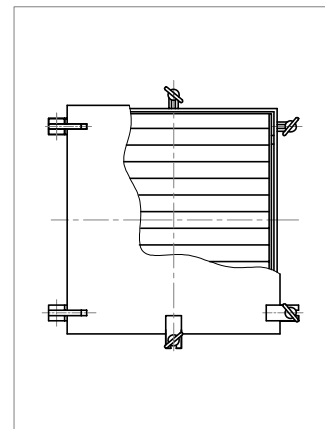
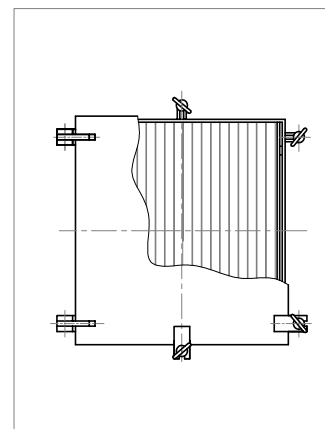


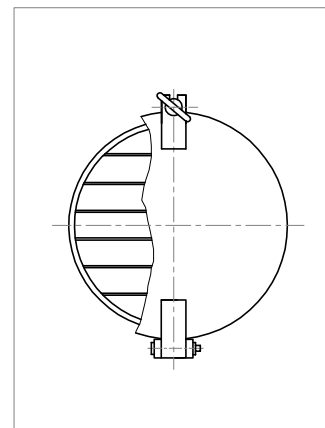
***Louvers with covers***



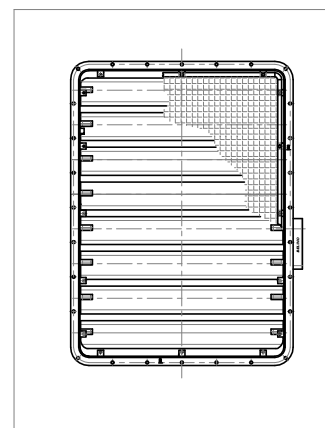
***Droplet eliminator louvers***



***Circular louvers***



***Louvre dampers***



## 1. DESTINATION

Ventilation louvers with weathertight cover are destined for installation on steel or aluminium walls of superstructure on seagoing ships as air supply or exhaust units of ventilation systems. Construction is based on standard DIN 83409 with significant extending of size range. Louvers are provided with detachable blade frame, that makes easy installation as well as access for maintenance.

## 2. TYPES AND EXECUTIONS

### TYPES:

- A - square louver
- B - rectangular louver, hinges on longer side
- C - rectangular louver, hinges on shorter side

### SIZES:

L1xL2 - see table

Dimension L1 always is the length of side, on which cover hinges are fitted.

### EXECUTIONS:

- D - upwards opened cover
- E - downwards opened cover
- F - cover opened to the left
- G - cover opened to the right

### FITTINGS:

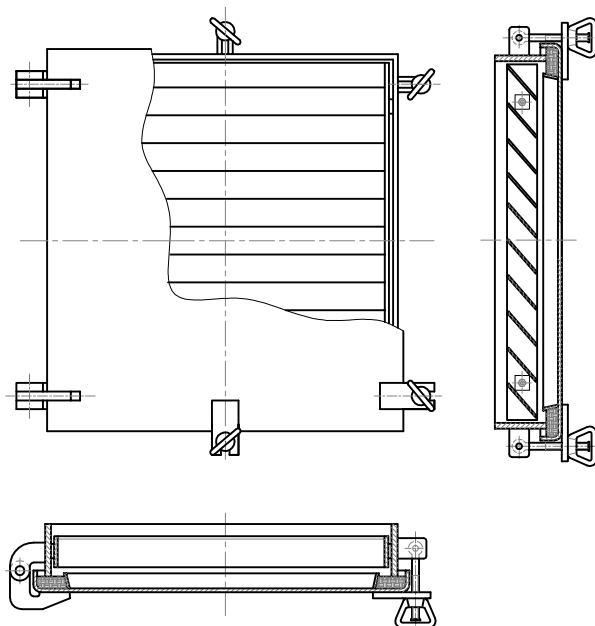
- 1 - louver with blade frame, without wire gauze
- 2 - louver with blade frame and wire gauze of 10 mm mesh
- 3 - louver with wire gauze of 10 mm mesh, without blade frame

### MATERIAL:

- St - steel
- Al - aluminium

## 3. MATERIAL

- steel louvers made of carbon steel St3St, with brass swing nuts, all bolts and pins of stainless steel.
- aluminium louvers of alloy PA2, nuts, bolts and pins as above



## 4. SURFACE TREATMENT

Steel louvers frame and cover painted with marine epoxy paint SWA 7423-013-250, blade frame hot-dip galvanized.

Aluminium louvers do not require any preservation.

## 5. MARKING

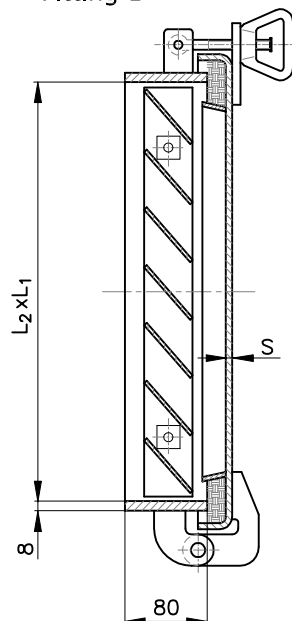
An example of marking for type B louver, size L1xL2 = 900 x 500, execution F, fittings 2, made of steel St:

LOUVER B-900x500-F-2-St  
acc. to ALWO/J1-02

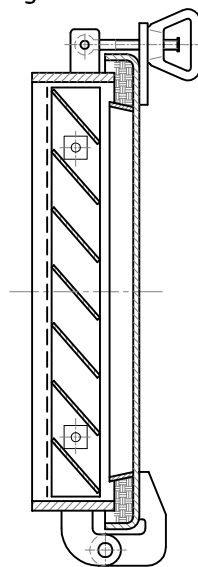
Material (steel or aluminium) should be defined in Order. Louvers are delivered with swing-out nut for fixing of weathertight cover in open position. Louvers can be also delivered with non-standard dimensions defined by the Buyer.

## 6. FITTINGS

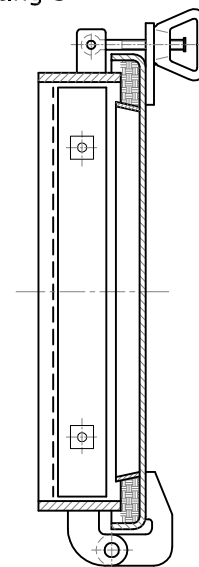
Fitting 1



Fitting 2

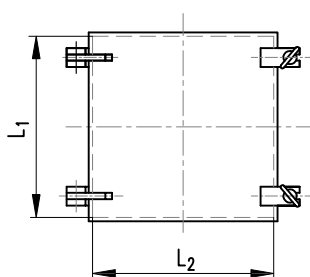


Fitting 3

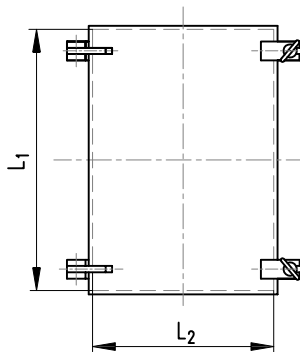


## 7. ARRANGEMENT OF HINGES AND SWING NUTS

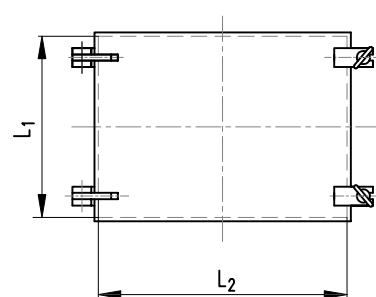
Type A 250x250 to 500x500



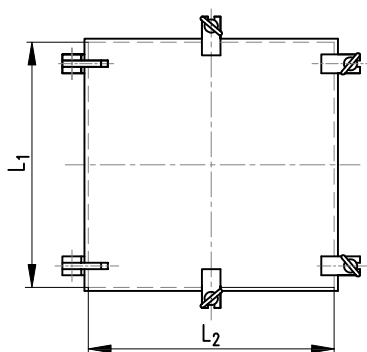
Type B 250x200 to 900x500



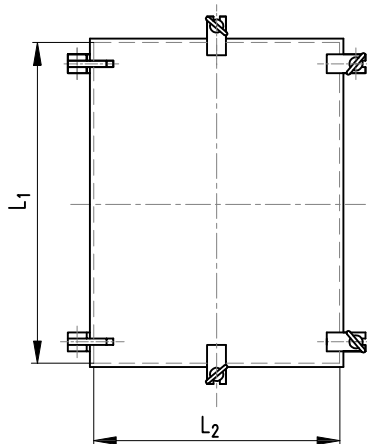
Type C 200x250 to 400x500



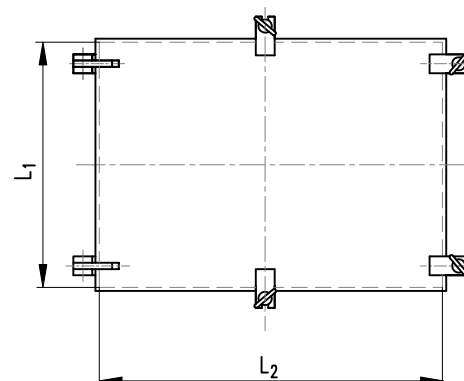
Type A 600x600 to 750x750



Type B 1000x600 to 1200x750



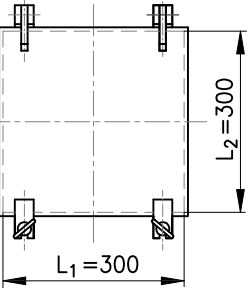
Type C 400x600 to 500x900



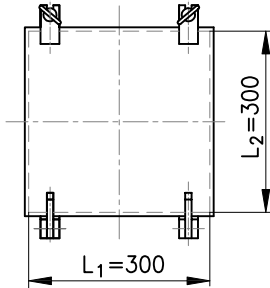
## 8. EXAMPLES OF MARKING

### TYPE A - Square louvers

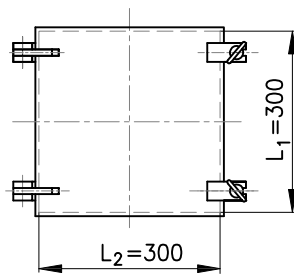
A-300x300-D



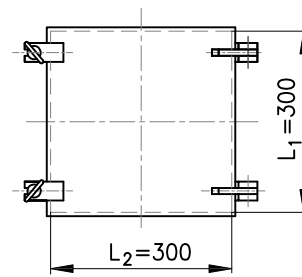
A-300x300-E



A-300x300-F

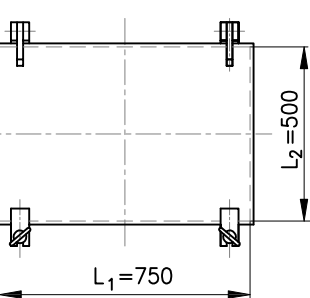


A-300x300-G

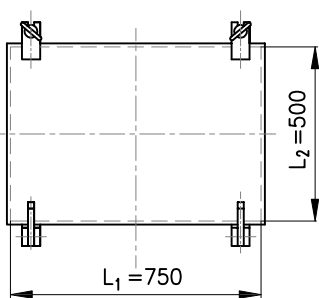


### TYPE B - Rectangular louvers Hinges on longer side

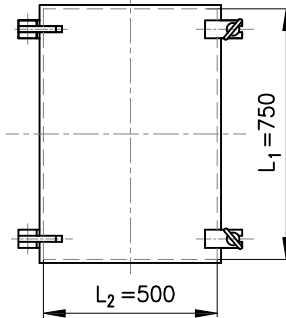
B-750x500-D



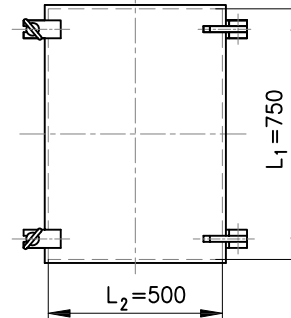
B-750x500-E



B-750x500-F

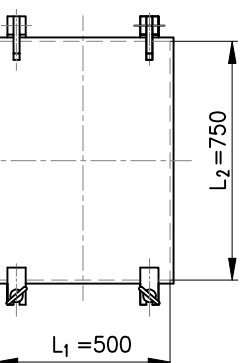


B-750x500-G

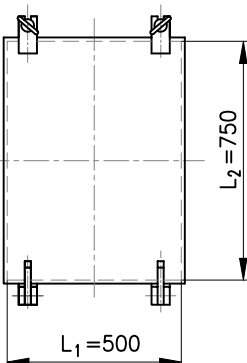


### TYPE C - Rectangular louvers Hinges on shorter side

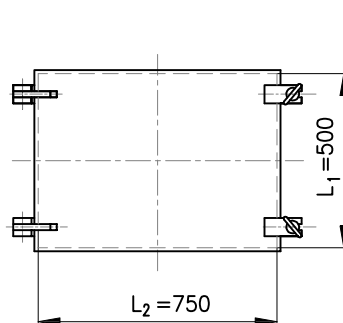
C-500x750-D



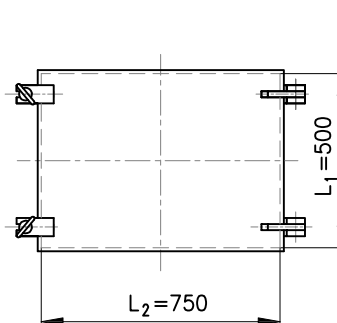
C-500x750-E



C-500x750-F



C-500x750-G





### 9. TABLE OF SIZES AND WEIGHTS

Type	Size L1 x L2	Execut.	S	No. of swing nuts	Weight of steel louver, kg			Weight of aluminium louver, kg			Free face area m²		
	mm		Fitting			Fitting			Fitting				
			1		2	3	1	2	3	1	2	3	
A	250x250	D,E, F,G	5	2	15,0	17,0	14,8	6,5	7,1	6,5	0,056	0,044	0,047
	300x300				18,2	20,0	17,7	8,0	8,7	7,7	0,081	0,063	0,068
	400x400		6		25,5	26,2	23,7	11,2	12,3	10,4	0,144	0,112	0,120
	500x500				38,7	42,2	35,0	17,2	18,6	15,7	0,225	0,175	0,188
	600x600		7		50,6	55,0	44,4	22,5	24,3	20,0	0,324	0,252	0,270
	750x750		8	4	65,9	71,4	56,7	29,4	31,6	25,6	0,506	0,394	0,422
B	250x200	D,E	5	2	13,5	14,7	13,5	5,9	6,4	5,9	0,045	0,035	0,038
	300x200				15,0	16,3	14,8	6,5	7,0	6,4	0,054	0,042	0,045
	400x200				18,0	19,4	17,3	7,8	8,4	7,5	0,072	0,056	0,060
	500x200		6		20,9	22,4	19,7	9,0	9,7	8,6	0,090	0,070	0,075
	400x300		5		21,8	23,8	20,5	9,5	10,3	9,0	0,108	0,084	0,09
	500x300	D,E, F,G	6		25,5	27,6	23,4	11,1	12,0	10,3	0,135	0,105	0,113
	500x400				29,9	32,7	27,0	13,0	14,2	11,9	0,18	0,14	0,15
	600x400				38,4	41,5	34,5	17,0	18,3	15,4	0,216	0,168	0,18
	750x400		7		45,9	49,3	40,4	20,3	21,7	18,1	0,27	0,21	0,225
	600x500				44,5	48,2	39,5	19,8	21,3	17,7	0,27	0,21	0,225
	750x500	53,2			57,3	46,1	23,6	25,3	20,7	0,34	0,26	0,28	
	900x500	8	4		61,8	66,3	52,8	27,5	29,3	23,8	0,41	0,32	0,34
	1000x600				78,8	84,4	66,1	35,1	37,4	29,9	0,54	0,42	0,45
	1000x750				92,7	99,6	76,6	41,4	44,2	34,8	0,68	0,53	0,56
	1200x750				134,2	141,9	114,1	61,1	64,3	52,9	0,81	0,63	0,68
	C	200x250	F,G	5	2	13,3	14,7	13,5	5,8	6,3	5,9	0,045	0,035
200x300		14,5				16,2	14,8	6,3	7,0	6,4	0,054	0,042	0,045
200x400		6		17,0		19,2	17,3	7,4	8,3	7,5	0,072	0,056	0,06
200x500				19,4		22,0	19,7	8,4	9,5	8,6	0,09	0,07	0,075
300x400		D,E, F,G	5	21,3		23,7	20,5	9,3	10,3	9,0	0,108	0,084	0,09
300x500			6	24,5		27,4	23,4	10,7	11,9	10,3	0,135	0,105	0,113
400x500				29,4		32,6	27,0	12,9	14,2	11,9	0,18	0,14	0,15
400x600				38,0		41,9	35,1	16,9	18,5	15,7	0,216	0,168	0,18
400x750				7	44,8	49,5	41,0	19,9	21,9	18,4	0,27	0,21	0,225
500x600			44,6		48,7	40,1	19,8	21,5	18,0	0,27	0,21	0,225	
500x750			52,5		57,6	46,7	23,4	25,5	21,0	0,34	0,26	0,28	
500x900			8		60,5	66,5	53,4	27,0	29,5	24,1	0,41	0,32	0,34

## 1.DESTINATION

Ventilation louvers without weathertight cover are destined for installation on steel or aluminium walls of superstructure on seagoing ships as air supply or exhaust units of ventilation systems. Construction is based on standard DIN 83409 with significant extending of size range. Louvers are provided with detachable blade frame, that makes easy installation as well as access for maintenance. Louvers may be fitted in positions where wheater-tight closing device (Convention ILL 1966) are not required. Regulations of SOLAS for fire closings of external ventilation openings are to be observed.

## 2. TYPES AND EXECUTIONS

SIZES:

BxH - see table

FITTINGS:

- 1 - louver with blade frame, without wire gauze
- 2 - louver with blade frame and wire gauze of 10 mm mesh
- 3 - louver with wire gauze of 10 mm mesh, without blade frame

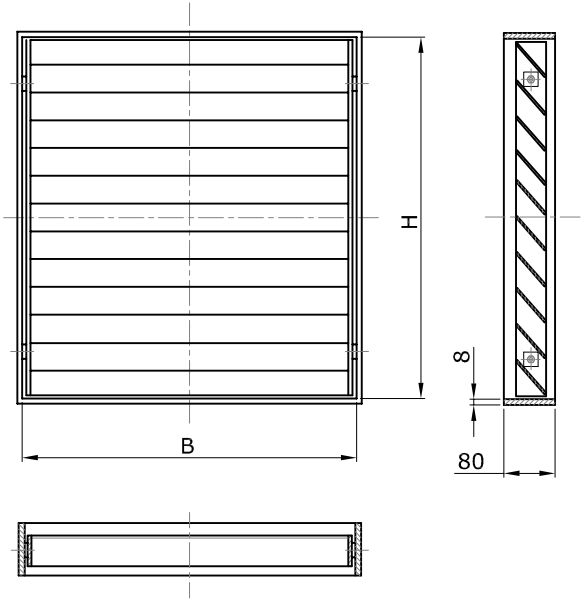
MTERIAL:

- St - steel
- Al - aluminium

## 3. MATERIAL

- steel louvers made of carbon steel St3St
- aluminium louvers of alloy PA2

## 6. FITTINGS



## 4. SURFACE TREATMENT

Steel louvers frame and cover painted with marine epoxy paint SWA 7423-013-250, blade frame hot-dip galvanized.

Aluminium louvers do not require any preservation.

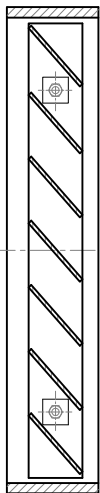
## 5. MARKING

An example of marking for type B louver, size BxH= 900 x 500 with fittings 2, made of steel St:

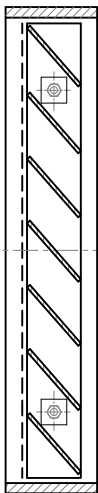
**LOUVER 900x500-2-St**  
acc. to **ALWO/J2-00**

Louvers can be also delivered with non-standard dimensions defined by the Buyer.

Fitting 1



Fitting 2



Fitting 3



## 6. TABLE OF SIZES AND WEIGHTS

Size BxH  mm	Weight of steel louver, kg			Weight of aluminium louver, kg			Free face area m <sup>2</sup>		
	Fitting			Fitting			Fitting		
	1	2	3	1	2	3	1	2	3
250x200	8,1	8,8	8,0	5,9	6,4	5,9	0,045	0,035	0,038
250x250	9,0	10,2	9,9	3,9	4,3	3,9	0,056	0,044	0,047
300x200	9,0	9,8	8,9	3,9	4,2	3,8	0,054	0,042	0,045
300x300	10,8	12,0	10,6	5,6	5,2	4,6	0,081	0,063	0,068
300x400	12,8	14,2	12,3	5,6	6,2	5,4	0,108	0,084	0,09
300x500	14,7	16,5	14,1	6,4	7,1	6,2	0,135	0,105	0,113
400x200	10,8	11,6	10,4	4,7	5,1	4,5	0,072	0,056	0,060
400x300	13,1	14,3	12,3	5,7	6,2	5,4	0,108	0,084	0,09
400x400	15,3	15,7	14,2	6,8	7,4	6,3	0,144	0,112	0,120
400x500	17,6	19,6	16,2	7,7	8,5	7,1	0,18	0,14	0,15
400x600	22,8	25,1	21,1	10,1	11,1	9,4	0,216	0,168	0,18
400x750	26,9	29,7	24,9	11,9	13,1	11,1	0,27	0,21	0,225
500x200	12,6	13,4	11,8	5,4	5,8	5,2	0,090	0,070	0,075
500x300	15,3	16,6	14,1	6,7	7,2	6,2	0,135	0,105	0,113
500x400	18,1	19,6	16,2	7,8	8,5	7,3	0,18	0,14	0,15
500x500	23,2	25,3	21,1	10,3	11,2	9,4	0,225	0,175	0,188
500x600	26,8	29,2	24,1	11,9	12,9	8,4	0,27	0,21	0,225
500x750	31,5	34,6	28,1	14,0	15,3	12,6	0,34	0,26	0,28
500x900	36,3	39,9	32,0	16,2	17,7	14,6	0,41	0,32	0,34
600x400	23,1	24,9	20,7	10,2	11,0	23,7	0,216	0,168	0,18
600x500	26,7	28,9	23,7	11,9	12,8	10,6	0,27	0,21	0,225
600x600	30,4	33,0	26,6	13,5	14,6	12,1	0,324	0,252	0,270
600x1000	47,4	50,7	39,9	21,1	22,5	18,0	0,54	0,42	0,45
750x400	27,6	29,7	24,3	12,2	13,1	10,9	0,27	0,21	0,225
750x500	31,9	34,4	29,3	14,2	15,2	12,5	0,34	0,26	0,28
750x750	39,6	42,9	34,1	17,7	19,0	15,4	0,506	0,394	0,422
750x1000	55,6	59,8	46,0	24,9	26,6	20,9	0,68	0,53	0,56
750x1200	80,6	85,2	68,5	36,7	35,6	31,8	0,81	0,63	0,68
900x500	37,2	39,9	31,7	16,5	17,6	14,3	0,41	0,32	0,34
1000x600	47,3	50,7	39,7	21,1	22,5	18,0	0,54	0,42	0,45
1000x750	55,7	59,9	46,1	24,9	26,6	20,9	0,68	0,53	0,56
1200x750	80,5	85,2	68,5	36,7	38,6	31,8	0,81	0,63	0,68

**1.DESTINATION**

Ventilation louvers with weathertight cover are destined for installation on steel or aluminium walls of superstructure on seagoing ships as air supply or exhaust units of ventilation systems.

**2. CONSTRUCTION AND MATERIAL**

Frames, blades and covers are made of mild steel St3Sx or aluminium alloy PA2.  
Nuts of hinges and closing devices - brass,  
bolts and shafts - stainless steel.  
Packing of covers - rubber profile type PIII 12/8 as per standard PN-78/W-88061.

**3 SURFACE TREATMENT**

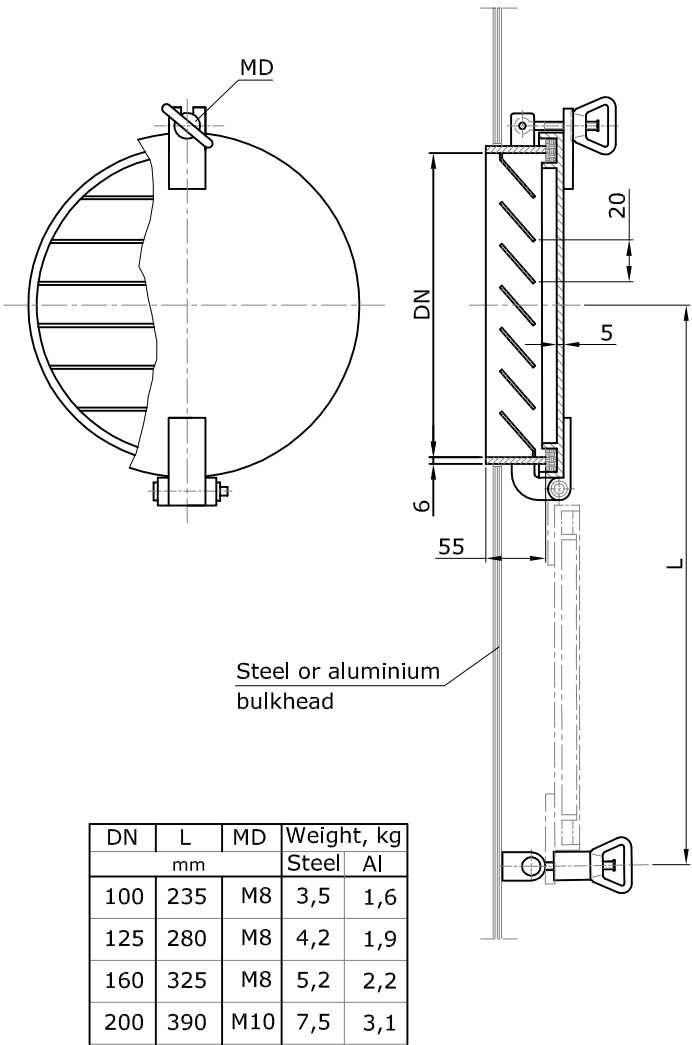
Steel louvers frame and cover painted with marine epoxy paint SWA 7423-013-250.  
Aluminium louvers do not require any preservation.

**4. TYPES AND EXECUTIONS**

Nominal diameters:  
DN=100, 125, 160 and 200 mm.

Material:  
S - steel louver  
A - aluminium louver

Executions:  
D - with downwards opened cover  
G - with upwards opened cover  
L - with cover opened to the left  
P- with cover opened to the right  
N - louver without cover



**5. MARKING**

An example of marking for circular louver of DN=100, made of steel S and with downwards opened cover D:  
  
CIRCULAR LOUVER 100-SD  
  
Louvers are delivered with swing-out nut for fixing of weathertight cover in open position.

Marking axb	Dimension c for executions		s	g	Weight (kg)			Effect. sect. area (m <sup>2</sup> )
					Type of louver			
					Without cover	w/cover G, D	P, L	
200x250	654	554	5	5	6,3	12,1	12,8	0,018
250x200	554	654	5	5	6,3	12,8	12,8	0,018
250x250	654	654	5	5	7,2	14,5	14,5	0,025
250x300	754	654	6	5	8,1	16,2	16,2	0,033
250x350	854	654	6	5	9,0	18,8	17,9	0,041
300x250	654	754	6	5	8,1	16,2	16,2	0,033
300x300	754	754	6	5	9,0	18,1	18,1	0,043
300x350	854	754	6	5	9,9	20,8	19,9	0,053
300x400	954	754	6	5	11,0	23,0	22,1	0,063
300x450	1062	752	6	7	14,5	27,4	27,5	0,072
350x250	654	854	6	5	9,0	18,8	17,9	0,041
350x300	754	854	6	5	9,9	20,8	19,9	0,053
350x350	854	854	6	5	11,0	23,0	22,1	0,065
350x400	954	854	6	6	11,9	25,0	25,3	0,076
350x450	1062	862	6	7	15,8	31,0	30,1	0,088
400x300	754	954	6	5	11,0	23,0	22,1	0,063
400x350	854	954	6	6	11,9	25,0	25,3	0,076
400x400	954	954	6	6	13,1	27,3	27,4	0,09
400x450	1062	962	6	7	17,2	33,8	33,9	0,104
400x500	1162	962	6	7	18,5	36,2	35,3	0,117
450x300	762	1062	6	7	14,5	27,4	27,5	0,072
450x350	862	1062	6	7	15,8	30,0	30,1	0,088
450x400	962	1062	6	7	17,2	33,8	32,9	0,104
450x450	1062	1062	6	7	18,5	36,3	35,4	0,119
450x500	1162	1062	6	7	19,8	38,9	38,0	0,135
500x400	962	1162	6	7	18,5	36,2	35,3	0,117
500x450	1062	1162	6	7	19,8	38,9	38,0	0,135
500x500	1162	1162	6	7	22,5	44,3	43,4	0,152
500x600	1372	1172	7	7	25,3	52,6	51,2	0,187
500x750	1672	1172	8	7	30,3	70,3	68,9	0,24
500x900	1984	1184	8	8	42,5	89,1	87,5	0,295
500x1200	2584	1184	8	8	53,1	112,9	113,2	0,398
500x1400	-	1184	8	8	60,3	-	128,9	0,486
600x500	1172	1372	6	7	25,6	52,6	51,2	0,187
600x1000	-	1384	8	8	50,5	-	108,7	0,402
600x1500	-	1384	8	8	69,6	-	152,0	0,616
650x1800	-	1484	8	8	84,4	-	186,9	0,813
700x1200	-	1584	8	8	63,5	-	145,7	0,577
750x500	1172	1672	8	7	30,3	68,7	68,7	0,24
800x1500	-	1784	8	8	85,6	-	189,1	0,843
800x1800	-	1784	8	8	99,5	-	220,4	1,018
900x500	1184	1984	8	8	42,5	87,5	87,5	0,293
1000x600	-	2184	8	8	50,5	-	106,8	0,402
1000x1800	-	2184	8	8	112,4	-	239,5	1,293
1200x1800	-	2584	8	8	125,2	-	297,5	1,564

## 1. DESTINATION

Ventilation louvers with weathertight covers are destined for installation on steel bulkheads of superstructure of seagoing vessels as air aspirating or discharge units of ventilation systems.

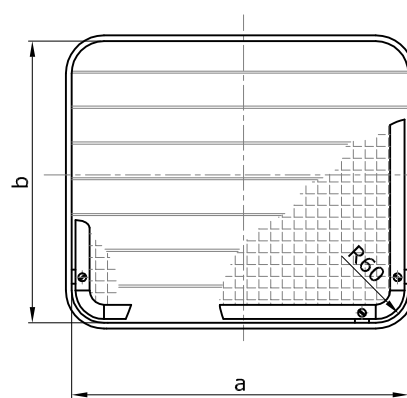
## 2. CONSTRUCTION AND MATERIAL

Frames, blades and covers are made of mild steel St3Sx. Detachable protective 12x12 wire guard is made of steel. Nuts of closing devices and hinges - brass, bolts and shafts - stainless steel.

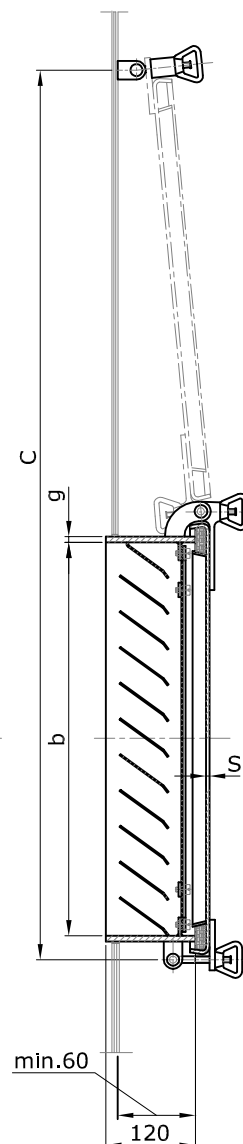
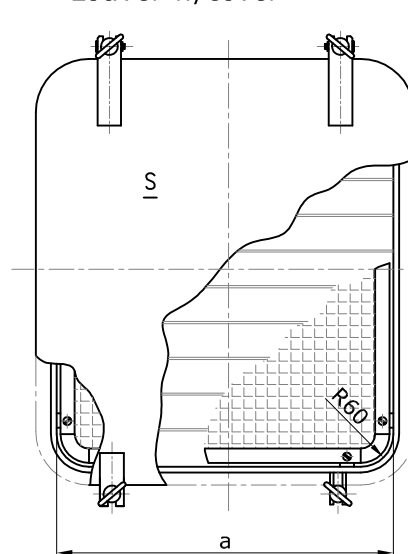
Packing of covers - rubber profile type R3III30 acc. to standard PN-78/W-88061.

Size of hinges and closing devices - M12 for louver 500x500 and M16 for larger.

## Louver without cover



## Louver w/cover



## 3. PRESERVATION

Elements of louvers made of mild steel are coated two times with epoxy primer SWA 7423-026-950 or equivalent. Protective wire guard - galvanised.

## 4. TYPES AND EXECUTIONS

Types:

- louver without cover
- louver with cover

Executions (applies to louvers with covers):

- G-louver with cover with hinges on upper edge (draw.)
- D-louver with cover with hinges on lower edge
- P-louver with cover with hinges on right edge
- L-louver with cover with hinges on left edge

Example of marking:

of louver w/cover 250x200 of G execution:

Louver with cover 250x200G acc. to ALWO/J5-00

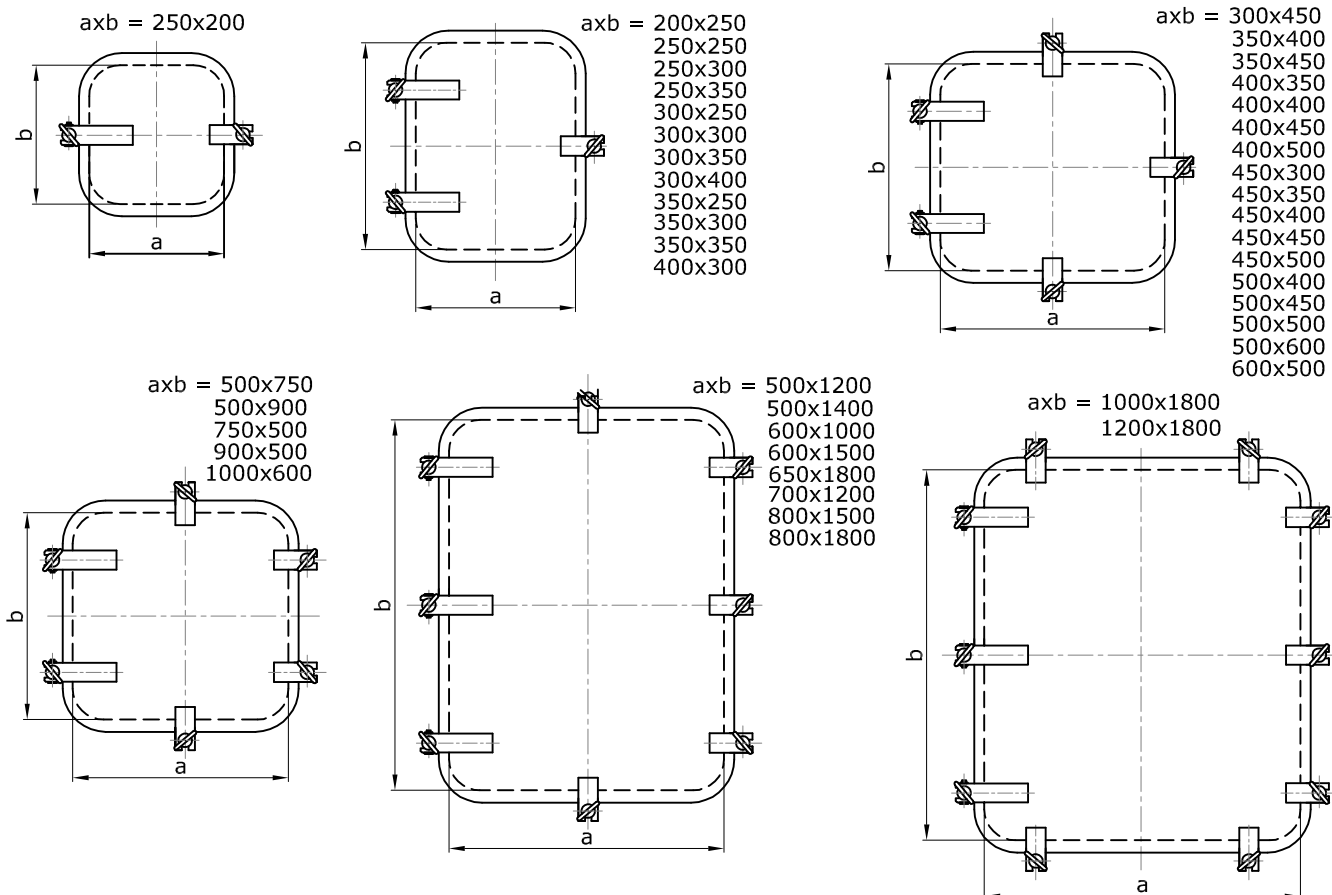
## 5. NOTES

Louvers are supplied with one or two swing-out bolts for fastening of cover in open position.

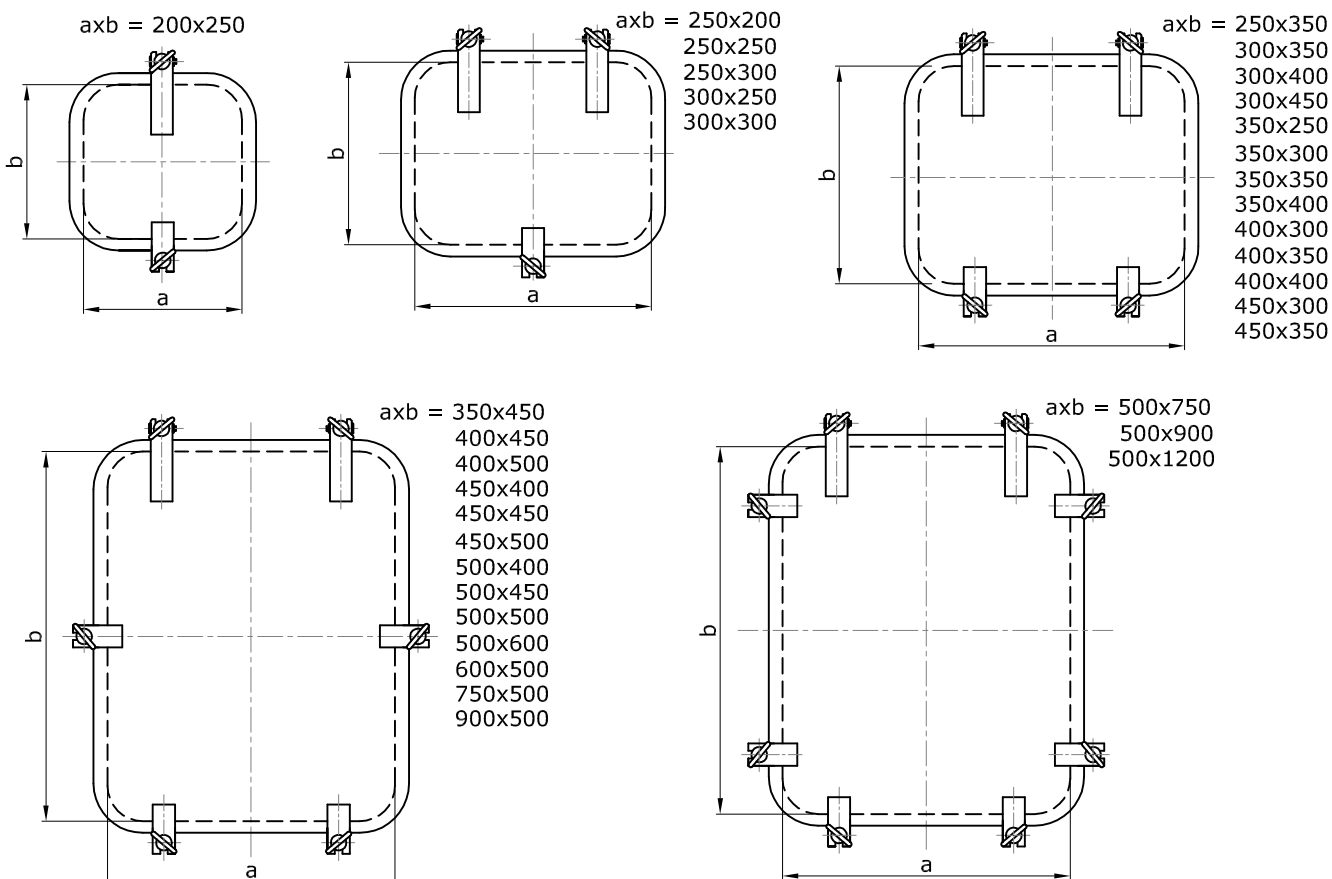
On request louvers may be supplied made of aluminium or with dimensions other than from the table.

Louvers are delivered with unglued cover packing profile.

## Execution P & L



## Execution G & D



## 1. DESTINATION

Marine ventilation louvers with droplets eliminators and weathertight covers are destined for installation on steel or aluminium walls of superstructures on seagoing ships as air supply units of ventilation systems.

Construction is based on standard DIN 83409 with significant extending of size range.

Louvers are provided with detachable blade frame, that makes easy installation as well as access for maintenance.

Frame consists of specially shaped, vertical, high-efficiency droplet separating profiles.

## 2. TYPES AND EXECUTIONS

### TYPES:

A - square louver

B - rectangular louver, hinges on longer side

C - rectangular louver, hinges on shorter side

### SIZES:

L1xL2 - see table

Dimension L1 always is the length of side, on which cover hinges are fitted.

### EXECUTIONS:

D - upwards opened cover

E - downwards opened cover

F - cover opened to the left

G - cover opened to the right

### FITTINGS:

4 - louver with blade frame, without wire gauze

5 - louver with blade frame and wire gauze of 10 mm mesh

### MATERIAL:

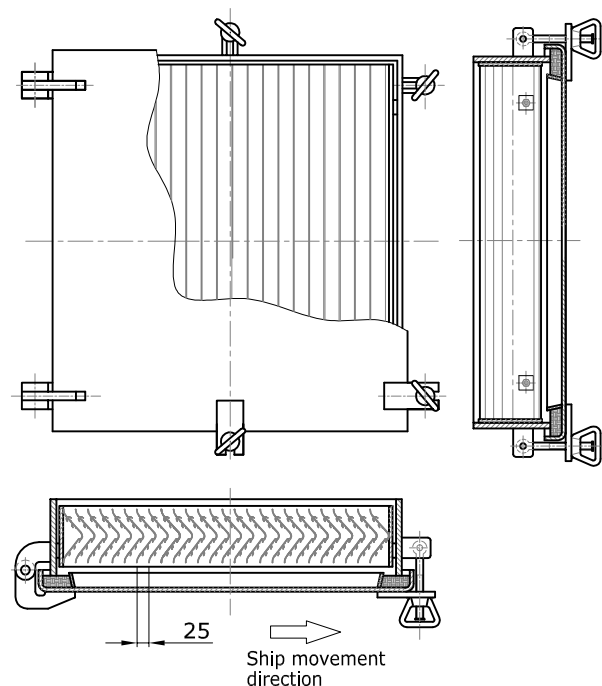
St - steel

Al - aluminium

## 3. MATERIAL

- steel louvers made of carbon steel St3St, with brass swing nuts, all bolts and pins of stainless steel.  
Droplet separating profiles - aluminium.

- aluminium louvers of alloy PA2, nuts, bolts and pins as above  
Droplet separating profiles - sea water resistant aluminium.



## 4. SURFACE TREATMENT

Steel louvers frame and cover painted with marine epoxy paint SWA 7423-013-250, blade frame hot-dip galvanized.

Aluminium louvers do not require any preservation.

## 5. MARKING

An example of marking for type B louver, size L1xL2 = 900 x 500, execution F, fittings 4 made of steel St:

### DROPLER ELIMINATOR LOUVER

B-900x500-F-4-St

acc. to ALWO/J6-01

Material (steel or aluminium) should be defined in Order. Louvers are delivered with swing-out nut for fixing of weathertight cover in open position. Louvers can be also delivered with non-standard dimensions defined by the Buyer.

## PROFILES ARRANGEMENT

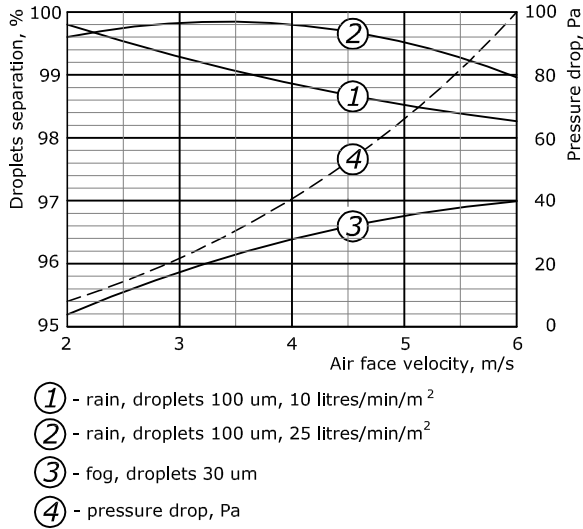
If fitted to the ship side walls, the demister profiles to be arranged as follows:

S - demister fitted to star board bulkhead  
(shown on the drawing)

P - demister fitted to port bulkhead  
(mirrored view)

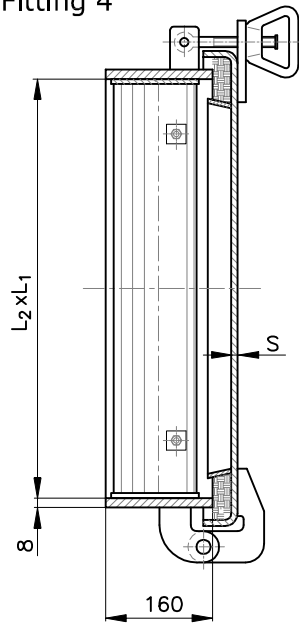
To be specified at order, if applicable.

PERFORMANCE CHART

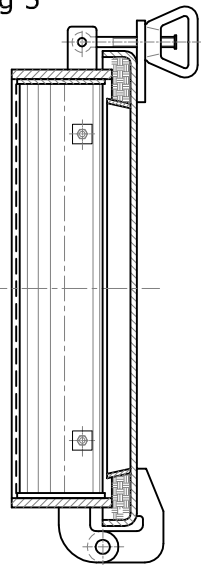


6. FITTINGS

Fitting 4

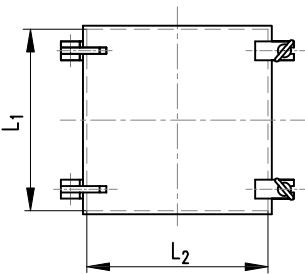


Fitting 5

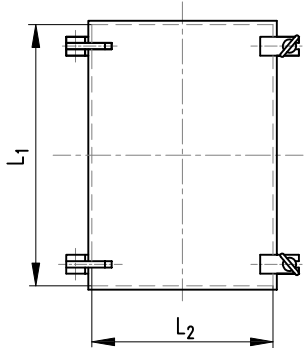


7. ARRANGEMENT OF HINGES AND SWING NUTS

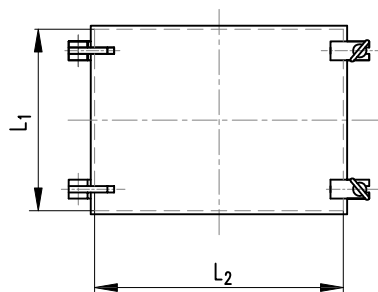
Type A 250x250 to 500x500



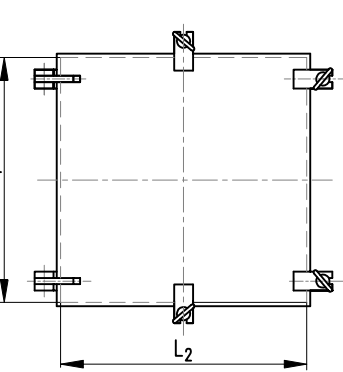
Type B 250x200 to 900x500



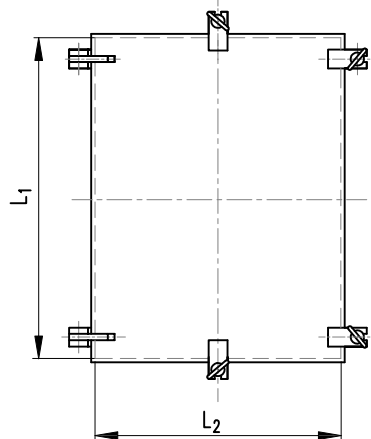
Type C 200x250 to 400x500



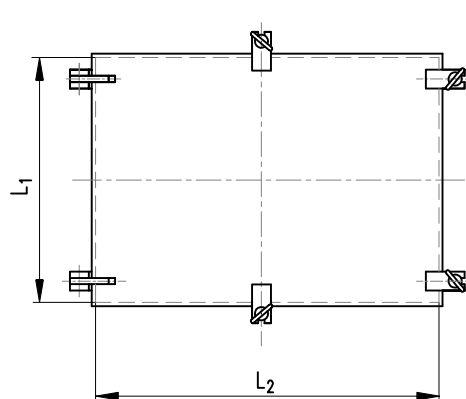
Type A 600x600 to 750x750



Type B 1000x600 to 1200x750



Type C 400x600 to 500x900

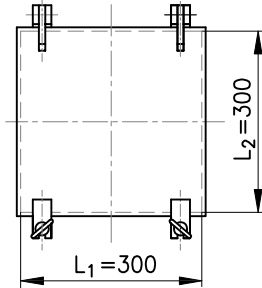




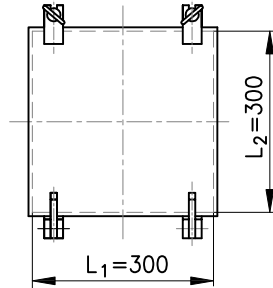
## 8. EXAMPLES OF MARKING

### TYPE A - Square louvers

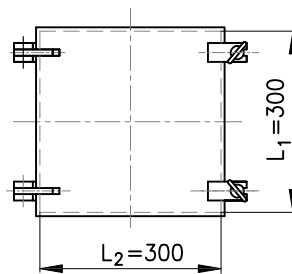
A-300x300-D



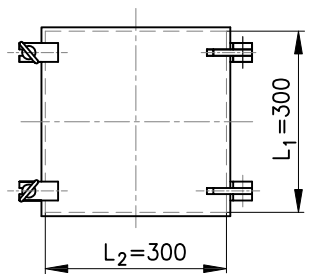
A-300x300-E



A-300x300-F

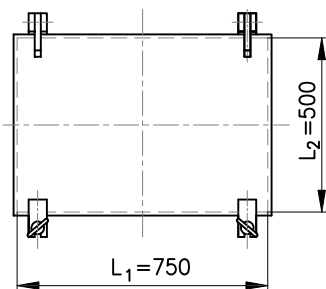


A-300x300-G

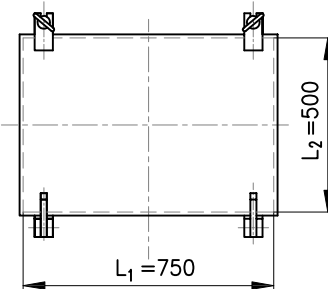


### TYPE B - Rectangular louvers Hinges on longer side

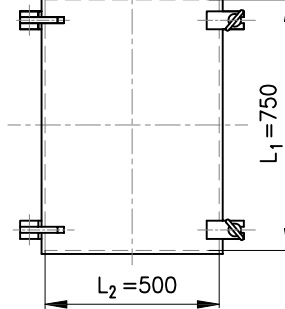
B-750x500-D



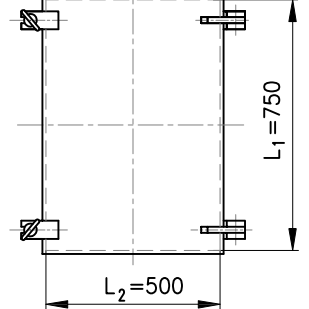
B-750x500-E



B-750x500-F

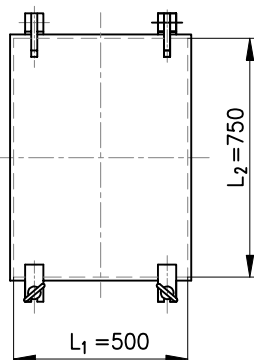


B-750x500-G

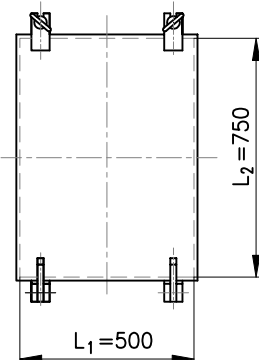


### TYPE C - Rectangular louvers Hinges on shorter side

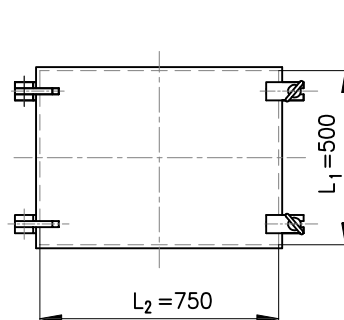
C-500x750-D



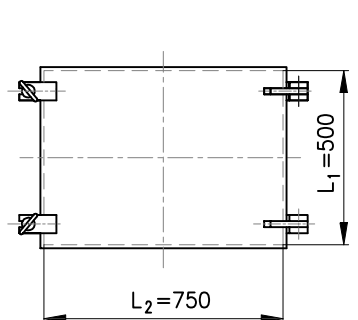
C-500x750-E



C-500x750-F



C-500x750-G





# DROPLET ELIMINATOR LOUVERS WITH COVERS

ALWO  
J6-01  
Sheet 4/4

## 9. TABLE OF SIZES AND WEIGHTS

Type	Size L1 x L2	Execut.	S	No. of swing nuts	Weight of steel louver, kg		Weight of alu- minium louver, kg		Effective area m <sup>2</sup>		
	mm		Fitting		Fitting		Fitting				
			4		5	4	5	4	5		
A	250x250	D,E, F,G	5	2	21,0	23,8	9,3	10,0	0,026	0,041	
	300x300				25,6	28,2	11,4	12,2	0,048	0,038	
	400x400		6		37,9	36,9	15,8	17,4	0,085	0,068	
	500x500				51,4	59,4	24,2	26,2	0,132	0,106	
	600x600		7		70,9	70,9	77,2	31,7	0,191	0,153	
	750x750		8	4	92,4	100,2	41,3	44,4	0,298	0,238	
B	250x200	D,E	5	2	18,9	20,7	8,4	9,1	0,026	0,020	
	300x200				21,0	22,9	9,2	9,9	0,032	0,026	
	400x200				25,9	27,3	10,9	11,9	0,042	0,033	
	500x200		6		29,4	31,5	12,7	13,7	0,053	0,042	
	400x300		5		30,7	33,5	13,4	14,6	0,064	0,051	
	500x300	D,E, F,G	6		35,9	38,8	15,7	16,9	0,079	0,063	
	500x400				42,0	45,8	18,3	20,1	0,106	0,086	
	600x400		7		53,9	58,3	23,9	25,8	0,127	0,106	
	750x400				64,4	69,2	28,6	30,6	0,159	0,127	
	600x500				62,4	67,5	27,8	30,2	0,159	0,127	
	750x500				74,6	80,4	33,2	35,7	0,198	0,158	
	900x500		8		86,7	93,0	38,7	41,3	0,238	0,190	
	1000x600				110,4	118,4	49,3	52,6	0,318	0,254	
	1000x750				130,2	139,8	58,3	70,2	0,397	0,318	
	1200x750				188,0	198,9	85,7	90,4	0,470	0,376	
C	200x250	F,G	5	2	18,7	20,6	8,2	8,9	0,026	0,020	
	200x300				20,5	22,8	8,9	9,9	0,032	0,026	
	200x400		6		23,9	27,0	10,5	11,8	0,042	0,033	
	200x500				27,4	30,9	11,8	13,5	0,053	0,042	
	300x400	D,E, F,G	5		29,9	33,4	13,2	14,6	0,064	0,051	
	300x500		6		34,5	38,5	15,0	16,8	0,079	0,063	
	400x500				41,3	45,8	18,2	20,1	0,106	0,085	
	400x600				53,4	58,8	23,7	26,1	0,127	0,106	
	400x750		7	4	62,9	69,3	27,9	30,8	0,159	0,127	
	500x600				62,8	68,4	27,8	30,2	0,159	0,127	
	500x750				73,6	80,9	32,9	35,9	0,198	0,158	
	500x900				8	84,8	93,3	38,0	41,5	0,238	0,119

## 1. DESTINATION

Marine ventilation louvers with droplets eliminators are destined for installation on steel or aluminium walls of superstructures of seagoing ships as air supply units of ventilation systems.

Construction is based on standard DIN 83409 with significant extending of size range.

Louvers are provided with detachable blade frame, that makes easy installation as well as access for maintenance.

Frame consists of specially shaped, vertical, high-efficiency droplet separating profiles.

Louvers may be fitted in positions where wheater-tight closing device (Convention ILL 1966) are not required. Regulations of SOLAS for fire closings of external ventilation openings are to be observed.

## 2. TYPES AND EXECUTIONS

### SIZES:

BxH - see table

### FITTINGS:

4 - louver with blade frame, without wire gauze

5 - louver with blade frame and wire gauze of 10 mm mesh

### MTERIAL:

St - steel

Al - aluminium

## 3. MATERIAL

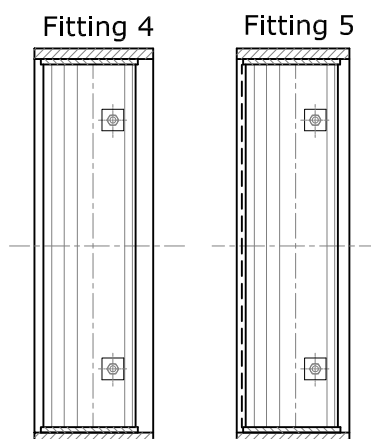
- steel louvers made of carbon steel St3St, with brass swing nuts, all bolts and pins of stainless steel.

Droplet separating profiles - aluminium

- aluminium louvers of alloy PA2, nuts, bolts and pins as above

Droplet separating profiles - aluminium.

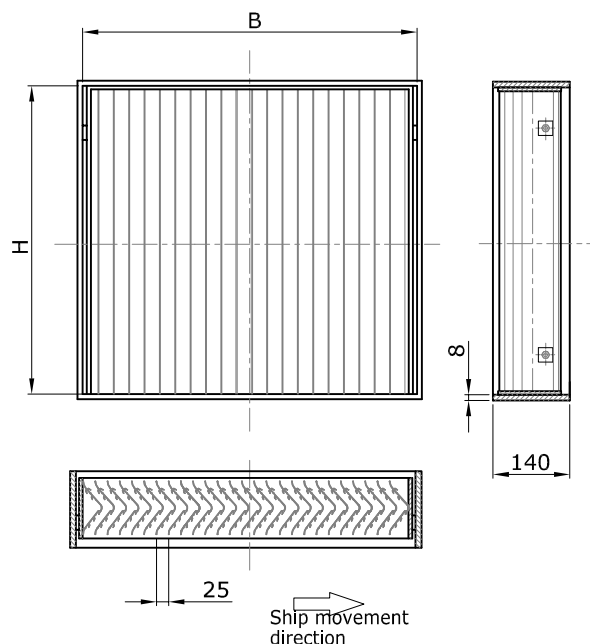
## 6. FITTINGS



## 4. SURFACE TREATMENT

Steel louvers frame and cover painted with marine epoxy paint SWA 7423-013-250, blade frame hot-dip galvanized.

Aluminium louvers do not require any preservation.



## 5. MARKING

An example of marking for type B louver, size BxH= 900 x 500 with fittings 5, made of steel St:

**LOUVER 900x500-5-St**  
acc. to ALWO/J7-01

Louvers can be also delivered with non-standard dimensions defined by the Buyer.

## PROFILES ARRANGEMENT

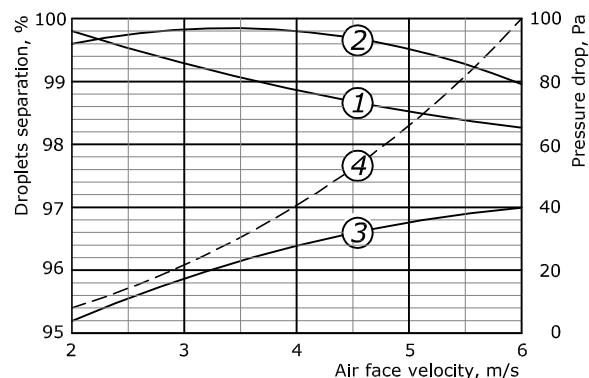
If fitted to the ship side walls, the demister profiles to be arranged as follows:

S - demister fitted to star board bulkhead (shown on the drawing)

P - demister fitted to port bulkhead (mirrored view)

To be specified at order, if applicable.

## PERFORMANCE CHART



① - rain, droplets 100 um, 10 litres/min/m<sup>2</sup>

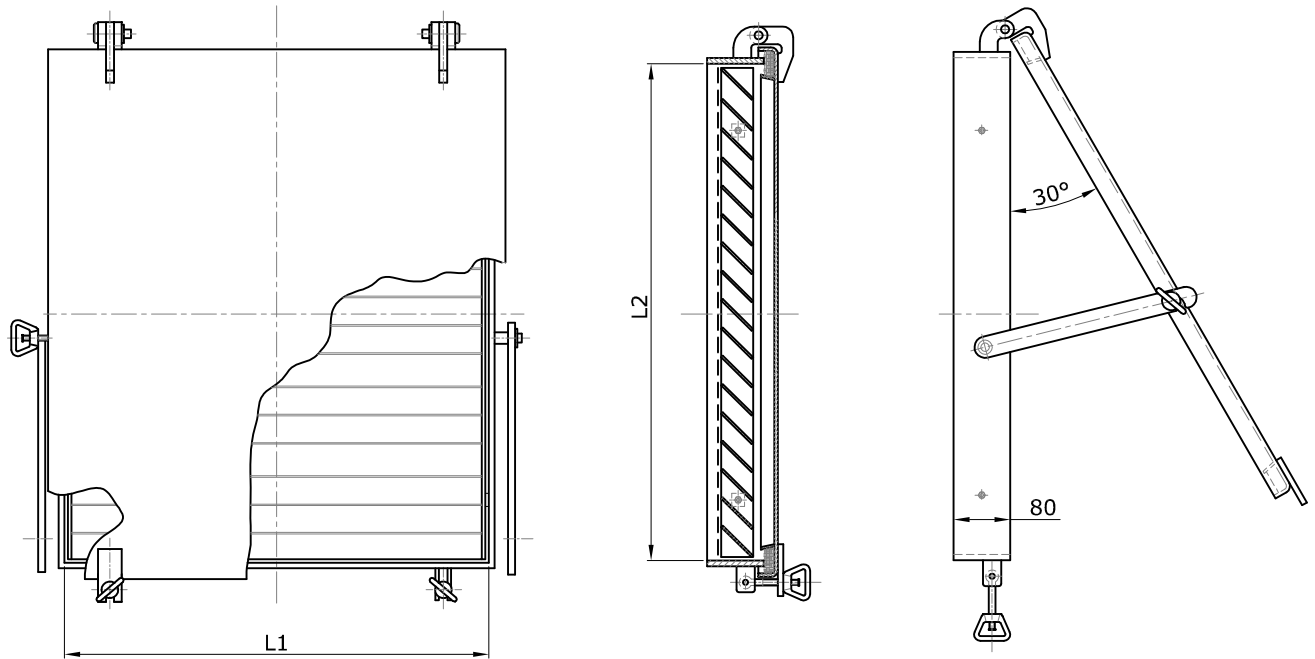
② - rain, droplets 100 um, 25 litres/min/m<sup>2</sup>

③ - fog, droplets 30 um

④ - pressure drop, Pa

## 6. TABLE OF SIZES AND WEIGHTS

Size BxH	Weight of steel louver, kg		Weight of aluminium louver, kg		Effective area m <sup>2</sup>	
	Fitting		Fitting		Fitting	
mm	4	5	4	5	4	5
250x200	12,3	13,2	8,9	9,7	0,026	0,020
250x250	13,5	15,4	5,9	6,6	0,033	0,026
300x200	13,5	14,7	5,9	6,5	0,032	0,025
300x300	16,2	18,2	8,5	7,9	0,048	0,038
300x400	23,2	21,4	8,5	9,4	0,064	0,051
300x500	22,2	24,8	9,7	10,7	0,080	0,064
400x200	16,4	17,5	7,1	7,9	0,042	0,033
400x300	19,7	21,6	8,6	9,4	0,064	0,051
400x400	21,1	23,7	10,3	11,2	0,085	0,068
400x500	26,4	29,6	11,6	12,7	0,106	0,084
400x600	34,2	37,8	15,3	16,7	0,127	0,100
400x750	40,4	44,7	17,9	20,0	0,159	0,127
500x200	19,0	20,2	8,2	8,8	0,053	0,042
500x300	22,9	25,1	10,2	10,9	0,079	0,063
500x400	27,2	29,6	11,8	12,7	0,106	0,086
500x500	34,8	37,9	15,5	16,8	0,132	0,106
500x600	40,4	43,9	17,9	19,5	0,159	0,127
500x750	47,3	52,1	21,1	23,1	0,198	0,158
500x900	54,5	60,1	24,5	26,8	0,238	0,190
600x400	34,6	37,5	15,4	16,5	0,127	0,106
600x500	40,1	43,5	18,0	19,3	0,159	0,127
600x600	45,5	49,7	20,4	22,0	0,191	0,254
600x1000	71,1	76,2	31,7	33,9	0,318	0,42
750x400	41,5	44,7	18,4	19,9	0,159	0,127
750x500	47,6	51,7	21,5	22,9	0,198	0,159
750x750	59,6	64,4	26,4	28,4	0,298	0,238
750x1000	83,1	74,8	37,5	40,0	0,397	0,318
750x1200	120,9	127,9	55,2	53,3	0,477	0,382
900x500	55,8	60,1	27,8	26,4	0,238	0,191
1000x600	71,0	76,2	32,0	33,8	0,317	0,254
1000x750	83,6	90,1	37,5	40,1	0,398	0,318
1200x750	120,7	129,9	55,2	58,1	0,470	0,376



## 1. DESTINATION

Ventilation louvers with tiltable weathertight covers are destined for installation on steel or aluminium walls of superstructure on seagoing ships as air supply or exhaust units of ventilation systems. Construction is based on standard DIN 83409 with significant extending of size range.

Louvers are provided with detachable blade frame, that makes easy installation as well as access for maintenance.

Arrangement of covers provides an additional protection against rain and sea water splashes as well as savings of space required for fitting of cover in open position.

## 2. SIZES AND EXECUTIONS

Construction and dimensions of louvers with tiltable covers - see catalogue card ALWO/J1-02.

SIZES:

L1xL2

FITTINGS:

- 1 - louver with blade frame, without wire gauze
- 2 - louver with blade frame and wire gauze of 10 mm mesh
- 3 - louver with wire gauze of 10 mm mesh, without blade frame

## 4. SURFACE TREATMENT

Steel louvers frame and cover painted with marine epoxy paint SWA 7423-013-250, blade frame hot-dip galvanized.

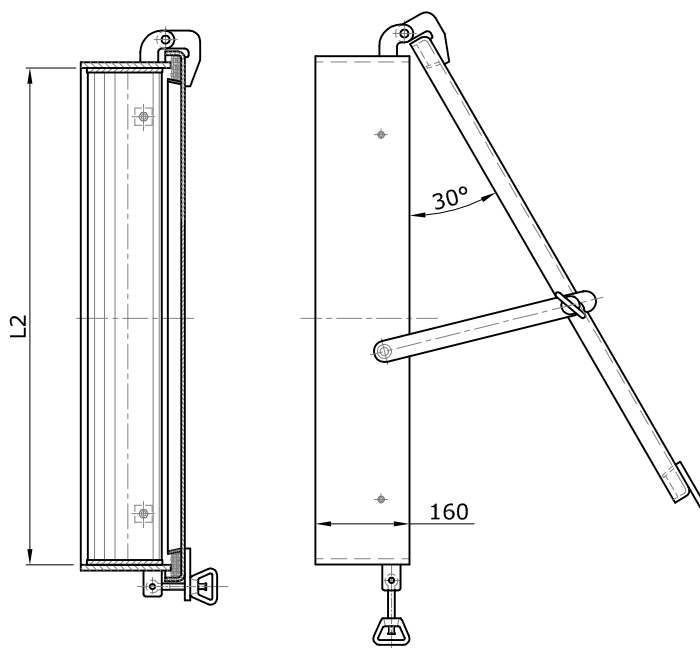
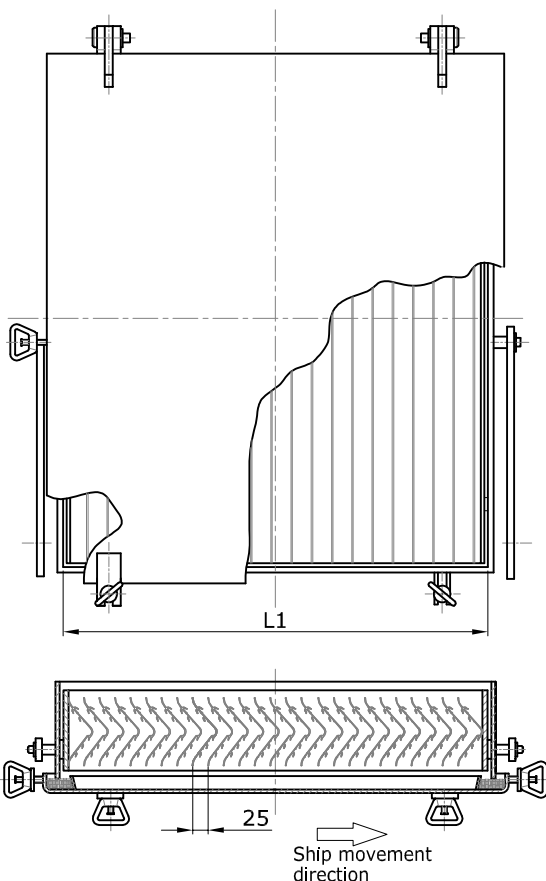
Aluminium louvers do not require any preservation.

## 5. MARKING

An example of marking for louver with tiltable cover, size L1xL2 = 900 x 500, fittings 2, made of steel St:

LOUVER 900x500-2-St  
acc. to ALWO/J8-00

Material (steel or aluminium) should be defined in Order. Louvers can be also delivered with non-standard dimensions defined by the Buyer.



### 1. DESTINATION

Droplet eliminator louvers with tiltable weathertight covers are destined for installation on steel or aluminium walls of superstructure on seagoing ships as air supply units of ventilation systems. Construction is based on standard DIN 83409 with significant extending of size range. Louvers are provided with detachable blade frame, that makes easy installation as well as access for maintenance. Arrangement of covers provides an additional protection against rain and sea water splashes as well as savings of space required for fitting of cover in open position.

### 2. SIZES AND EXECUTIONS

Performance, construction and dimensions of droplet eliminator louvers with tiltable covers - see catalogue card ALWO/J6-01.

SIZES: L1xL2

FITTINGS:

- 4 - louver with blade frame, without wire gauze
- 5 - louver with blade frame and wire gauze of 10 mm mesh

MATERIAL:

- St - steel
- Al - aluminium

### 4. SURFACE TREATMENT

Steel louvers frame and cover painted with marine epoxy paint SWA 7423-013-250, blade frame hot-dip galvanized.

Aluminium louvers do not require any preservation.

### 5. MARKING

An example of marking for louver with tiltable cover, size L1xL2 = 900 x 500, fittings 4, made of steel St:

LOUVER 900x500-4-St  
acc. to ALWO/J9-01

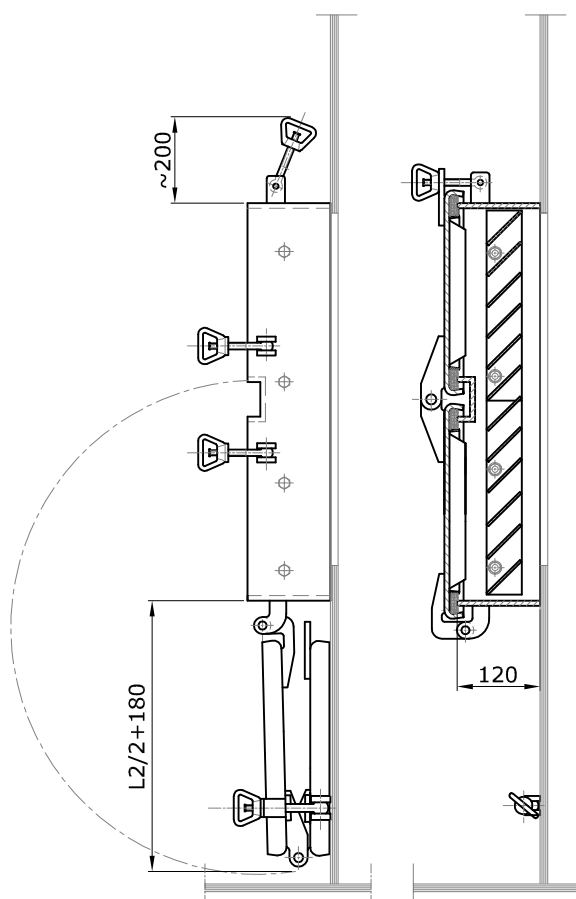
Material (steel or aluminium) should be defined in Order. Louvers can be also delivered with non-standard dimensions defined by the Buyer.

### PROFILES ARRANGEMENT

If fitted to the ship side walls, the demister profiles to be arranged as follows:

- S - demister fitted to star board bulkhead (shown on the drawing)
- P - demister fitted to port bulkhead (mirrored view)

To be specified at order, if applicable.



## 1. DESTINATION

Ventilation louvers with folded weathertight covers are destined for installation on steel or aluminium walls of superstructure on seagoing ships as air supply or exhaust units of ventilation systems. Construction is based on standard DIN 83409 with significant extending of size range.

Louvers are provided with detachable blade frame, that makes easy installation as well as access for maintenance.

Arrangement of covers provides savings of space required for fitting of cover in open position.

## 2. SIZES AND EXECUTIONS

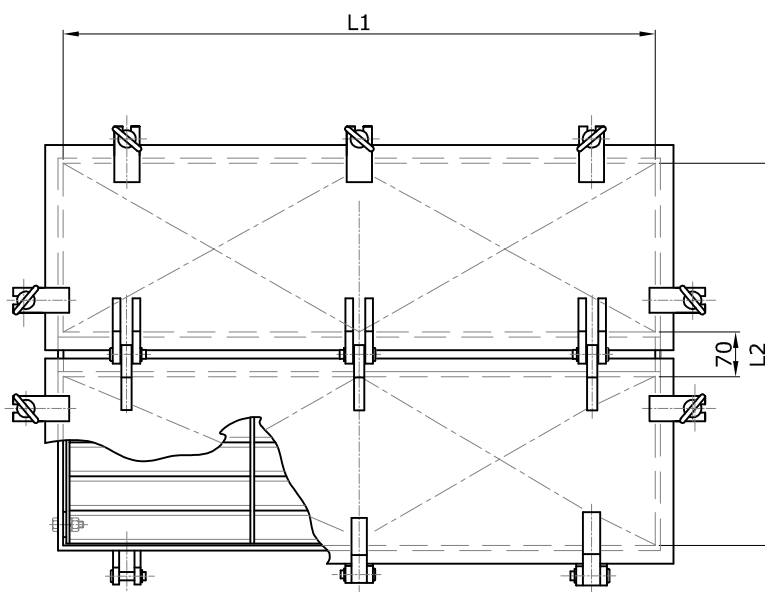
Construction and dimensions of louvers with tiltable covers - see catalogue card ALWO/J1-02.

SIZES:

$L1 \times L2$

FITTINGS:

- 1 - louver with blade frame, without wire gauze
- 2 - louver with blade frame and wire gauze of 10 mm mesh
- 3 - louver with wire gauze of 10 mm mesh, without blade frame



## 4. SURFACE TREATMENT

Steel louvers frame and cover painted with marine epoxy paint SWA 7423-013-250, blade frame hot-dip galvanized.

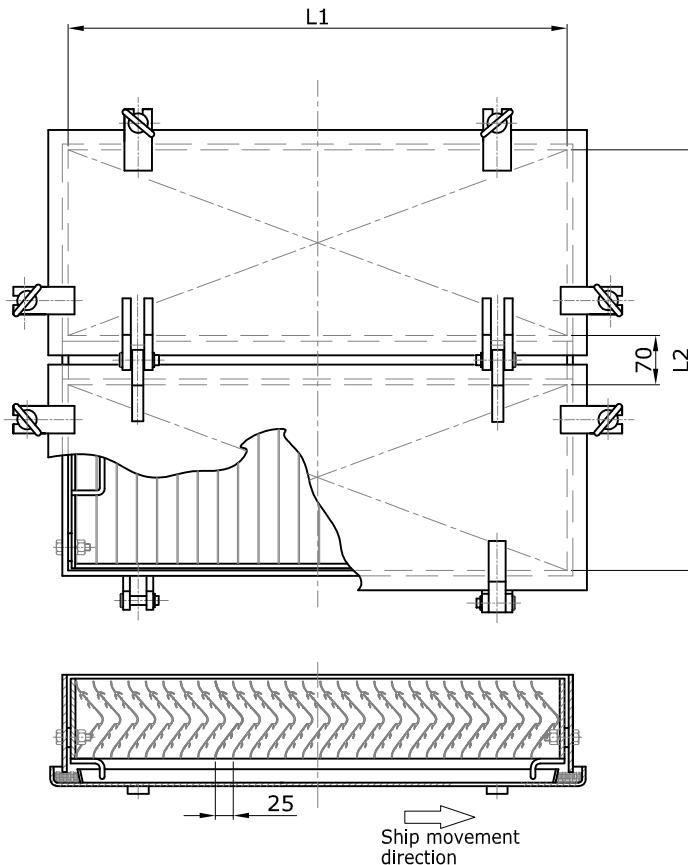
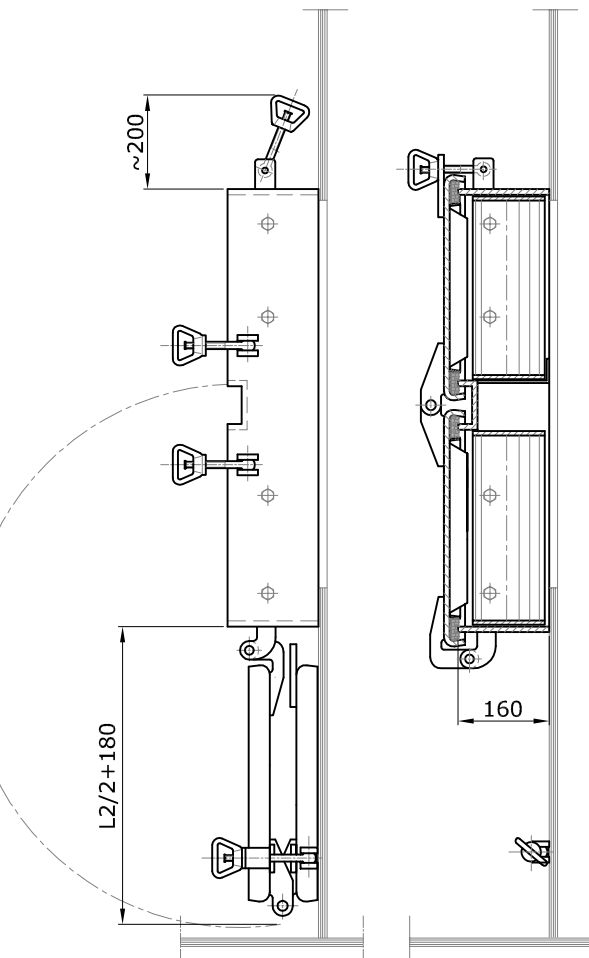
Aluminium louvers do not require any preservation.

## 5. MARKING

An example of marking for louver with folded cover, size  $L1 \times L2 = 900 \times 500$ , fittings 2, made of steel St:

LOUVER 900x500-2-St  
acc. to ALWO/J10-00

Material (steel or aluminium) should be defined in Order. Louvers can be also delivered with non-standard dimensions defined by the Buyer.



### 1. DESTINATION

Droplet eliminator louvers with folded weathertight covers are destined for installation on steel or aluminium walls of superstructure on seagoing ships as air supply units of ventilation systems. Construction is based on standard DIN 83409 with significant extending of size range. Louvers are provided with detachable blade frame, that makes easy installation as well as access for maintenance. Arrangement of covers provides savings of space required for fitting of cover in open position.

### 2. SIZES AND EXECUTIONS

Performance, construction and dimensions of droplet eliminator louvers with tiltable covers - see catalogue card ALWO/J6-01.

#### SIZES:

L1xL2

#### FITTINGS:

- 4 - louver with blade frame, without wire gauze
- 5 - louver with blade frame and wire gauze of 10 mm mesh

#### MATERIAL:

St - steel  
Al - aluminium

### 4. SURFACE TREATMENT

Steel louvers frame and cover painted with marine epoxy paint SWA 7423-013-250, blade frame hot-dip galvanized.

Aluminium louvers do not require any preservation.

### 5. MARKING

An example of marking for louver with tiltable cover, size L1xL2 = 900 x 500, fittings 4, made of steel St:

LOUVER 900x500-4-St  
acc. to ALWO/J11-01

Material (steel or aluminium) should be defined in Order. Louvers can be also delivered with non-standard dimensions defined by the Buyer.

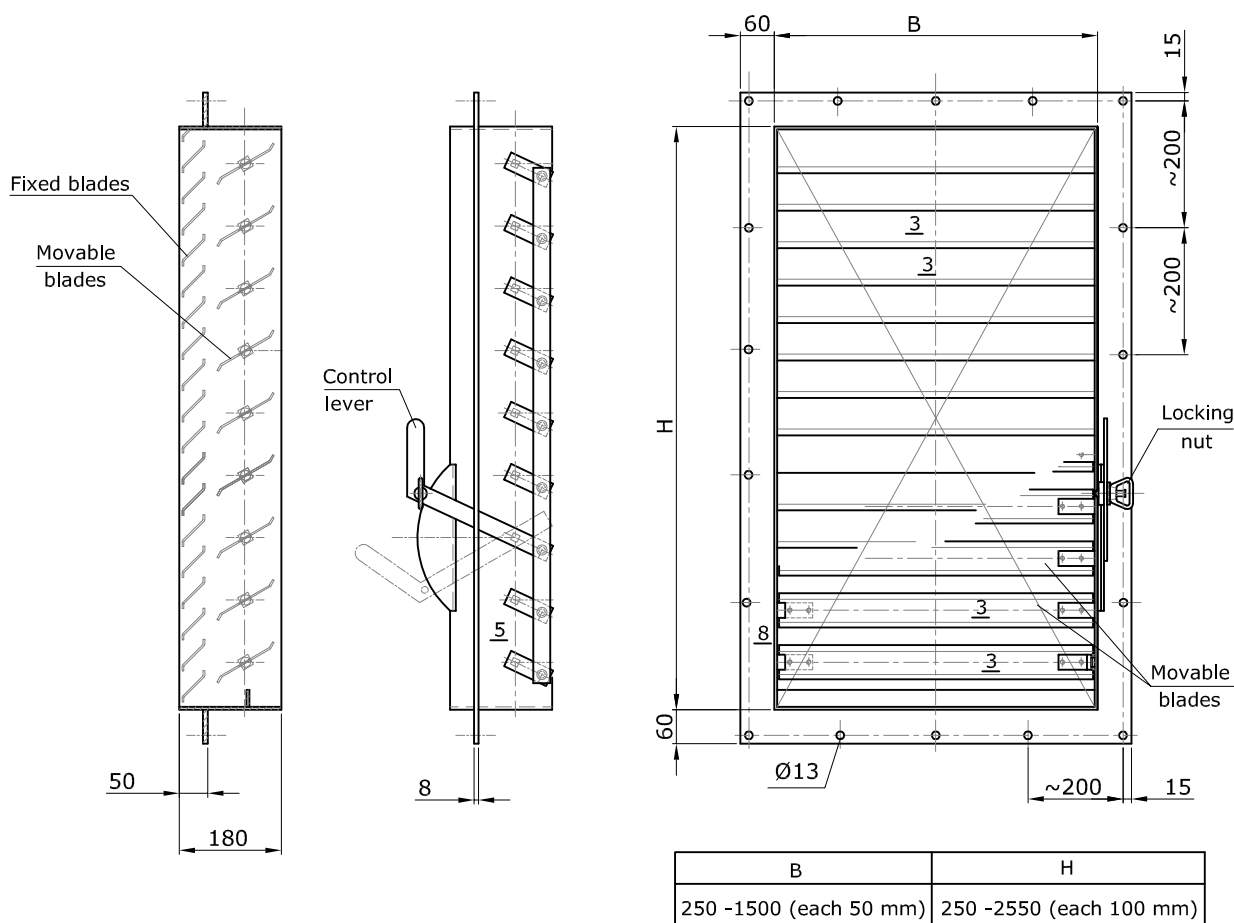
### PROFILES ARRANGEMENT

If fitted to the ship side walls, the demister profiles to be arranged as follows:

- S - demister fitted to star board bulkhead (shown on the drawing)
- P - demister fitted to port bulkhead (mirrored view)

To be specified at order, if applicable.





## 1. DESTINATION

Marine ventilation louvers with movable blades are destined for installation in ventilation systems of seagoing ships and offshore objects.

Louvers may be used as fire closures of main external ventilation openings, however the requirements of the flag administration are to be observed.

## 2. CONSTRUCTION

Louvers consist of flanged, drilled frame and a set of fixed blades as well as a set of movable blades operated manually with lever.

## 3. MATERIAL

- frame, blades and levers - mild steel
- shafts of blades - stainless steel

## 4. SIZES AND EXECUTIONS

SIZES:

Dimensions BxH as per table above.

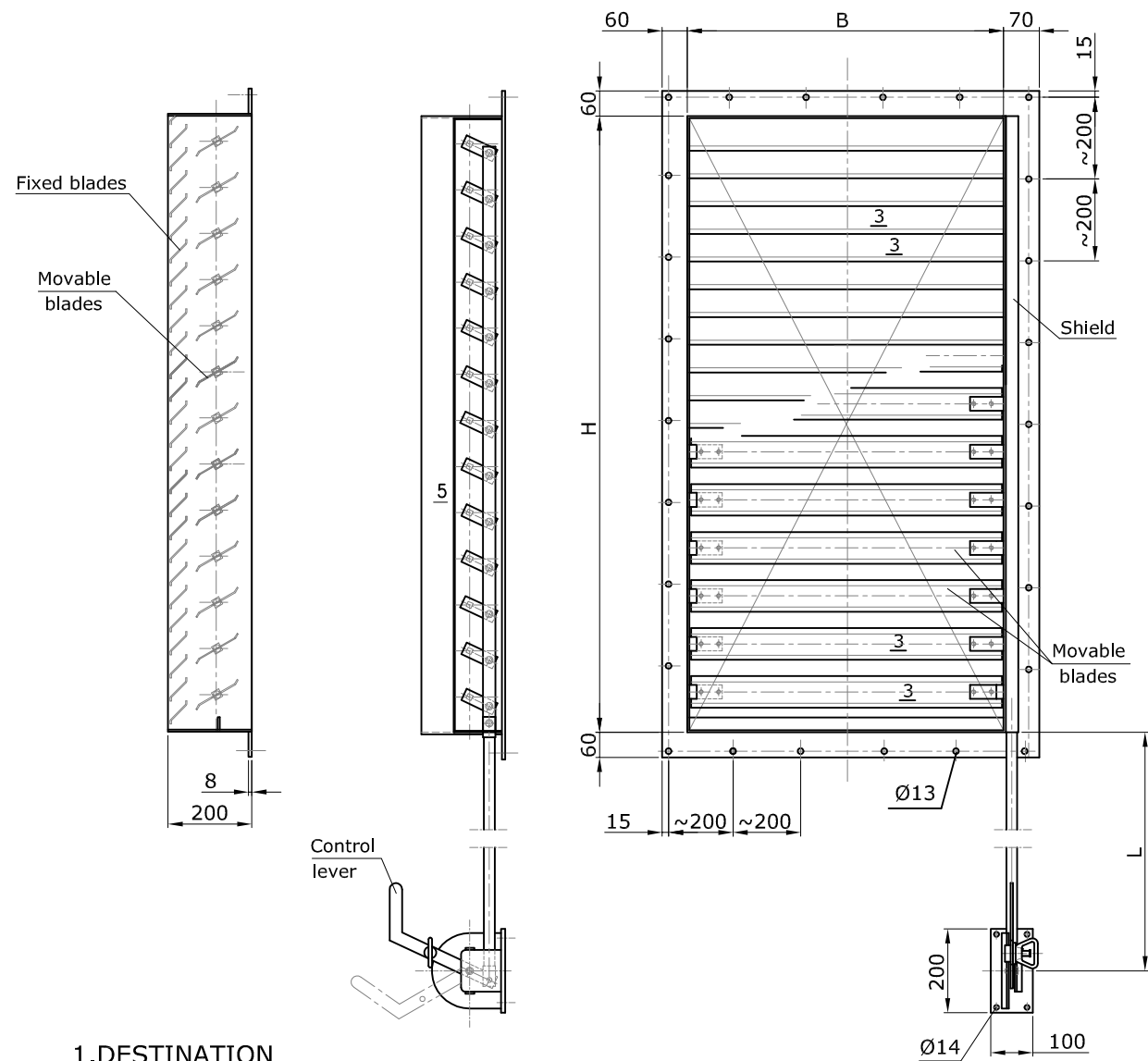
## 5. SURFACE TREATMENT

Hot-dip galvanised. Preservation with set of marine paints available on request.

## 6. MARKING

of ventilation louver with movable blades of dimension B=1000 and H=1550 mm:

LOUVER 1000x1550  
acc. to ALWO/J12-00



## 1.DESTINATION

Remotely controlled marine ventilation louvers with movable blades are destined for installation in ventilation systems of seagoing ships and offshore objects.

Louvers may be used as fire closures of main external ventilation openings, however the requirements of the flag administration are to be observed.

## 2.CONSTRUCTION

Louvers consist of flanged, drilled frame and a set of fixed blades as well as a set of movable blades operated manually with lever.

## 3. MATERIAL

- frame, blades and levers - mild steel
- shafts of blades - stainless steel

## 4. SIZES AND EXECUTIONS

SIZES:

Dimensions BxH as per table above.

Dimensions L (2000 mm maximum) to be specified by the Customer.

B	H
250 -1500 (each 50 mm)	250 -2050 (each 100 mm)

## 4. SIZES AND EXECUTIONS

SIZES:

Dimensions BxH as per table above.

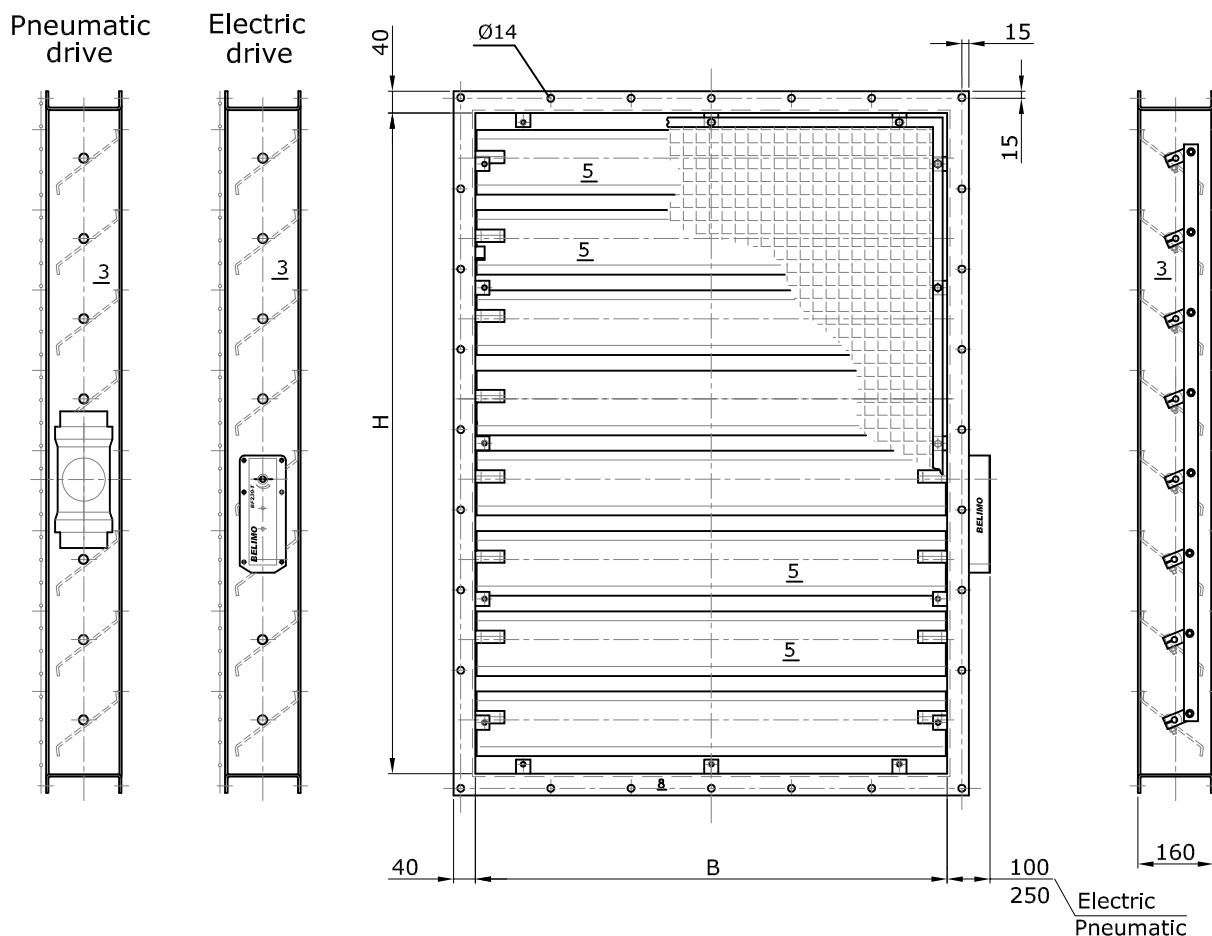
## 4. SURFACE TREATMENT

Hot-dip galvanised. Preservation with set of marine paints available on request.

## 5. MARKING

of remotely controlled ventilation louvre with movable blades of dimensions B=1000, H=1550 and L=1500 mm:

LOUVER 1000x1550-1500  
acc. to ALWO/J13-00



## 1.DESTINATION

Marine ventilation louvre dampers LDF are destined for installation in ventilation systems of seagoing ships and offshore objects.

Dampers may be used as functional isolating dampers (light execution) or as fire closure of main external ventilation openings as per SOLAS (heavy execution).

## 1.CONSTRUCTION

Marine ventilation louvre dampers LDF consist of mild steel frame and rotary blades actuated by electric or pneumatic actuator (manual control by means of lever available on request).

Voltage or working pressure of control air to be specified at Order. Louvers are provided with stainless steel wire 13x13 mm.

## 3. SIZES AND EXECUTIONS

### SIZES:

Dimensions BxH to be defined by the Customer.

### EXECUTIONS:

L - light, with frame 3 mm and blades 5 mm thick.

H-heavy, with frame and blades 8 mm thick.

### DRIVE:

E - Electric

P - Pneumatic

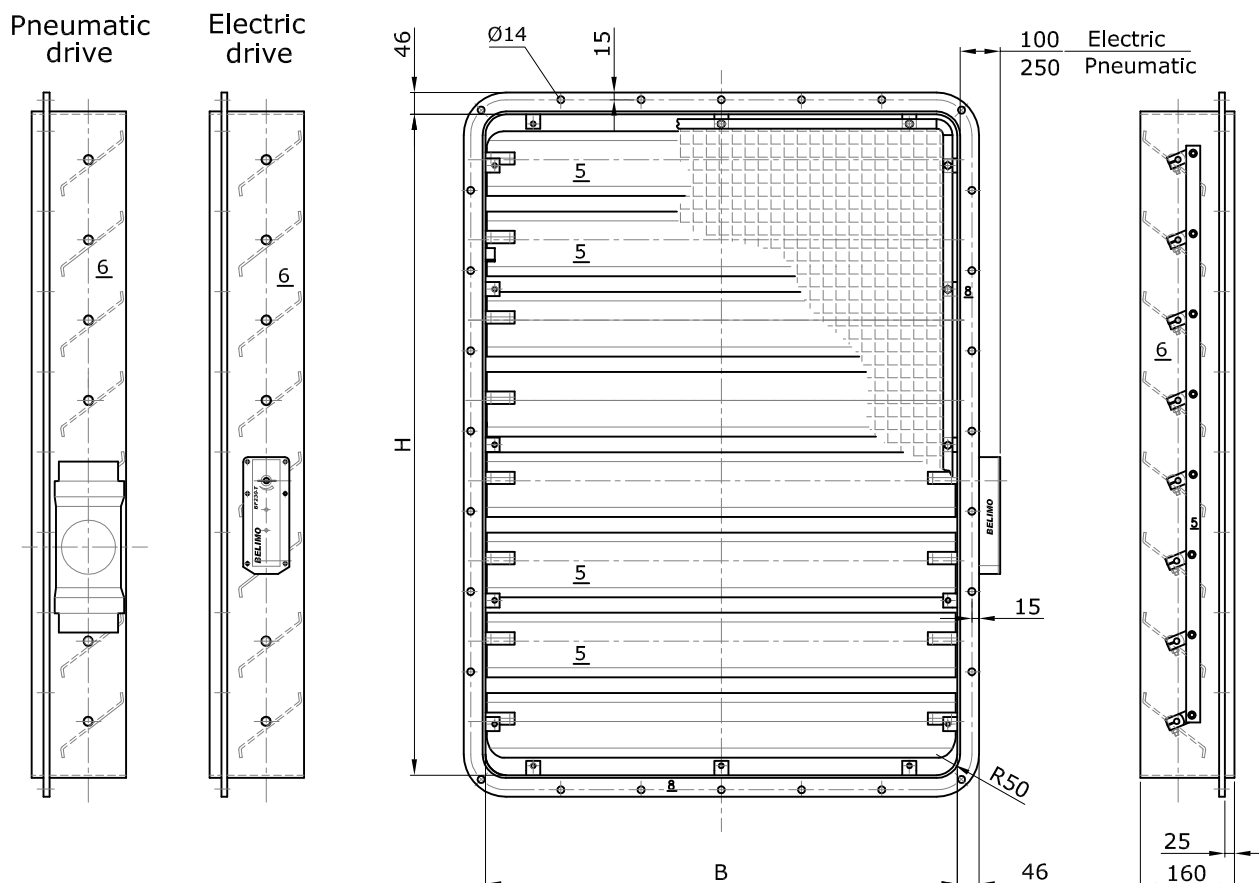
## 4. SURFACE TREATMENT

Hot-dip galvanised. Preservation with set of marine paints available on request.

## 5. MARKING

of marine louvre damper LDF of dimensions B=1000 mm, H=2000 mm in L light execution and E electric drive:

LOUVRE DAMPER LDF-1000x2000-L-E



## 1.DESTINATION

Marine ventilation louvre dampers LDG are destined for installation in ventilation systems of seagoing ships and offshore objects.

Dampers may be used as functional isolating dampers (light execution) or as fire closure of main external ventilation openings as per SOLAS (heavy execution).

## 1.CONSTRUCTION

Marine ventilation louvre dampers LDF consist of mild steel frame and rotary blades actuated by electric or pneumatic actuator (manual control by means of lever available on request).

Voltage or working pressure of control air to be specified at Order. Louvers are provided with stainless steel wire 13x13 mm.

## 3. SIZES AND EXECUTIONS

### SIZES:

Dimensions BxH to be defined by the Customer.

### EXECUTIONS:

L - light, with frame 3 mm and blades 5 mm thick.

H - heavy, with frame and blades 8 mm thick.

### DRIVE:

E - Electric

P - Pneumatic

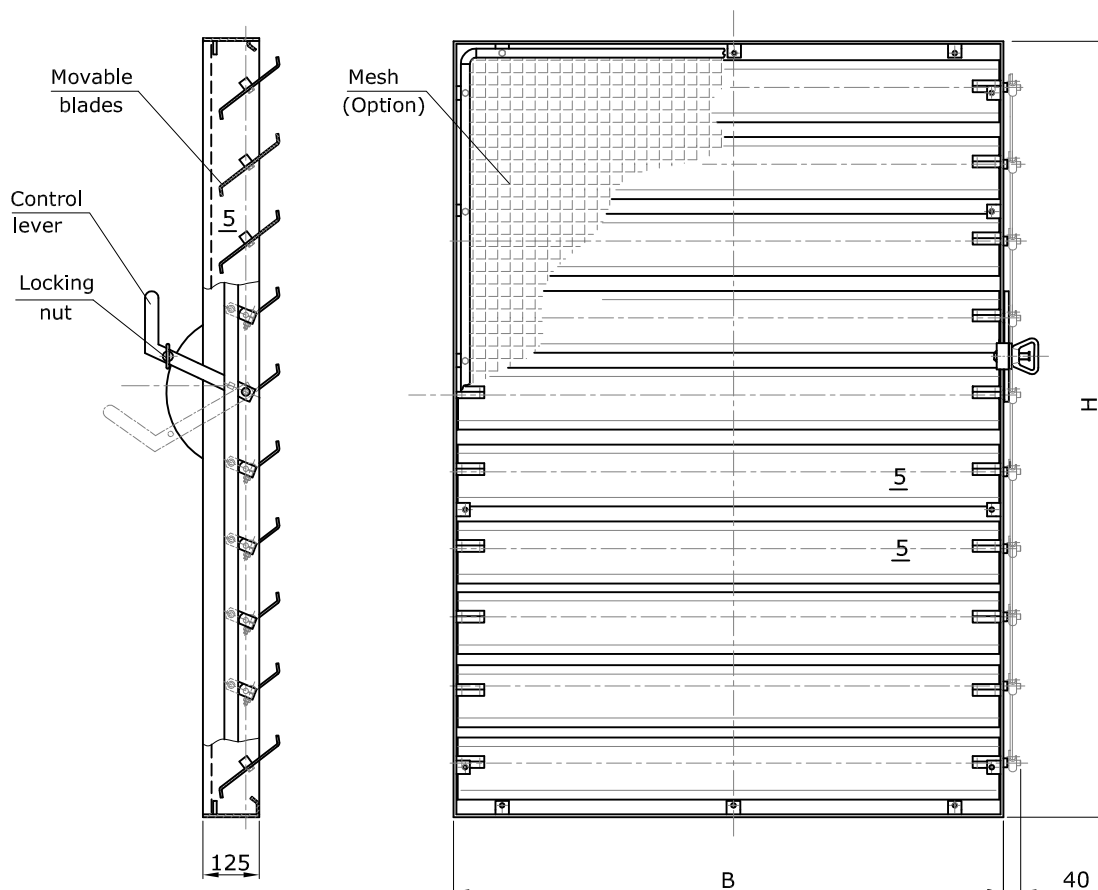
## 4. SURFACE TREATMENT

Hot-dip galvanised. Preservation with set of marine paints available on request.

## 5. MARKING

of marine louvre damper LDG of dimensions B=1000 mm, H=2000 mm in L light execution and E electric drive:

LOUVRE DAMPER LDG-1000x2000-L-E



## 1.DESTINATION

Marine ventilation adjusting dampers LDA are destined for installation in ventilation systems of seagoing ships and offshore objects.

Dampers may be used as functional flaps enabling adjustment of direction of air blown to Engine Rooms and similar spaces or full closing of opening.

## 2.CONSTRUCTION

Marine ventilation adjusting dampers LDA consist of mild steel frame and rotary blades manually controlled by lever. A locking nut enables the fixing of blades within the range from 0 to 90 deg.

Optionally damper may be equipped with wire mesh 13x13 mm (to be specified at the Order).

## 3. SIZES AND EXECUTIONS

### SIZES:

Dimensions BxH as per table above.

## 4. SURFACE TREATMENT

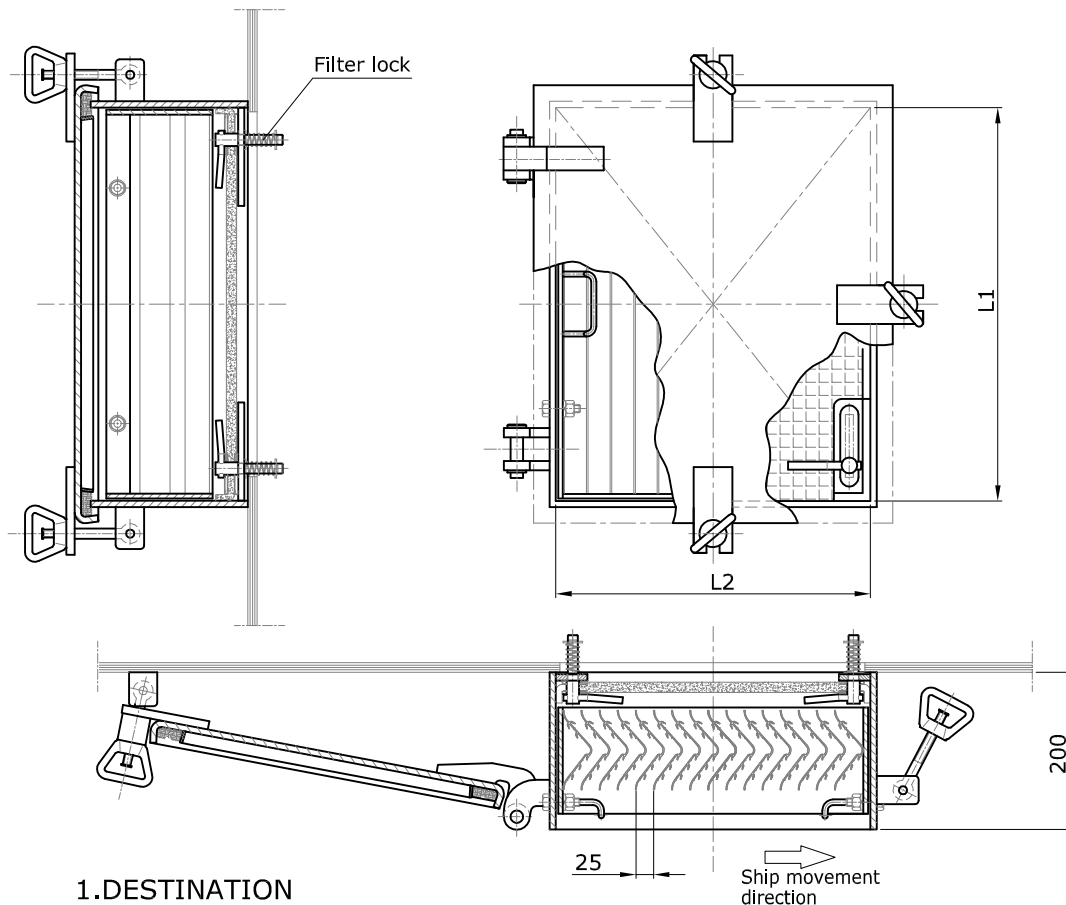
Hot-dip galvanised. Preservation with set of marine paints available on request.

## 5. MARKING

of marine adjusting damper LDA of dimensions B=800 mm, H=1550 mm:

ADJUSTING DAMPER LDA-800x1550

B	H
250 -1500 (each 50 mm)	250 -2050 (each 100 mm)



## 1. DESTINATION

Droplet eliminator louvers with air filters AC are destined for installation on steel or aluminium walls of superstructure on seagoing ships as air supply units of ventilation systems. Construction is based on standard DIN 83409 with significant extending of size range. Louvers are provided with detachable blade frame, that makes easy installation as well as access for maintenance. After the blades an EU3 class air filter is fitted. Material of filter - synthetic fabric. Initial pressure drop against the filter at air face velocity 3 m/s is 70 Pa (clean filter), recommended final pressure drop 140 Pa.

## 2. SIZES AND EXECUTIONS

Performance, construction and dimensions of droplet eliminator louvers with tiltable covers - see catalogue card ALWO/J6-01.

### SIZES:

L1xL2

### EXECUTIONS:

- D - upwards opened cover
- E - downwards opened cover
- F - cover opened to the left
- G - cover opened to the right

### MATERIAL:

- St - steel
- Al - aluminium (

## 4. SURFACE TREATMENT

Steel louvers frame and cover painted with marine epoxy paint SWA 7423-013-250, blade frame hot-dip galvanized.

Aluminium louvers do not require any preservation.

## 5. MARKING

An example of marking for ventilation louver with AC filter of size L1xL2 = 900 x 500, execution F, made of steel St:

LOUVER 900x500-AC-F-St  
acc. to ALWO/J17-01

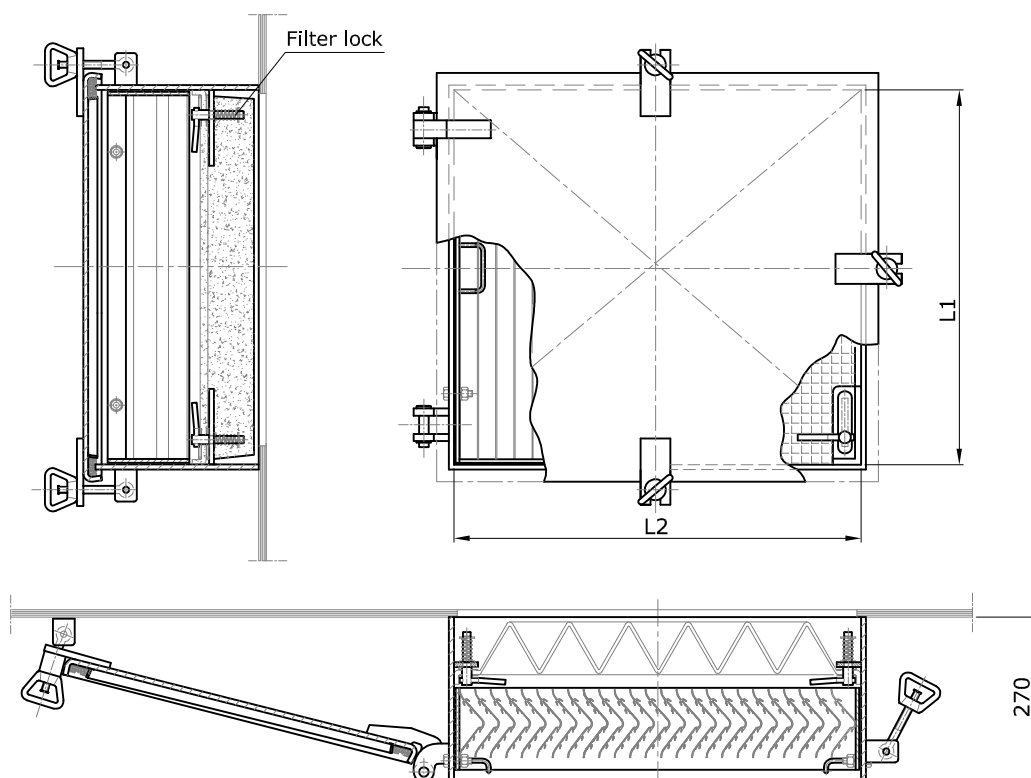
Material (steel or aluminium) should be defined in Order. Louvers can be also delivered with non-standard dimensions defined by the Buyer.

## PROFILES ARRANGEMENT

If fitted to the ship side walls, the demister profiles to be arranged as follows:

- S - demister fitted to star board bulkhead (shown on the drawing)
- P - demister fitted to port bulkhead (mirrored view)

To be specified at order, if applicable.



## 1. DESTINATION

Droplet eliminator louvers with air filters AF are destined for installation on steel or aluminium walls of superstructure on seagoing ships as air supply units of ventilation systems. Construction is based on standard DIN 83409 with significant extending of size range. Louvers are provided with detachable blade frame, that makes easy installation as well as access for maintenance. After the blades an EU3 class air filter is fitted. Material of filter - synthetic fabric. Initial pressure drop against the filter at air face velocity 6 m/s is 140Pa (clean filter), recommended final pressure drop 210Pa.

## 2. SIZES AND EXECUTIONS

Performance, construction and dimensions of droplet eliminator louvers with tiltable covers - see catalogue card ALWO/J6-01.

### SIZES:

L1xL2

### EXECUTIONS:

- D - upwards opened cover
- E - downwards opened cover
- F - cover opened to the left
- G - cover opened to the right

### MATERIAL:

- St - steel
- Al - aluminium

## 4. SURFACE TREATMENT

Steel louvers frame and cover painted with marine epoxy paint SWA 7423-013-250, blade frame hot-dip galvanized.

Aluminium louvers do not require any preservation.

## 5. MARKING

An example of marking for ventilation louver with AF filter of size L1xL2 = 900 x 500, execution F, made of steel St:

**LOUVER 900x500-AF-F-St**  
acc. to ALWO/J18-01

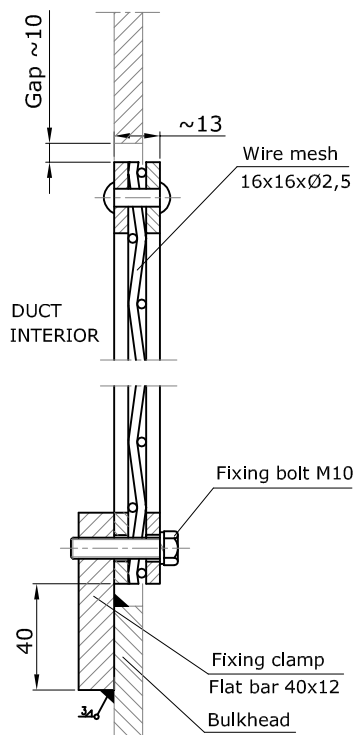
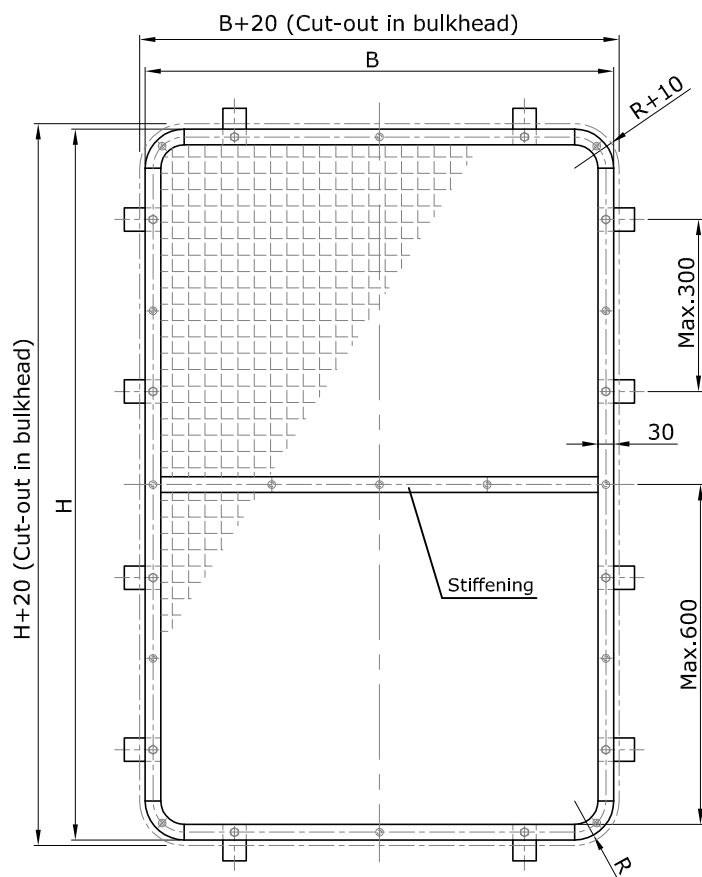
Material (steel or aluminium) should be defined in Order. Louvers can be also delivered with non-standard dimensions defined by the Buyer.

## PROFILES ARRANGEMENT

If fitted to the ship side walls, the demister profiles to be arranged as follows:

- S - demister fitted to star board bulkhead (shown on the drawing)
- P - demister fitted to port bulkhead (mirrored view)

To be specified at order, if applicable.



## 1. DESTINATION

Ventilation grids KW are destined for direct fitting on structural bulkheads or ducts of seagoing ships, e.g. as supply or exhaust grids of ventilation systems of Ro-Ro cargo spaces, engine rooms or technical spaces. Features are robust construction and easy disassembly. KW grids consist of frame with integrated wire mesh and fixing clamps for welding to the ship's structure. Recommended air velocity against the grid is 3-7 m/s. Grids are supplied with fixing bolts M10 and spring washers. Depending on size grids are equipped with horizontal and/or vertical stiffenings - detailed arrangement available on request.

## 2. SIZES

Dimensions  $B$ ,  $H$  and  $R$  of grid to be specified by the Customer. Recommended radius of grid,  $R$ , is 50-100 mm, depending on grid's size.

## 3. SURFACE TREATMENT

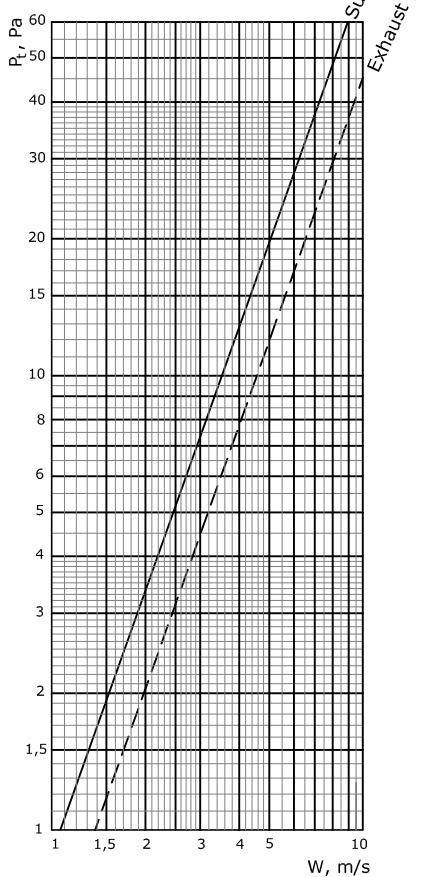
Frame and wire mesh - hot-dip galvanised. Fixing clamps - shop primed. Bolts and washers - galvanised. Wire mesh of stainless steel available on request.

## 4. MARKING

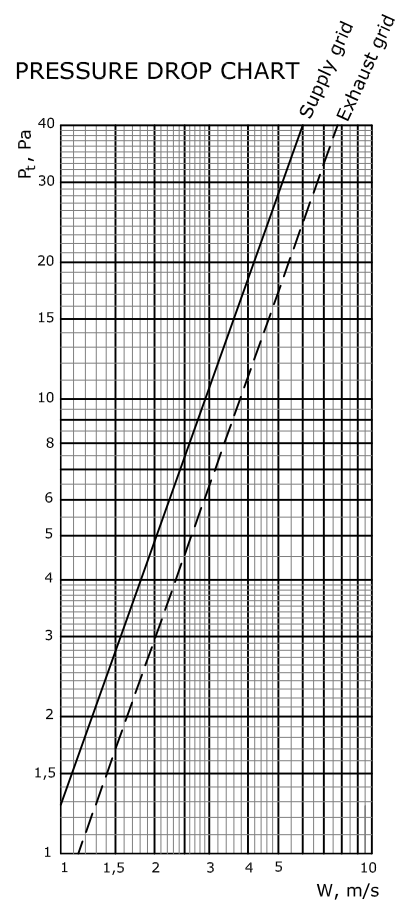
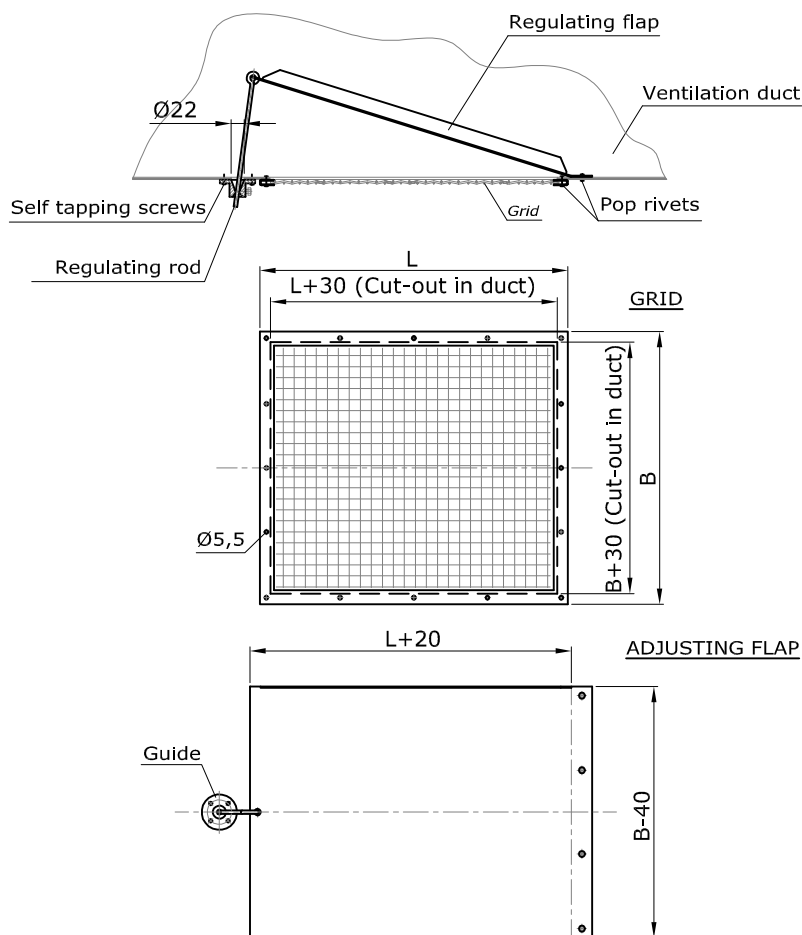
An example of marking for ventilation grid KW of breadth  $B=600$ , height  $H=900$  and radius  $R=75$ :

VENTILATION GRID KW-600x900/75  
acc. to ALWO/J19-00

PRESSURE DROP CHART







## 1. DESTINATION

Ventilation grids VGA are destined for fitting to rectangular ducts of ventilation systems serving machinery and technical spaces onseagoing ships and offshore objects.  
Can be used as air supply or exhaust units.

## 2. CONSTRUCTION

Ventilation grids VGA consist of framed wire mesh for fitting to the duct and loose supplied regulating flap with adjusting rod and rod guide.

Material - galvanised steel sheet.

Regulating flap after the airflow adjustment to be fixed at requested position, than adjusting rod excess to be cut-off.

Recommended air velocity against the grid related to the grid face area is 2-5 m/s.

## 3. SIZES

Dimensions B and H of grid to be specified by the Customer.

## 4. SURFACE TREATMENT

Frame and wire mesh - hot-dip galvanised.

Rod guide - steel, painted.

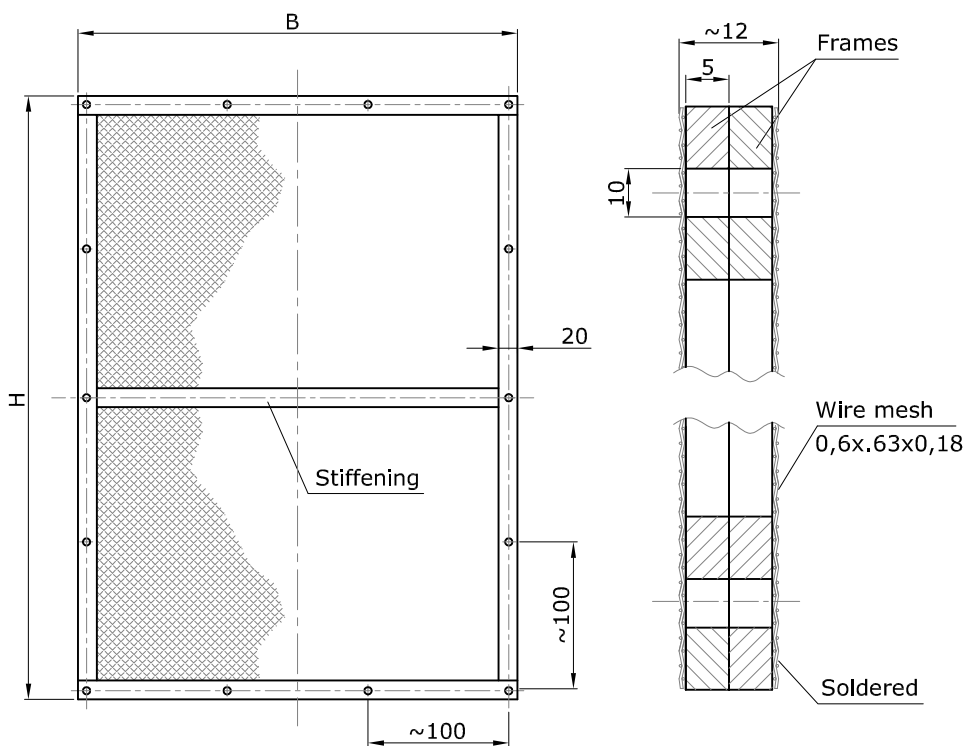
Fixing screws and rivets - not included.

Wire mesh of stainless steel available on request.

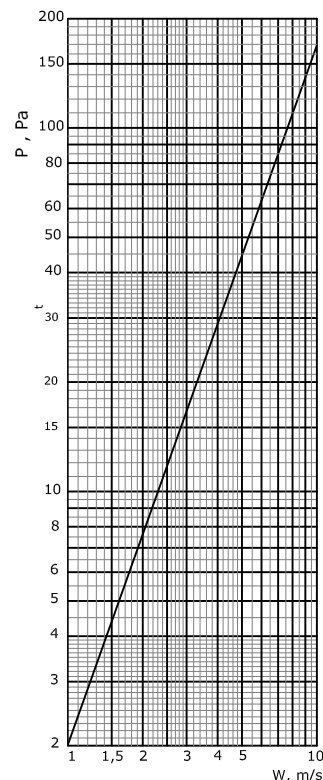
## 5. MARKING

An example of marking for ventilation grid VGA of breadth B=400 and lenght L=600:

VENTILATION GRID VGA-400x600  
acc. to ALWO/J20-00



PRESSURE DROP CHART



## 1.DESTINATION

Flameproof meshes FM type are destined for installation at ventilation intakes / outlets where protection against ingress of flames or sparks is required, eg. paint or chemicals storeroom, acetylene lockers, etc.

Consists two detachable halves in order to enable cleaning of grid's interior.

FG grid consists of two frames fabricated of mild steel, each with soldered flameproof mesh made of M80 sea water resistant brass.

Free net spacing between wires is 0,63 mm; effective area of mesh - 60%.

Depending on size meshes are equipped with horizontal and/or vertical stiffeners.

## 2. SIZES

Dimensions B and H of grid to be specified by the Customer.

## 3. SURFACE TREATMENT

Frame and stiffenings - painted with a set of marine paints. Wire mesh - untreated.

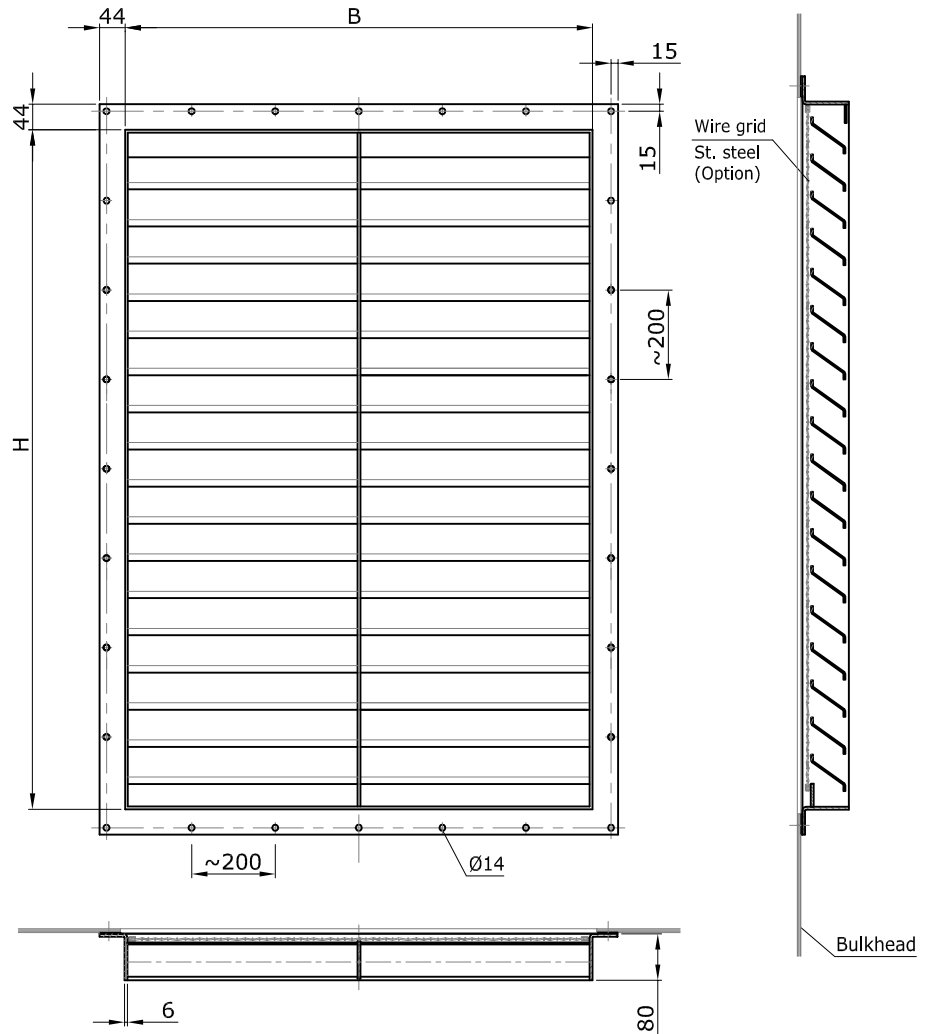
## 4. MARKING

An example of marking for flameproof mesh FM of breadth B=500, height H=400:

**FLAMEPROOF MESH FM-500x400**

acc. to ALWO/J20-00

Upon request the FM meshes can be supplied of the different shapes, eg. circular, wut round corners, etc. Details to be provided by the Customer.



### 1. DESTINATION

Marine ventilation louvers with fixed blades VLA type are destined for installation in ventilation systems of seagoing ships and offshore objects. Louvers may be fitted where weathertight closing devices (Convention ILL 1966) are not required. Regulations of SOLAS for fire closings of external ventilation openings are to be observed.

### 2. CONSTRUCTION

Louvers consist of flanged, drilled frame and a set of fixed blades.

### 3. MATERIAL

- frame, blades - carbon mild steel

### 4. SIZES AND EXECUTIONS

SIZES:

Dimensions B and H to be specified by the Customer.

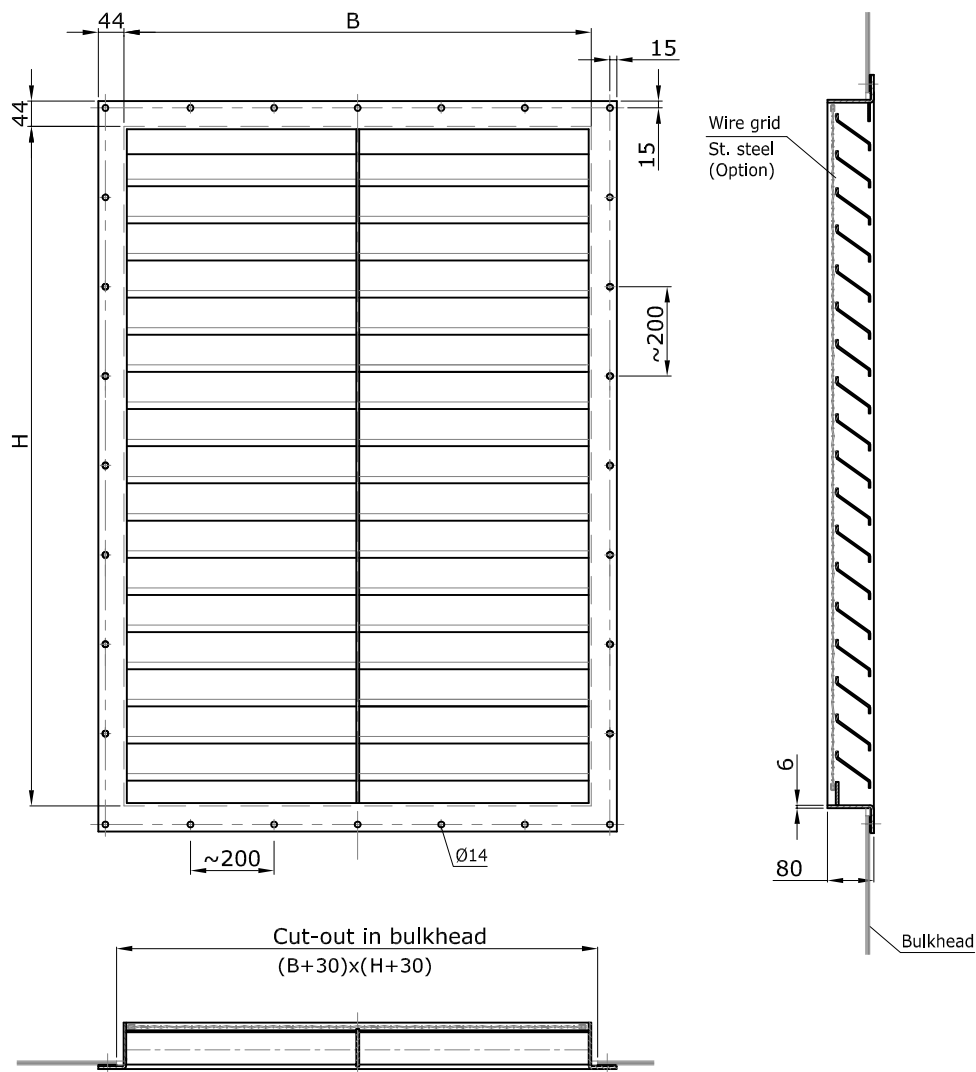
### 5. SURFACE TREATMENT

Hot-dip galvanised. Preservation with set of marine paints available on request.

### 6. MARKING

of VLA type ventilation louver with fixed blades of dimensions B=1000, H=1800:

LOUVER VLA-1000x1800  
acc. to ALWO/J22-00



### 1. DESTINATION

Marine ventilation louvers with fixed blades VLB type are destined for installation in ventilation systems of seagoing ships and offshore objects. Louvers may be fitted where weathertight closing devices (Convention ILL 1966) are not required. Regulations of SOLAS for fire closings of external ventilation openings are to be observed.

### 2. CONSTRUCTION

Louvers consist of flanged, drilled frame and a set of fixed blades.

### 3. MATERIAL

- frame, blades - carbon mild steel

### 4. SIZES AND EXECUTIONS

#### SIZES:

Dimensions B and H to be specified by the Customer.

### 5. SURFACE TREATMENT

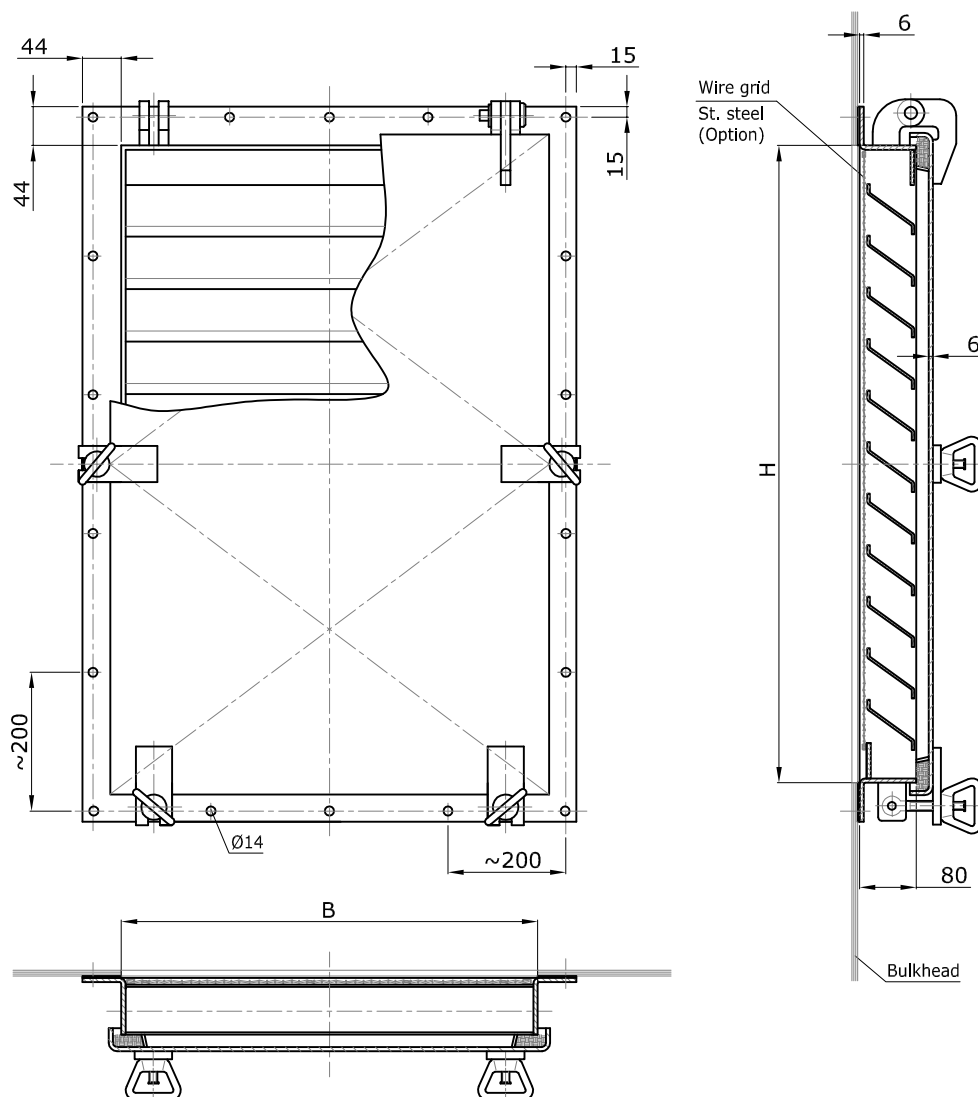
Hot-dip galvanised. Preservation with set of marine paints available on request.

### 6. MARKING

of VLB type ventilation louver with fixed blades of dimensions B=1000, H=1800:

LOUVER VLB-1000x1800

acc. to ALWO/J23-00



## 1. DESTINATION

Marine ventilation louvers with fixed blades VLH type are destined for installation in ventilation systems of seagoing ships and offshore objects. Louvers are provided with weathertight cover (hatch).

## 2. CONSTRUCTION

Louvers consist of flanged, drilled frame, a set of fixed blades and weathertight cover.

## 3. MATERIAL

- frame, blades, cover - carbon mild steel
- shafts - stainless steel
- swing-out nuts - brass
- cover gasket - rubber

## 4. SIZES AND EXECUTIONS

### SIZES:

Dimensions B and H to be specified by the Customer.

### COVER HINGES POSITION:

- top
- bottom
- right
- left

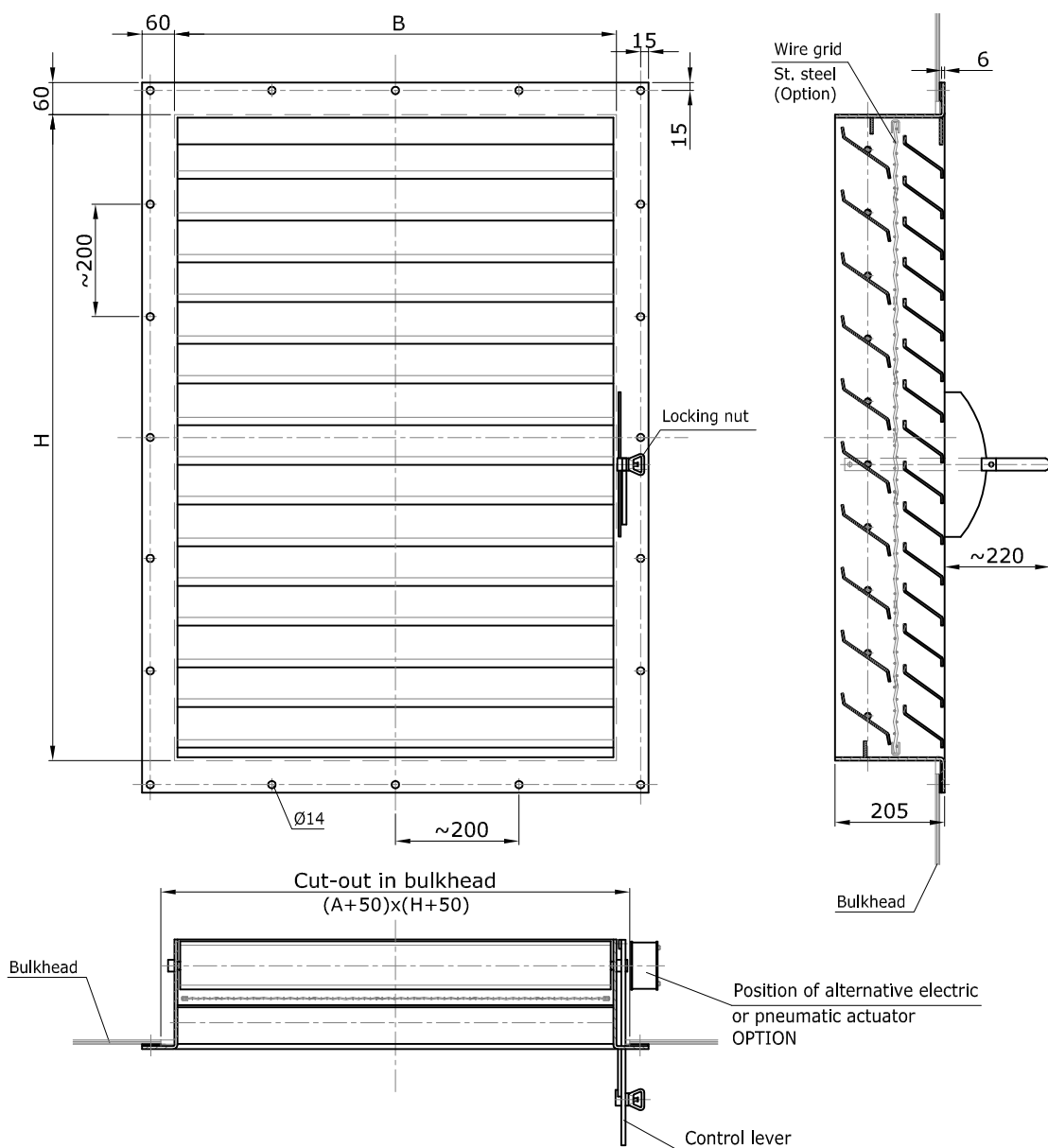
## 5. SURFACE TREATMENT

Hot-dip galvanised. Preservation with set of marine paints available on request.

## 6. MARKING

of VLH type ventilation louver with fixed blades, hinges position "top" and of dimensions B=1000, H=1800:

LOUVER VLH-1000x1800-TOP  
acc. to ALWO/J24-00



## 1. DESTINATION

Marine ventilation louvers with movable blades VLD type are destined for installation in ventilation systems of seagoing ships and offshore objects.

Louvers may be used as fire closures of main external ventilation openings, however the specific requirements of the flag administration are to be observed.

## 2. CONSTRUCTION

Louvers consist of flanged, drilled frame, a set of fixed blades and a set of movable blades (damper) operated manually with lever.

## 3. MATERIAL

- frame, blades - carbon mild steel
- shafts - stainless steel
- bolts, nuts - galvanised steel

## 4. SIZES AND EXECUTIONS

SIZES:

Dimensions B and H to be specified by the Customer.

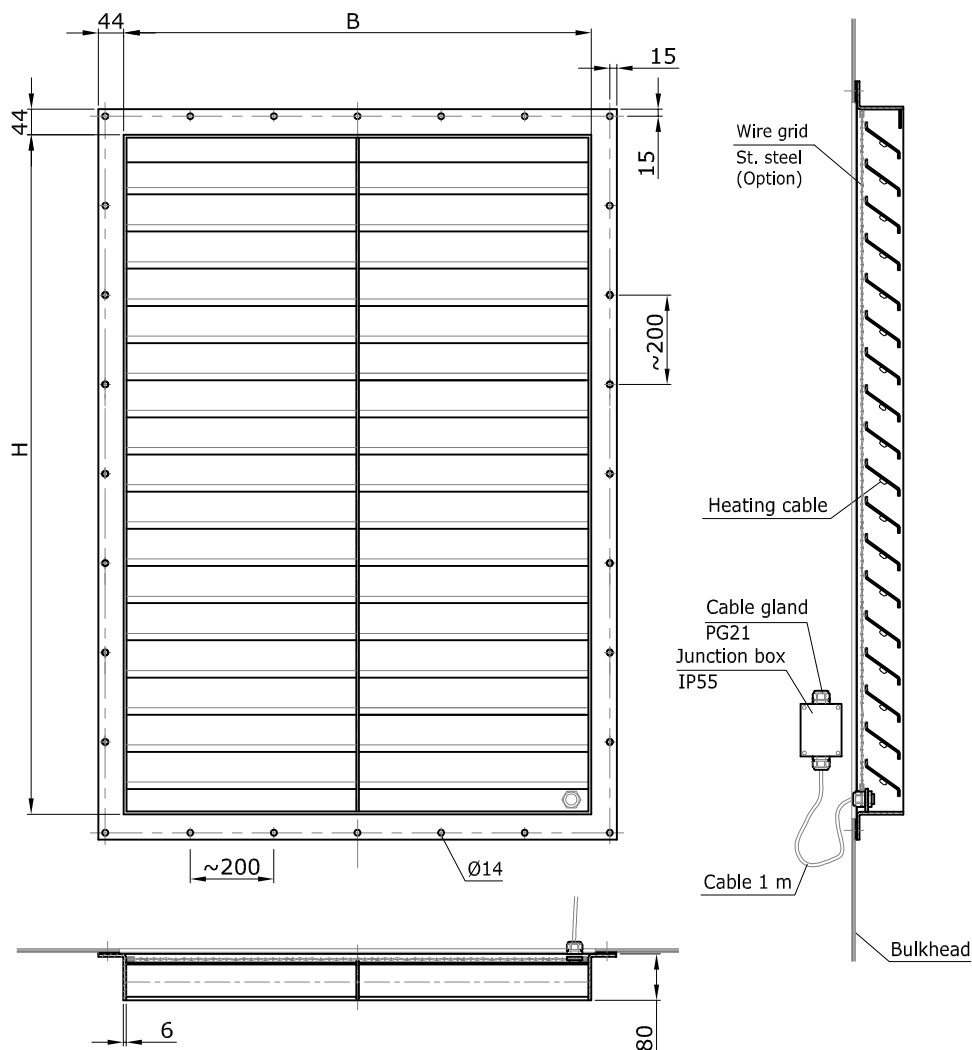
## 5. SURFACE TREATMENT

Hot-dip galvanised. Preservation with set of marine paints available on request.

## 6. MARKING

of VLD type ventilation louver with movable blades of dimensions B=1000, H=1800:

**LOUVER VLD-1000x1800**  
acc. to ALWO/25-00



## 1. DESTINATION

Marine ventilation louvers with fixed blades VLAE type are destined for installation in ventilation systems of seagoing ships and offshore objects. Prevents the ice crystals formation on blades. Louvers may be fitted where weathertight closing devices (Convention ILL 1966) are not required. Regulations of SOLAS for fire closings of external ventilation openings are to be observed.

## 2. CONSTRUCTION

Louvers consist of flanged, drilled frame and a set of fixed blades. Blades include self-regulating heating cable.

## 3. MATERIAL

- frame, blades - carbon mild steel

## 4. SIZES AND EXECUTIONS

### SIZES:

Dimensions B and H to be specified by the Customer.

## 5. PERFORMANCE

Heating capacity: 700 W/m<sup>2</sup> of separator face area at outdoor temp. -18°C. Other heating capacities available on request.

## 6. SURFACE TREATMENT

Hot-dip galvanised. Preservation with set of marine paints available on request.

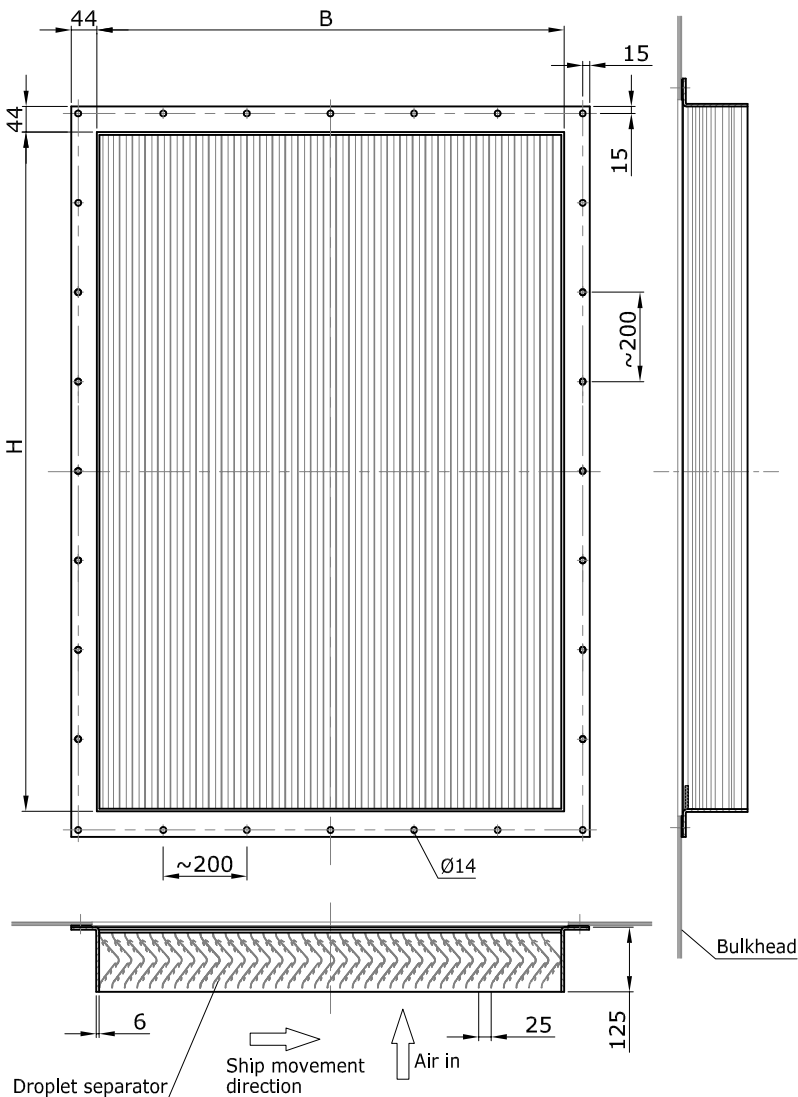
## 7. MARKING

of VLAE type ventilation louver with fixed blades of dimensions B=1000, H=1800:

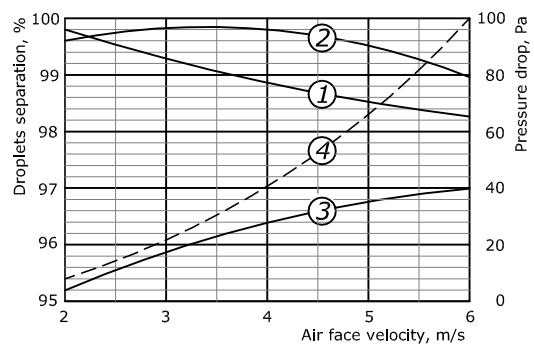
**LOUVER VLAE-1000x1800**  
acc. to ALWO/J26-00

## 8. NOTE

VLB, VLH and VLD louvers are also available in electrically heated version of performance referred to VLAE louvers. They shall be named VLBE, VLHE and VLDE, respectively.



PERFORMANCE CHART



- ① - rain, droplets 100  $\mu$ m, 10 litres/min/m<sup>2</sup>
- ② - rain, droplets 100  $\mu$ m, 25 litres/min/m<sup>2</sup>
- ③ - fog, droplets 30  $\mu$ m
- ④ - pressure drop across demister, Pa

## 1. DESTINATION

Marine mist eliminator louvers DSA are destined for installation on steel or aluminium walls of superstructure of seagoing ships and offshore objects as air intakes of ventilation systems.

## 2. CONSTRUCTION

Louvers consist of flanged, drilled frame incorporating vertical, high efficiency mist separating profiles, specially shaped.

Louvers can be fitted in positions where wheater-tight closing device (Convention ILL 1966) are not required. Regulations of SOLAS for fire closings of external ventilation openings are to be observed.

## 3. MATERIAL

- frame - carbon mild steel
- mist eliminator profiles - sea water resistant aluminium

## 4. SIZES AND EXECUTIONS

### SIZES:

Dimensions B and H to be specified by the Customer.

### PROFILES ARRANGEMENT (in dependance to demister position)

S - demister fitted to star board bulkhead (shown on the drawing)

P - demister fitted to port bulkhead

## 5. SURFACE TREATMENT

Frame hot-dip galvanised. Preservation with set of marine paints available on request.

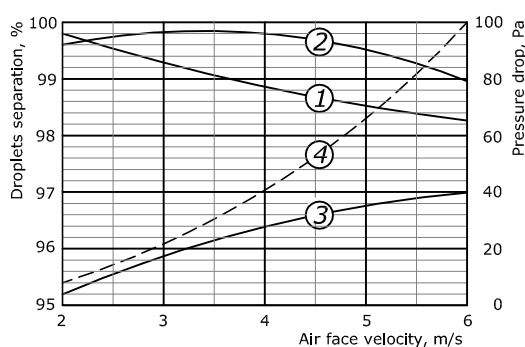
## 6. MARKING

of DSA type demister louver of dimensions B=1200 and H=1800 and for installation on star board bulkhead S:

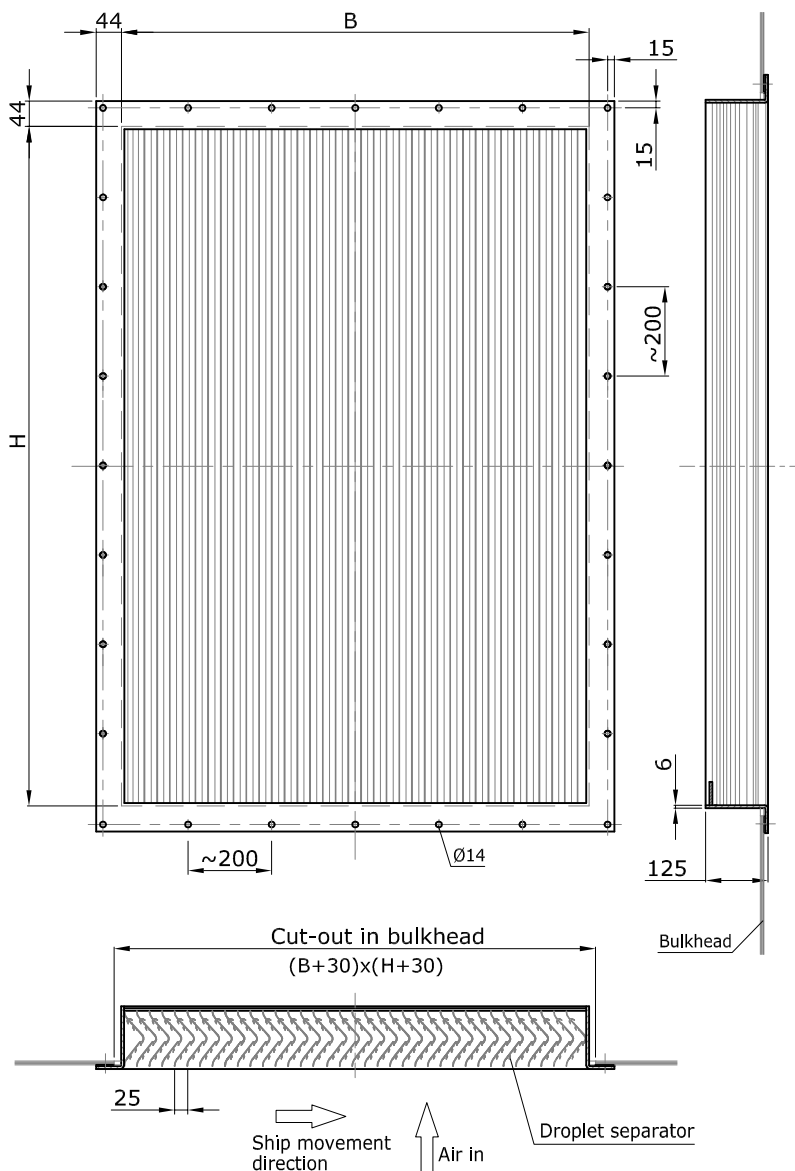
DEMISTER LOUVER DSA-1000x1800-S  
acc. to ALWO/J27-00



PERFORMANCE CHART



- ① - rain, droplets 100 um, 10 litres/min/m<sup>2</sup>
- ② - rain, droplets 100 um, 25 litres/min/m<sup>2</sup>
- ③ - fog, droplets 30 um
- ④ - pressure drop across demister, Pa



## 1. DESTINATION

Marine mist eliminator louvers DSB are destined for installation on steel or aluminium walls of superstructure of seagoing ships and offshore objects as air intakes of ventilation systems.

## 2. CONSTRUCTION

Louvers consist of flanged, drilled frame incorporating vertical, high efficiency mist separating profiles, specially shaped.

Louvers can be fitted in positions where wheather-tight closing device (Convention ILL 1966) are not required. Regulations of SOLAS for fire closings of external ventilation openings are to be observed.

## 3. MATERIAL

- frame - carbon mild steel
- mist eliminator profiles - sea water resistant aluminium

## 4. SIZES AND EXECUTIONS

### SIZES:

Dimensions B and H to be specified by the Customer.

PROFILES ARRANGEMENT (in dependance to demister position)

S - demister fitted to star board bulkhead (shown on the drawing)

P - demister fitted to port bulkhead (mirror view)

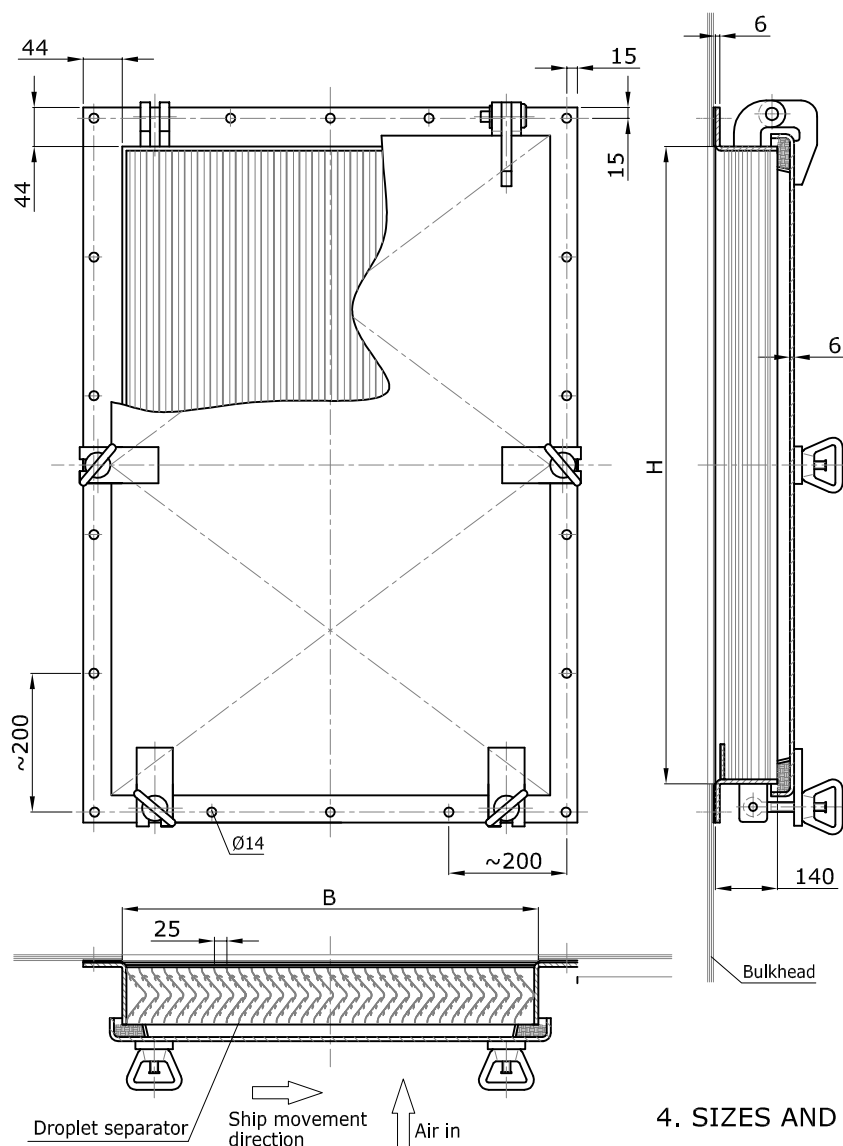
## 5. SURFACE TREATMENT

Frame hot-dip galvanised. Preservation with set of marine paints available on request.

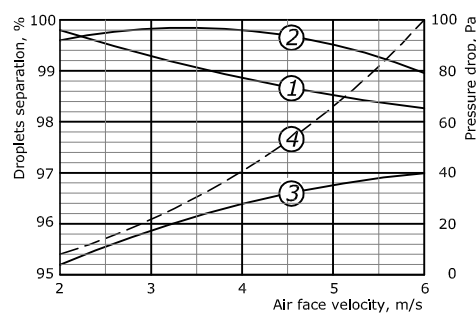
## 6. MARKING

of DSB type demister louver of dimensions B=1200 and H=1800 and for installation on star board bulkhead S:

DEMISTER LOUVER DSB-1000x1800-S  
acc. to ALWO/J28-00



PERFORMANCE CHART



- ① - rain, droplets 100 um, 10 litres/min/m<sup>2</sup>
- ② - rain, droplets 100 um, 25 litres/min/m<sup>2</sup>
- ③ - fog, droplets 30 um
- ④ - pressure drop across demister, Pa

## 4. SIZES AND EXECUTIONS

### SIZES:

Dimensions B and H to be specified by the Customer.

PROFILES ARRANGEMENT (in dependance to demister position)

S - demister fitted to star board bulkhead (shown on the drawing)

P - demister fitted to port bulkhead (mirror view)

### COVER HINGES POSITION:

- top
- bottom
- right
- left

## 5. SURFACE TREATMENT

Steel parts hot-dip galvanised. Preservation with set of marine paints available on request.

## 6. MARKING

of DSH type demister louver of dimensions B=1200 and H=1800 and for installation on star board bulkhead and with cover "top" hinged:

DEMISTER LOUVER DSH-1000x1800-S-TOP  
acc. to ALWO/J29-00

## 1. DESTINATION

Marine mist eliminator louvers DSH are destined for installation on steel or aluminium walls of superstructure of seagoing ships and offshore objects as air intakes of ventilation systems.

Louvers are provided with weathertight cover (hatch).

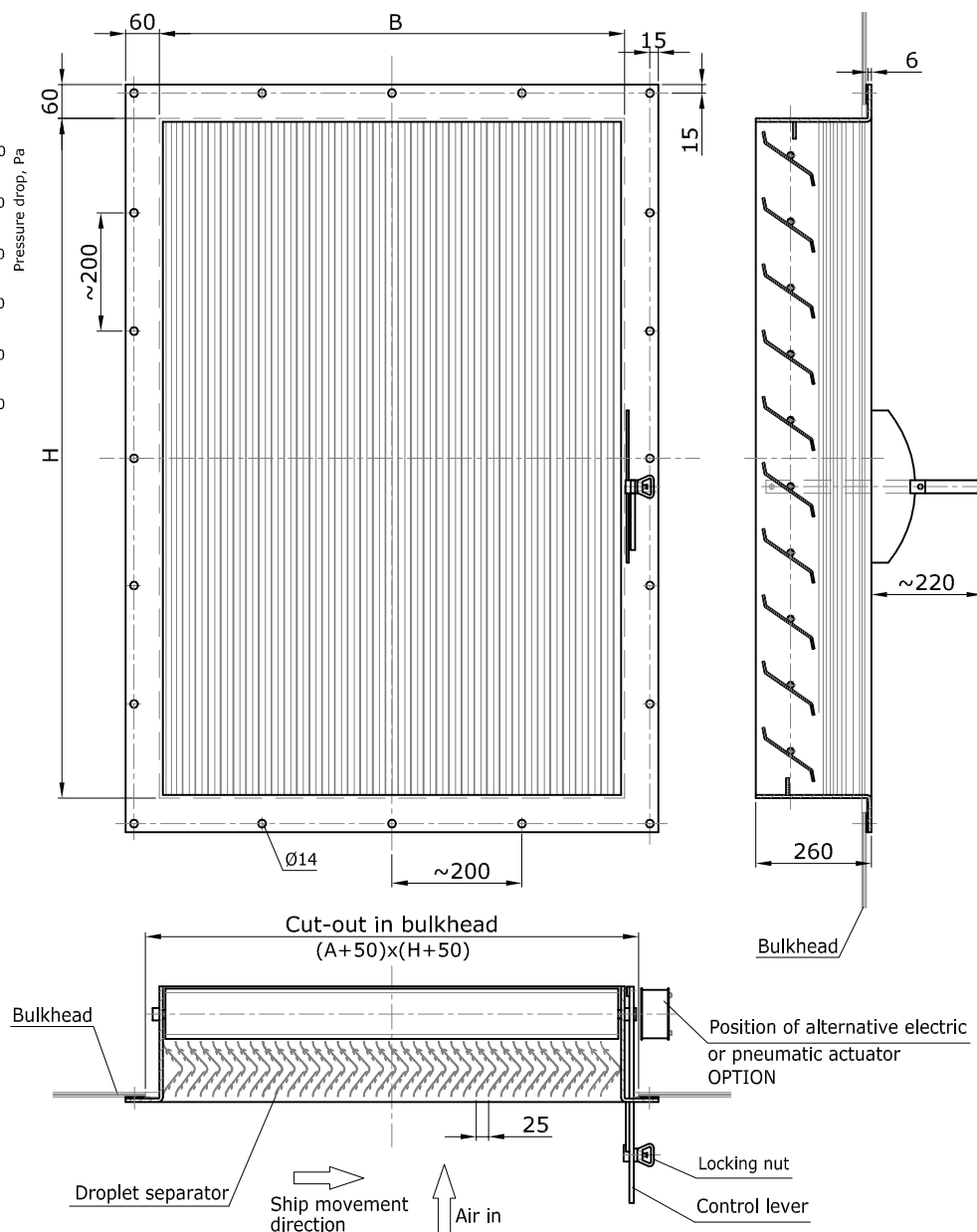
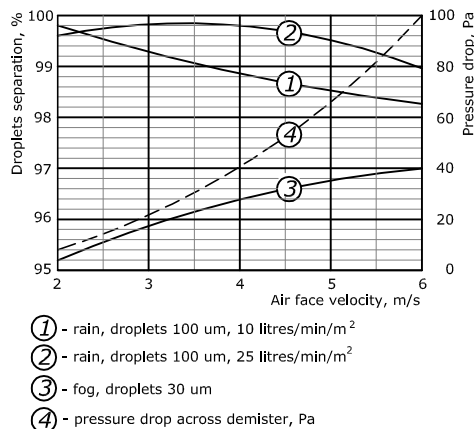
## 2. CONSTRUCTION

Louvers consist of flanged, drilled frame incorporating vertical, high efficiency mist separating profiles, specially shaped.

## 3. MATERIAL

- frame, blades, cover - carbon mild steel
- shafts - stainless steel
- swing-out nuts - brass
- cover gasket - rubber
- mist eliminator profiles - sea water resistant aluminium

PERFORMANCE CHART



### 1. DESTINATION

Marine mist eliminator louvers with movable blades DSD type are destined for installation in ventilation systems of seagoing ships and offshore objects.

Louvers may be used as fire closures of main external ventilation openings, however the specific requirements of the flag administration are to be observed.

### 2. CONSTRUCTION

Louvers consist of flanged, drilled frame incorporating vertical, high efficiency mist separating profiles, specially shaped and a set of movable blades (damper) operated manually with lever.

### 3. MATERIAL

- frame - carbon mild steel
- shafts - stainless steel
- bolts, nuts - galvanised steel
- mist eliminator profiles - sea water resistant aluminium

### 4. SIZES AND EXECUTIONS

#### SIZES:

Dimensions B and H to be specified by the Customer.

PROFILES ARRANGEMENT (in dependance to demister position)

S - demister fitted to star board bulkhead (shown on the drawing)

P - demister fitted to port bulkhead (mirror view)

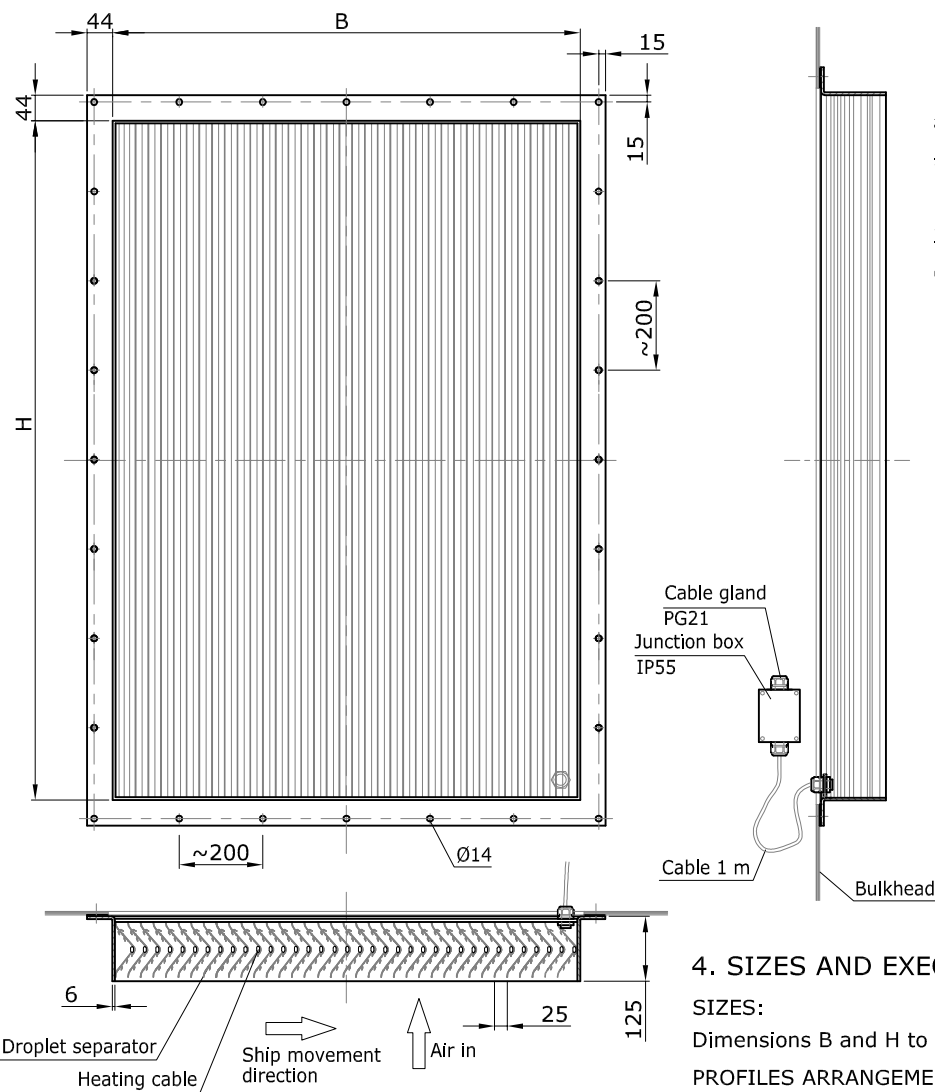
### 5. SURFACE TREATMENT

Steel parts hot-dip galvanised. Preservation with set of marine paints available on request.

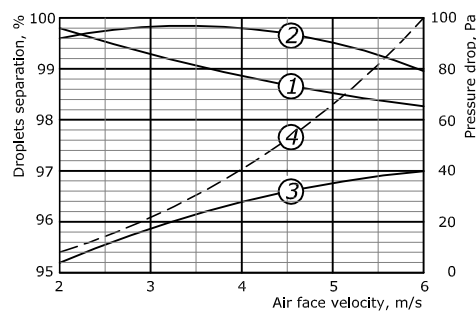
### 6. MARKING

of DSD type demister louver with movable blades of dimensions B=1000, H=1800 and for installation on star board bulkhead:

DEMISTER LOUVER DSD-1000x1800-S  
acc. to ALWO/J30-00



PERFORMANCE CHART



- ① - rain, droplets 100 um, 10 litres/min/m<sup>2</sup>
- ② - rain, droplets 100 um, 25 litres/min/m<sup>2</sup>
- ③ - fog, droplets 30 um
- ④ - pressure drop across demister, Pa

## 4. SIZES AND EXECUTIONS

### SIZES:

Dimensions B and H to be specified by the Customer.

PROFILES ARRANGEMENT (in dependance to demister position)

S - demister fitted to star board bulkhead (shown on the drawing)

P - demister fitted to port bulkhead

## 5. PERFORMANCE

Heating capacity: 1600 W/m<sup>2</sup> of separator face area at outdoor temp. -18°C.

Other heating capacities available on request.

## 6. SURFACE TREATMENT

Steel parts hot-dip galvanised. Preservation with set of marine paints available on request.

## 7. MARKING

of DSAE type demister louver of dimensions B=1200 and H=1800 and for installation on star board bulkhead S:

DEMISTER LOUVER DSAE-1000x1800-S  
acc. to ALWO/J31-00

## 8. NOTE

DSB, DSH and DSD demister louvers are also available in electrically heated version of performance referred to DSAE louvers. Than shall be named DSBE, DSHE and DSDE, respectively.

## 1. DESTINATION

Marine mist eliminator louvers DSAE are destined for installation on steel or aluminium walls of superstructure of seagoing ships and offshore objects as air intakes of ventilation systems.

Provides high effective separation of sea / rain droplets and prevents the ice crystals formation on blades.

## 2. CONSTRUCTION

Louvers consist of flanged, drilled frame incorporating vertical, high efficiency mist separating profiles, specially shaped.

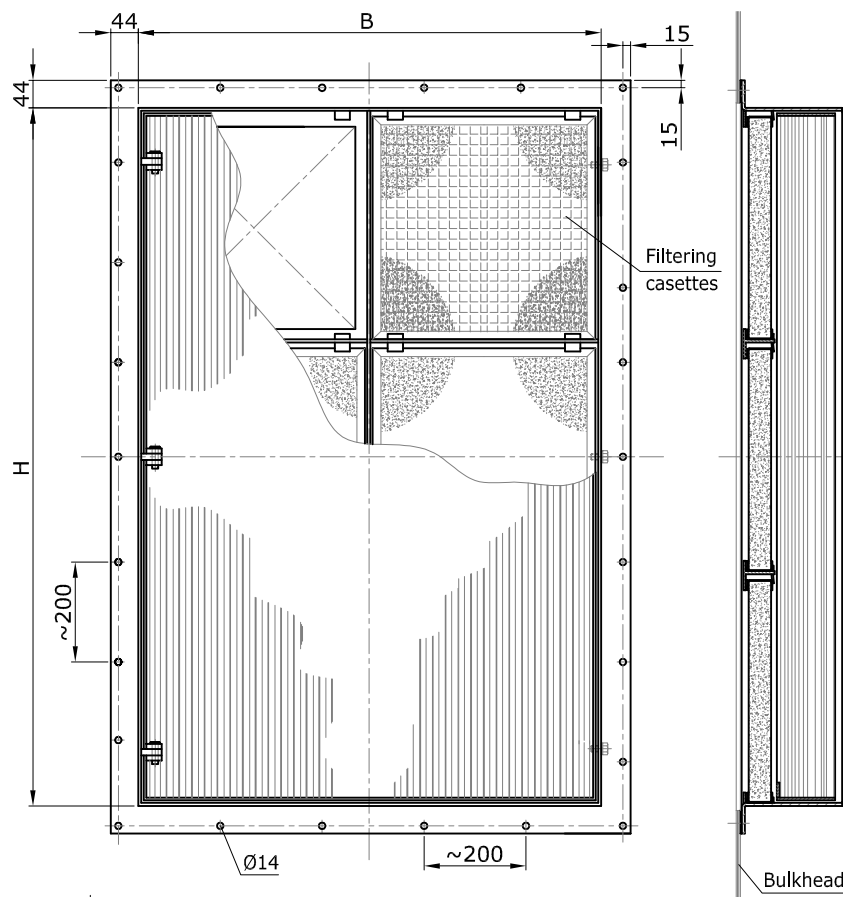
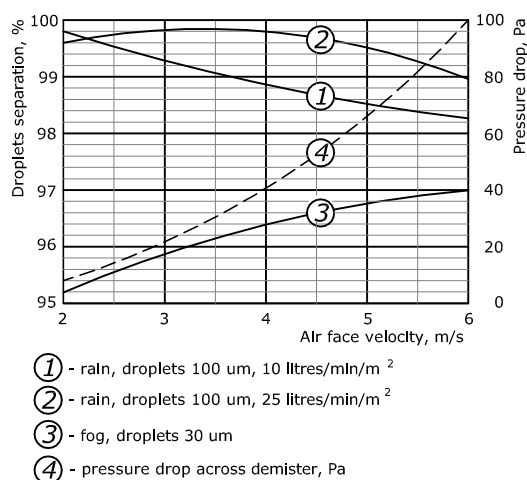
Profiles include self-regulating heating cable.

Louvers can be fitted in positions where wheater-tight closing device (Convention ILL 1966) are not required. Regulations of SOLAS for fire closings of external ventilation openings are to be observed.

## 3. MATERIAL

- frame - carbon mild steel
- mist eliminator profiles - sea water resistant aluminium

PERFORMANCE CHART



## 1. DESTINATION

Marine mist eliminator louvers DSAF are destined for installation on steel or aluminium walls of superstructure walls of seagoing ships and offshore objects as air intakes of ventilation systems.

## 2. CONSTRUCTION

Louvers consist of flanged, drilled frame, a set of easy detachable filtering cassettes and hinged, framed high efficiency mist separating profiles, specially shaped. Front access to filter removal after opening of demister. Louvers can be fitted in positions where wheater-tight closing device (Convention ILL 1966) are not required. Regulations of SOLAS for fire closings of external ventilation openings are to be observed.

## 3. MATERIAL

- frame, grating for filter cassettes - carbon mild steel
- mist eliminator profiles - sea water resistant aluminium
- shafts - stainless steel
- filter material - synthetic fibre

## 4. SIZES AND EXECUTIONS

### SIZES:

Dimensions B and H to be specified by the Customer.

### PROFILES ARRANGEMENT (in dependance to demister position)

- S - demister fitted to star board bulkhead (shown on the drawing)
- P - demister fitted to port bulkhead (mirror view)

### HINGES POSITION:

- L - left (shown on the drawing)
- R - right

## 5. PERFORMANCE

- Filter class - G4 acc. to EN 779:2002
- Recommended air face velocity: 3 m/sec
- Initial pressure drop: 90 Pa
- Recommended final pressure drop: 280 Pa
- Other filter classes and types available on request.

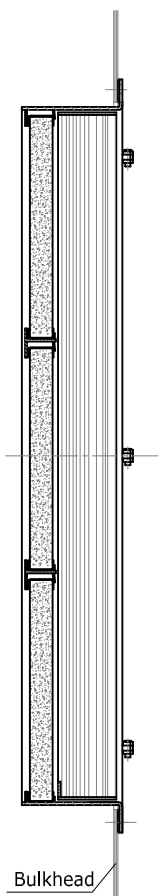
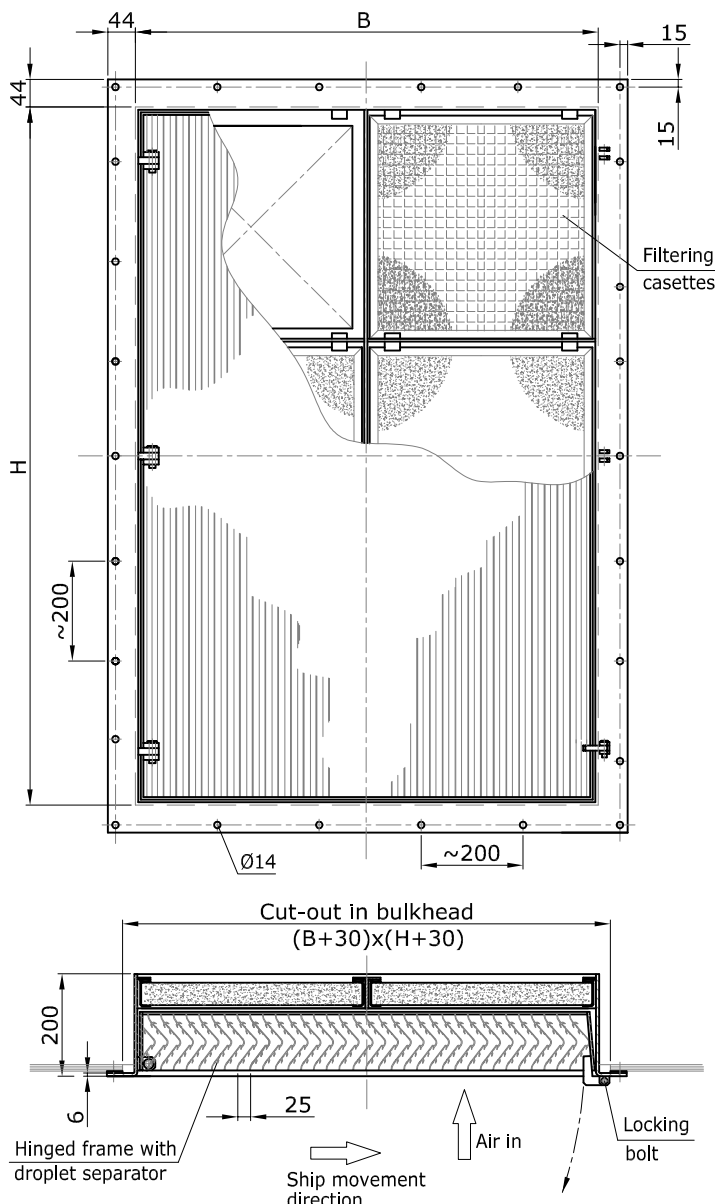
## 6. SURFACE TREATMENT

Steel parts hot-dip galvanised. Preservation with set of marine paints available on request.

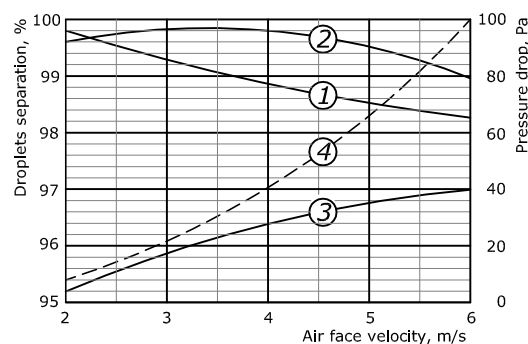
## 7. MARKING

of DSAF type demister louver of dimensions B=1200 and H=1800, for installation on star board bulkhead and left hinged:

DEMISTER WITH FILTER DSAF-1000x1800S-L  
acc. to ALWO/J32-00



PERFORMANCE CHART



- ① - rain, droplets 100 um, 10 litres/min/m<sup>2</sup>
- ② - rain, droplets 100 um, 25 litres/min/m<sup>2</sup>
- ③ - fog, droplets 30 um
- ④ - pressure drop across demister, Pa

## 4. SIZES AND EXECUTIONS

### SIZES:

Dimensions B and H to be specified by the Customer.

### PROFILES ARRANGEMENT (in dependance to demister position)

S - demister fitted to star board bulkhead (shown on the drawing)

P - demister fitted to port bulkhead (mirror view)

### HINGES POSITION:

L - left (shown on the drawing)

R - right

## 5. PERFORMANCE

Filter class - G4 acc. to EN 779:2002

Recommended air face velocity: 3 m/sec

Initial pressure drop: 90 Pa

Recommended final pressure drop: 280 Pa

Other filter classes and types available on request.

## 6. SURFACE TREATMENT

Steel parts hot-dip galvanised. Preservation with set of marine paints available on request.

## 7. MARKING

of DSBF type demister louver of dimensions B=1200 and H=1800, for installation on starboard bulkhead S and left hinged L:

DEMISTER WITH FILTER DSBF-1000x1800-S-L  
acc. to ALWO/J33-00

## 1. DESTINATION

Marine mist eliminator louvers DSBF are destined for installation on steel or aluminium walls of superstructure of seagoing ships and offshore objects as air intakes of ventilation systems.

## 2. CONSTRUCTION

Louvers consist of flanged, drilled frame, a set of easy detachable filtering cassettes and hinged, framed high efficiency mist separating profiles, specially shaped. Front access to filter removal after opening of demister. Louvers can be fitted in positions where wheater-tight closing device (Convention ILL 1966) are not required. Regulations of SOLAS for fire closings of external ventilation openings are to be observed.

## 3. MATERIAL

- frame, grating for filter cassettes - carbon mild steel
- mist eliminator profiles - sea water resistant aluminium
- shafts - stainless steel
- filter material - synthetic fibre



