	50	50	50	42	16	>80	>80
	150	6	28	48	50	50	50	35	20	8	48	>80
	300	3	17	30	38	37	29	15	11	4	26	>80
	600	2	11	21	23	14	8	5	6	3	17	68



## Splitter sound attenuators

### Order code



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The length (L) of sound attenuator splitters and splitter attenuators refers to the airflow direction. Remember this with regard to vertical ducting.

#### SQSA

SQSA 200 – 100 – 3 – P F / 900×600×1500

1 2 3 4 5 6 7 8 9

#### 1 Type

SQSA Splitter sound attenuator with casing

#### 2 Splitter thickness [mm]

100  
200  
230  
300

#### 3 Airway width (distance between splitters) [mm]

#### 4 Number of splitters

#### 5 Duct connection

20 - Standard flange 20mm  
30 - Standard flange 30mm  
40 - Standard flange 40mm

#### 6 Splitter surface

L Glass fibre fabric and perforated sheet metal

#### 7 Nominal width B [mm]

#### 8 Nominal height H [mm]

#### 9 Nominal length in airflow direction L [mm]

Order example: SQSA 2-100-100-WL/1500×1500×400

Splitter thickness	100 mm
Airway width	100 mm
No. of splitters	2
Connecting subframe	Angle section frame
Splitter surface	Glass fibre fabric and perforated sheet metal
Width	400 mm
Height	1500 mm
Length (in airflow direction)	1500 mm



SAIF QATAR DUCT-FAB  
P.O.Box: 12438 | Doha - QATAR  
Tel. No. +974 4417 1230  
Fax No. +974 4460 1250  
Email: info@saif-qatar.com  
www.saif-qatar.com

## Splitter sound attenuator, variant SQSA100



Splitter thickness 100 mm

## Splitter sound attenuator, variant SQSA200



Splitter thickness 200 mm

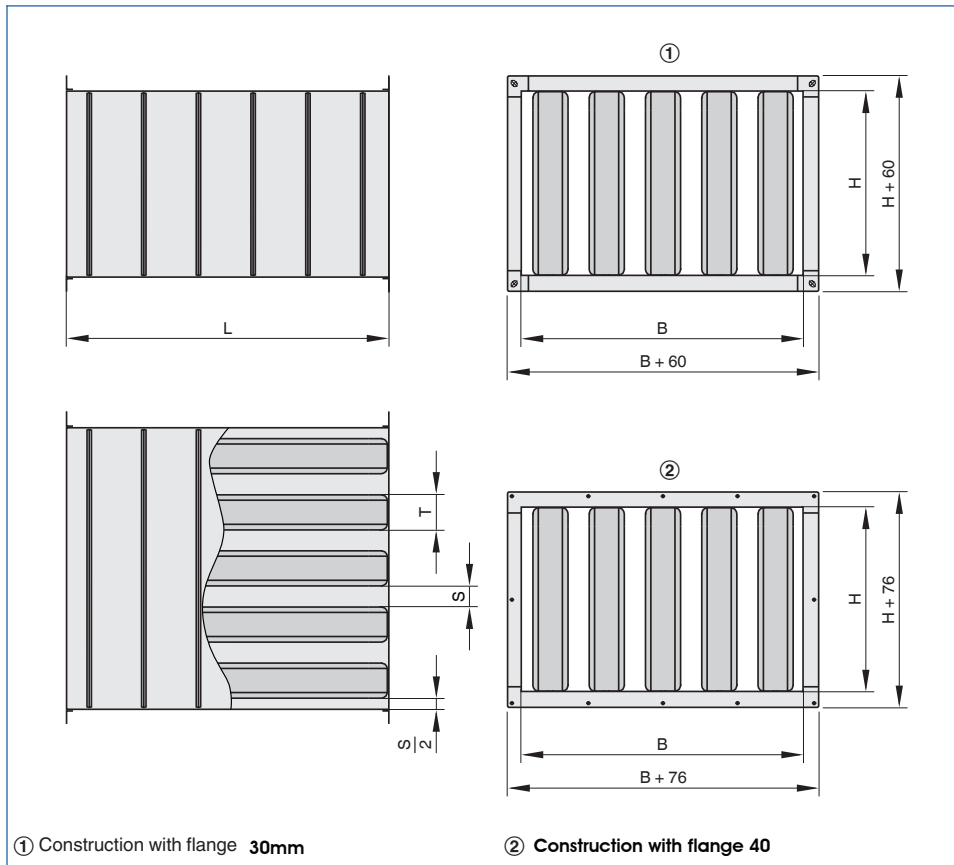
# Splitter sound attenuators

## Dimensions and weight



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SQSA



### Sound attenuator casing, nominal length

L	mm	500	750	1000	1250	1500
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### Sound attenuator casing, nominal height

H	mm	300	600	900	1200	1500	1800
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### Sound attenuator casing, nominal width

B	SQSA 100			SQSA 200			SQSA 230			SQSA 300		
	T	n	S	T	n	S	T	n	S	T	n	S
	mm	-	mm	mm	-	mm	mm	-	mm	mm	-	mm
200	100	1	100	-	-	-	-	-	-	-	-	-
400	100	2	100	200	1	200	230	1	85	300	1	100
600	100	2-4	50-200	200	2	100	230	2	70	300	1	300
800	100	3-5	60-167	200	2-3	67-200	230	2	170	300	1-2	100-250
1000	100	4-7	43-150	200	3-4	50-133	230	3	103	300	2	200
1200	100	4-8	50-200	200	3-5	40-200	230	3-4	70-170	300	2-3	100-300
1400	100	5-10	40-180	200	4-5	80-150	230	3-5	50-237	300	3-4	50-167
1600	100	6-11	46-200	200	4-7	57-200	230	4-5	90-170	300	3-4	100-233
1800	100	6-12	50-200	200	5-8	50-160	230	4-6	70-220	300	3-5	60-300
2000	100	7-14	43-186	200	5-8	50-200	230	5-7	56-170	300	4-5	100-200
2200	100	7-15	47-200	200	6-9	44-167	230	5-7	84-186	300	4-6	67-250
2400	100	8-16	50-200	200	6-10	40-200	230	6-8	70-170	300	4-7	43-300



Sound attenuator casing with standard flange, L = 500, weights

H	B [mm]									
	200	400	600	800	1000	1200	1400	1600	2000	2400
mm	kg									
300	6	8	10	12	14	16	18	20	24	28
600	9	11	13	15	17	19	21	23	27	31
900	12	14	16	18	20	22	24	26	30	34
1200	15	17	19	21	23	25	27	29	33	37
1500	18	20	22	24	26	28	30	32	36	40
1800	21	23	25	27	29	31	33	35	39	43

Sound attenuator casing with standard flange, L = 750, weights

H	B [mm]									
	200	400	600	800	1000	1200	1400	1600	2000	2400
mm	kg									
300	8	10	13	16	19	22	25	27	33	38
600	13	15	18	21	24	26	29	31	36	42
900	17	19	22	25	28	30	33	35	40	46
1200	21	23	26	29	32	34	37	39	44	50
1500	25	27	30	33	36	38	41	43	48	54
1800	29	31	34	37	40	42	45	47	52	58

Sound attenuator casing with standard flange, L = 1000, weights

H	B [mm]									
	200	400	600	800	1000	1200	1400	1600	2000	2400
mm	kg									
300	10	14	17	20	24	27	30	34	41	48
600	15	19	22	25	29	32	35	39	46	53
900	20	24	27	30	34	37	40	44	51	58
1200	25	29	32	35	39	43	46	50	57	63
1500	30	34	37	40	44	48	51	55	62	68
1800	35	39	42	45	49	53	56	60	67	73

Sound attenuator casing with standard flange, L = 1250, weights

H	B [mm]									
	200	400	600	800	1000	1200	1400	1600	2000	2400
mm	kg									
300	13	17	21	25	29	33	37	41	49	58
600	19	23	27	31	35	39	43	47	54	64
900	25	29	33	37	41	45	49	53	60	70
1200	31	35	39	43	47	51	55	59	66	76
1500	37	41	45	49	53	58	62	65	72	82
1800	43	47	51	55	59	64	68	71	78	88

Sound attenuator casing with standard flange, L = 1500, weights

H	B [mm]									
	200	400	600	800	1000	1200	1400	1600	2000	2400
mm	kg									
300	15	19	24	29	33	39	44	48	58	68
600	22	26	31	36	40	46	51	55	65	75
900	30	34	39	44	48	53	58	62	72	82
1200	37	41	46	51	55	60	65	69	79	89
1500	44	48	53	58	62	68	73	77	87	97
1800	51	55	59	65	69	75	80	84	93	104

**Splitter sound attenuators**  
**Dimensions and weight**



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**Sound attenuator casing with angle section frame, L = 500, weights**

H	B [mm]									
	200	400	600	800	1000	1200	1400	1600	2000	2400
mm	kg									
300	9	13	16	19	23	25	28	32	39	45
600	14	18	21	24	28	30	33	37	44	50
900	18	22	25	28	32	35	38	42	49	55
1200	23	27	30	33	37	40	43	47	54	59
1500	28	32	35	38	42	45	48	52	59	64
1800	33	37	40	43	47	50	53	57	64	69

**Sound attenuator casing with angle section frame, L = 750, weights**

H	B [mm]									
	200	400	600	800	1000	1200	1400	1600	2000	2400
mm	kg									
300	8	12	16	20	24	25	29	33	41	45
600	13	17	21	25	29	30	34	38	46	50
900	17	21	25	29	33	35	39	43	51	55
1200	22	26	30	34	38	40	44	48	56	59
1500	27	31	35	39	43	45	49	53	61	64
1800	32	36	40	44	48	50	54	58	66	69

**Sound attenuator casing with angle section frame, L = 1000, weights**

H	B [mm]									
	200	400	600	800	1000	1200	1400	1600	2000	2400
mm	kg									
300	14	18	23	28	32	37	42	46	56	65
600	21	25	30	35	39	44	49	53	63	72
900	28	32	37	42	46	51	56	60	70	79
1200	35	39	44	49	53	58	63	67	77	86
1500	42	46	51	56	60	65	70	74	84	93
1800	49	53	58	63	67	72	77	81	91	100

**Sound attenuator casing with angle section frame, L = 1250, weights**

H	B [mm]									
	200	400	600	800	1000	1200	1400	1600	2000	2400
mm	kg									
300	15	21	26	31	37	42	47	53	63	75
600	23	29	34	39	45	51	56	62	72	83
900	31	37	42	47	53	59	64	70	80	91
1200	40	46	51	56	62	67	73	79	89	99
1500	48	54	59	64	70	75	80	86	96	107
1800	56	62	67	72	78	83	88	94	104	115

**Sound attenuator casing with angle section frame, L = 1500, weights**

H	B [mm]									
	200	400	600	800	1000	1200	1400	1600	2000	2400
mm	kg									
300	18	24	30	36	42	48	54	60	72	85
600	27	33	39	45	51	57	63	69	81	94
900	36	42	48	54	60	66	72	78	90	103
1200	45	51	57	63	69	76	82	88	100	112
1500	54	60	66	72	78	85	91	97	109	122
1800	63	69	75	81	87	94	100	106	118	131



**SQKA 100, weights**

H	Glass fibre fabric (-F)					Glass fibre fabric and perforated sheet metal (-L)				
	L [mm]									
	500	750	1000	1250	1500	500	750	1000	1250	1500
mm	kg									
300	2	3	4	5	6	3	4	5	6	8
600	4	5	7	8	10	5	7	9	11	13
900	5	7	9	11	13	7	10	13	16	18
1200	7	10	12	15	17	9	13	16	20	24
1500	8	12	15	18	21	11	16	20	25	29
1800	10	14	19	23	27	14	19	25	31	36

**SQKA 200, weights**

H	Glass fibre fabric (-F)					Glass fibre fabric and perforated sheet metal (-L)				
	L [mm]									
	500	750	1000	1250	1500	500	750	1000	1250	1500
mm	kg									
300	4	5	6	7.5	9	4	6	7	9	11
600	6	8	10	12	15	7	10	12	15	18
900	8	11	14	17	20	10	14	17	21	25
1200	10	14	18	22	26	13	18	22	27	32
1500	13	17	22	27	31	15	21	27	33	40
1800	16	22	28	34	40	19	27	34	42	50

**SQKA 230, weights**

H	Glass fibre fabric (-F)					Glass fibre fabric and perforated sheet metal (-L)				
	L [mm]									
	500	750	1000	1250	1500	500	750	1000	1250	1500
mm	kg									
300	4	5	7	8	10	5	6	8	10	12
600	6	9	11	14	16	8	11	13	16	19
900	9	12	16	19	22	11	15	19	23	27
1200	11	16	20	24	28	14	19	24	30	35
1500	14	19	24	29	34	17	23	30	36	43
1800	18	24	31	37	44	21	29	37	45	54



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SAIF QATAR DUCT-FAB

P.O.Box: 12438 | Doha - QATAR

Tel. No. +974 4417 1230

Fax No. +974 4460 1250

Email: [info@saif-qatar.com](mailto:info@saif-qatar.com)

[www.saif-qatar.com](http://www.saif-qatar.com)





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**NOTE:**

A large area of the page is filled with a grid of horizontal dashed lines, intended for handwritten notes or observations.

