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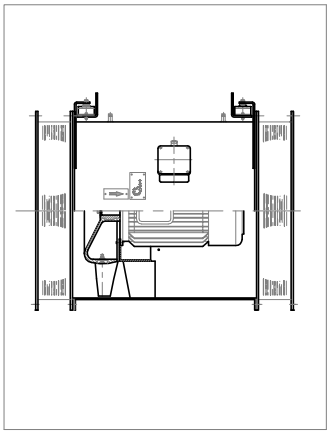
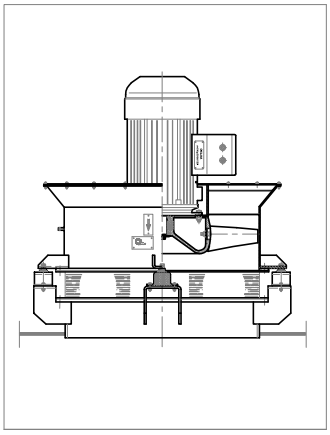
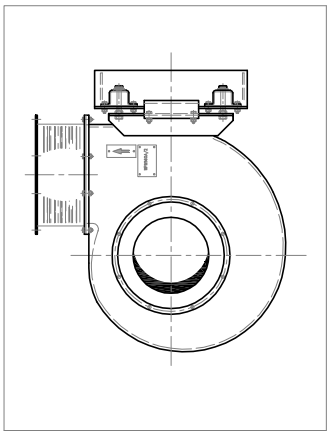


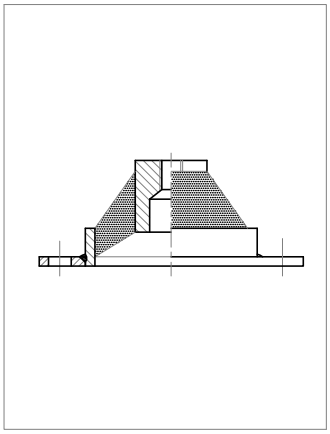
Resilient mounts of WMOR fan



Resilient mounts of WMOW fan



Resilient mounts of WPM fan

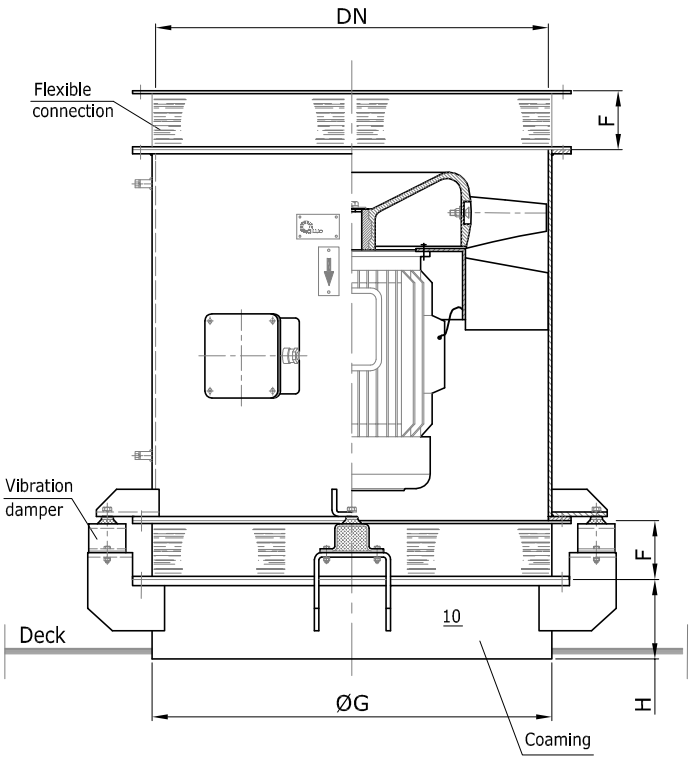


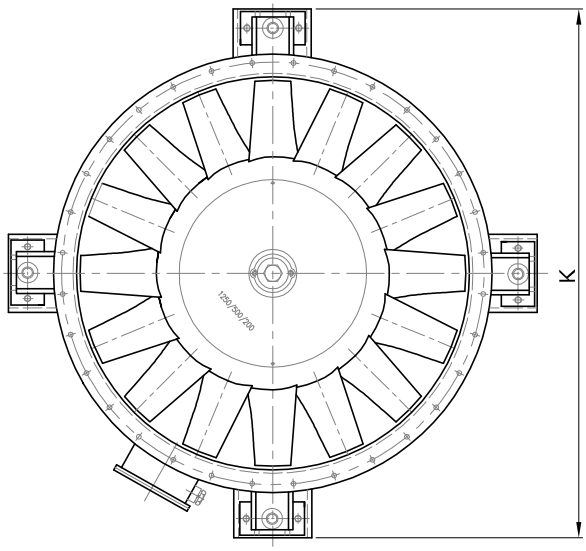
Anti vibration damper T

VERTICAL RESILIENT MOUNTS OF AXIAL-FLOW FANS WMOR

Fantype	DN	F	G	H	K	Weight* kg
WMOR 200	200	125	220	150	380	12,6
WMOR 250	250	125	270	150	430	15,8
WMOR 315	315	125	335	150	495	20,8
WMOR 355	355	125	375	150	545	23,2
WMOR 400	400	125	420	150	590	25,1
WMOR 450	450	125	470	150	660	28,2
WMOR 500	500	150	520	150	720	31,1
WMOR 560	560	150	580	150	820	38,4
WMOR 630	630	150	650	170	880	43,1
WMOR 710	710	150	730	170	960	48,0
WMOR 800	800	150	820	170	1060	54,7
WMOR 900	900	150	920	170	1150	62,3
WMOR 1000	1000	150	1020	170	1290	68,3
WMOR 1120	1120	150	1140	200	1460	87,6
WMOR 1250	1250	150	1270	200	1610	98,3
WMOR 1400	1400	150	1420	200	1770	108,3
WMOR 1600	1600	150	1620	200	1980	123,6

* Weight of the set without fan





1. DESTINATION

Resilient mounts of axial-flow fans WMOR execution L - light (see ALWO/A1-01) significantly reduces the transmission of vibrations and structure-born noise generated by fans installed in ships ventilation systems.

2. CONSTRUCTION

Vertical resilient mounts of axial-flow fans consists of steel coaming for welding to steel deck and a set of vibration dampers.

Performance and number of dampers are selected individually in dependance of total weight of fan to be associated, as well as speed of fan's impeller.

Fan is connected to the coaming with a flexible joint made of non-combustible material and sealed with rubber gaskets.

Casing of fan is fitted with suspending brackets welded to the housing.

Dimensions of flanges as per ALWO/A1-01.

3. INSTALLATION GUIDANCE

Ship structure in way of installation of fan to be suitably stiffened.

Plane of coaming flange to be positioned horisontally.

Drawing reflects an arrangement with supply fan. Exhaust fans are mounted with impeller in lower and motor in upper position.

4. SURFACE TREATMENT

Painted with marine epoxy paint SWA 7423-014-250.

5. MARKING

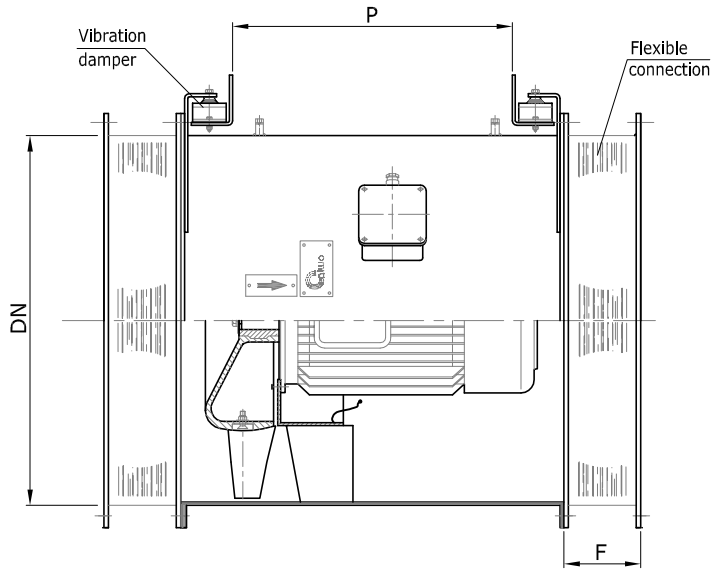
An example of marking for vertical resilient mounts of axial-flow fan WMOR 1000-L on standard coaming of height H=170:

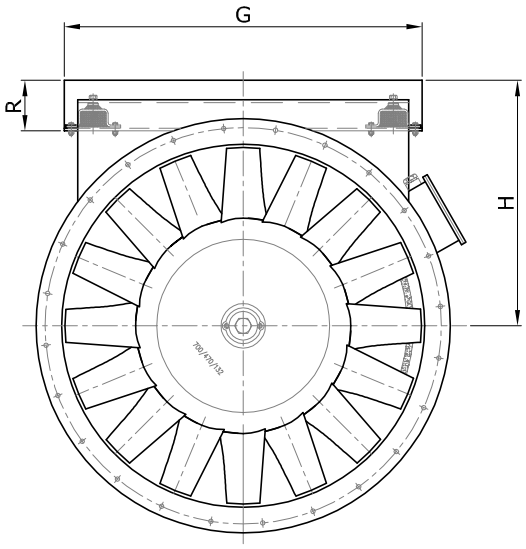
FAN RESILIENT MOUNTS WMOR V-1000-170

Fan to be ordered separately.

Higher coaming on request - height to be specified by the Customer.

HORIZONTAL RESILIENT MOUNTS OF AXIAL-FLOW FANS WMOR





Fantype	DN	G	R	H	P	F	Weight* kg
WMOR 200	200	260	80	200	220	125	13,4
WMOR 250	250	300	80	220	260	125	21,3
WMOR 315	315	350	80	250	260	125	22,5
WMOR 355	355	380	80	280	260	125	25,2
WMOR 400	400	400	80	300	350	125	27,3
WMOR 450	450	450	80	330	350	125	29,2
WMOR 500	500	500	100	370	450	150	33,3
WMOR 560	560	560	100	400	500	150	37,0
WMOR 630	630	630	100	440	450	150	44,7
WMOR 710	710	710	100	480	500	150	50,1
WMOR 800	800	800	120	550	500	150	55,8
WMOR 900	900	900	120	590	580	150	62,3
WMOR 1000	1000	1000	120	640	670	150	70,1

* Weight of the set without fan

1. DESTINATION

Resilient mounts of axial-flow fans WMOR execution L - light (see ALWO/A1-01) significantly reduces the transmission of vibrations and structure-born noise generated by fans installed in ships ventilation systems.

2. CONSTRUCTION

Horizontal resilient mounts of axial-flow fans consists of steel bracket for welding to steel structure and a set of vibration dampers. Performance and number of dampers are selected individually in dependance of total weight of fan to be associated, as well as speed of fan's impeller.

Fan inlet / outlet provided with flexible joints made of non-combustible material and sealed with rubber gaskets.

Casing of fan is fitted with suspending brackets bolted to the housing.

Dimensions of flanges as per ALWO/A1-01.

3. INSTALLATION GUIDANCE

Ship structure in way of installation of fan to be suitably stiffened.

4. SURFACE TREATMENT

Painted with marine epoxy paint SWA 7423-014-250.

5. MARKING

An example of marking for horizontal resilient mounts of axial-flow fan WMOR 1000-L:

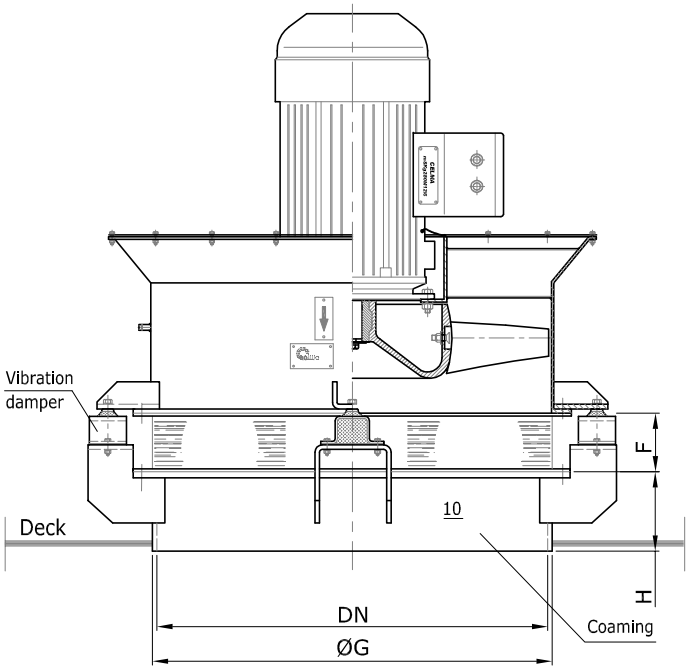
FAN RESILIENT MOUNTS WMOR H-1000

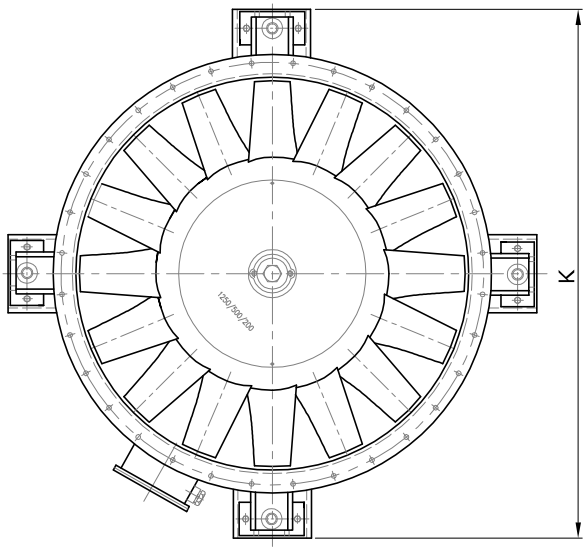
Fan to be ordered separately.

VERTICAL RESILIENT MOUNTS OF AXIAL-FLOW FANS WMOW

Fantype	DN	F	G	H	K	Weight* kg
WMOW 400	400	125	420	150	590	16,0
WMOW 500	500	150	520	150	720	20,2
WMOW 560	560	150	580	150	820	26,1
WMOW 630	630	150	650	170	880	28,2
WMOW 710	710	150	730	170	960	31,3
WMOW 800	800	150	820	170	1060	36,1
WMOW 900	900	150	920	170	1150	41,4
WMOW 1000	1000	150	1020	170	1290	45,3
WMOW 1120	1120	150	1140	200	1460	56,6
WMOW 1250	1250	150	1270	200	1610	67,2
WMOW 1400	1400	150	1420	200	1770	74,3
WMOW 1600	1600	150	1620	200	1980	85,6

* Weight of the set without fan





1. DESTINATION

Resilient mounts of axial-flow fans WMOW (see ALWO/A3-00) significantly reduces the transmission of vibrations and structure-born noise generated by fans installed in ships ventilation systems.

2. CONSTRUCTION

Vertical resilient mounts of axial-flow fans consists of steel coaming for welding to steel deck and a set of vibration dampers.

Performance and number of dampers are selected individually in dependance of total weight of fan to be associated, as well as speed of fan's impeller.

Fan is connected to the coaming with a flexible joint made of non-combustible material and sealed with rubber gaskets.

Casing of fan is fitted with suspending brackets welded to the housing.

Dimensions of flanges as per ALWO/A3-00.

3. INSTALLATION GUIDANCE

Ship structure in way of installation of fan to be suitably stiffened.

Plane of coaming flange to be positioned horisontally.

4. SURFACE TREATMENT

Painted with marine epoxy paint SWA 7423-014-250.

5. MARKING

An example of marking for vertical resilient mounts of axial-flow fan WMOW 1000 on standard coaming of height H=170:

FAN RESILIENT MOUNTS WMOW V-1000-170

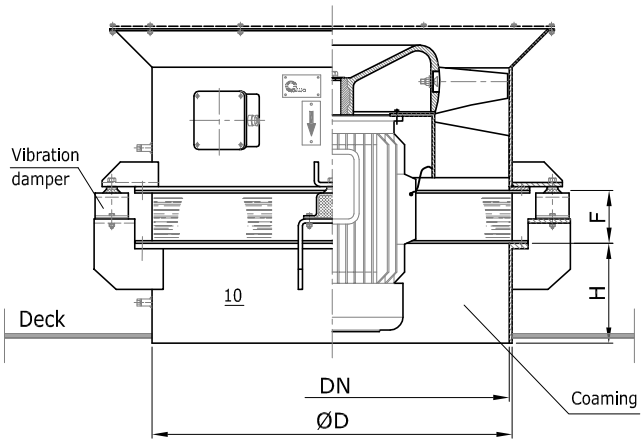
Fan to be ordered separately.

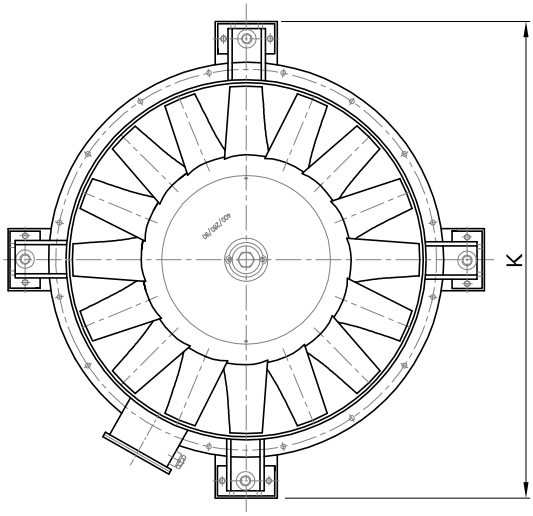
Higher coaming on request - height to be specified by the Customer.

VERTICAL RESILIENT MOUNTS OF AXIAL-FLOW FANS WMOS

Fantype	DN	F	G	H	K	Weight* kg
WMOS 400	400	125	420	150	590	16,0
WMOS 500	500	150	520	150	720	20,2
WMOS 560	560	150	580	150	820	26,1
WMOS 630	630	150	650	170	880	28,2
WMOS 710	710	150	730	170	960	31,3
WMOS 800	800	150	820	170	1060	36,1
WMOS 900	900	150	920	170	1150	41,4
WMOS 1000	1000	150	1020	170	1290	45,3
WMOS 1120	1120	150	1140	200	1460	56,6
WMOS 1250	1250	150	1270	200	1610	67,2
WMOS 1400	1400	150	1420	200	1770	74,3
WMOS 1600	1600	150	1620	200	1980	85,6

* Weight of the set without fan





1. DESTINATION

Resilient mounts of axial-flow fans WMOS (see ALWO/A4-00) significantly reduces the transmission of vibrations and structure-born noise generated by fans installed in ships ventilation systems.

2. CONSTRUCTION

Vertical resilient mounts of axial-flow fans consists of steel coaming for welding to steel deck and a set of vibration dampers.

Performance and number of dampers are selected individually in dependance of total weight of fan to be associated, as well as speed of fan's impeller.

Fan is connected to the coaming with a flexible joint made of non-combustible material and sealed with rubber gaskets.

Casing of fan is fitted with suspending brackets welded to the housing.

Dimensions of flanges as per ALWO/A4-00.

3. INSTALLATION GUIDANCE

Ship structure in way of installation of fan to be suitably stiffened.

Plane of coaming flange to be positioned horisontally.

4. SURFACE TREATMENT

Painted with marine epoxy paint SWA 7423-014-250.

5. MARKING

An example of marking for vertical resilient mounts of axial-flow fan WMOS 1000 on standard coaming of height H=170:

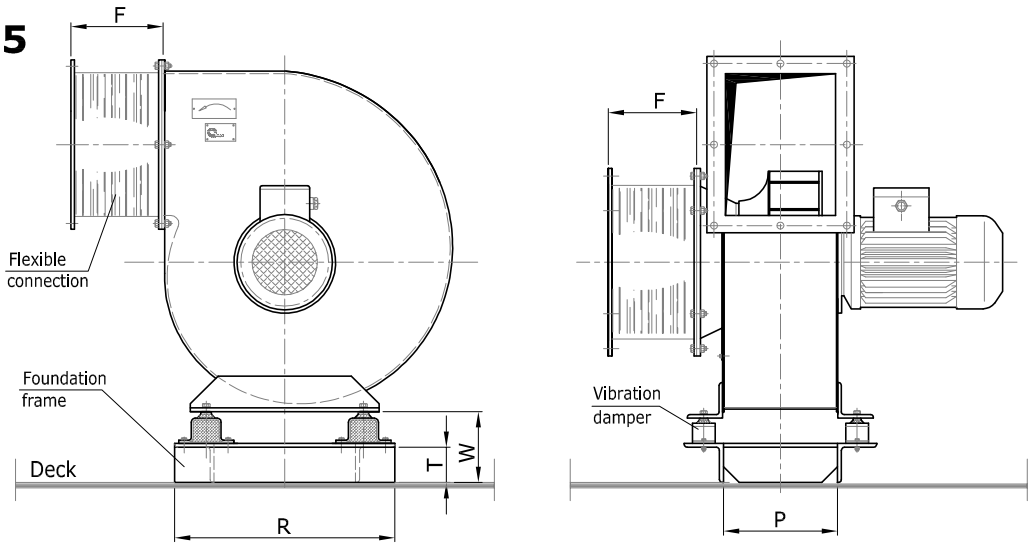
FAN RESILIENT MOUNTS WMOS V-1000-170

Fan to be ordered separately.

Higher coaming on request - height to be specified by the Customer.

RESILIENT MOUNTS OF CENTRIFUGAL FANS WPM

Type B5



1. DESTINATION

Resilient mounts of centrifugal fans WPM outfitted with flanged motors - design B5 (see ALWO/C1-02) significantly reduces the transmission of vibrations and structure-born noise generated by fans installed in ships ventilation systems.

2. CONSTRUCTION

Deck resilient mounts of centrifugal fans WPM consists of steel framing for welding to steel deck and a set of vibration dampers.

Performance and number of dampers are selected individually in dependance of total weight of fan to be associated, as well as speed of fan's impeller.

Fan inlet and outlet are provided with flexible joints made of non-combustible material and sealed with rubber gaskets.

Dimensions of flanges as per ALWO/C1-02.

3. INSTALLATION GUIDANCE

Ship structure in way of installation of fan to be suitably stiffened.

Plane of foundation frame to be positioned horisontally.

4. SURFACE TREATMENT

Painted with marine epoxy paint SWA 7423-014-250.

Fantype	DN	F	P	R	T	W	Weight* kg
WPM 125A	125	125	120	240	40	80	2,93
WPM 160	160	125	130	280	50	85	3,57
WPM 160A	160	125	145	280	50	90	3,67
WPM 200	200	125	160	330	50	90	4,11
WPM 200A	200	125	180	330	50	90	4,25
WPM 250	250	150	200	400	50	90	6,25
WPM 250A	250	150	225	400	50	90	6,46
WPM 315	315	150	250	480	60	100	11,3
WPM 315A	315	150	280	480	60	100	12,4
WPM 400	400	150	300	600	75	120	17,2
WPM 400A	400	150	340	600	75	120	18,4

* Weight of the set without fan

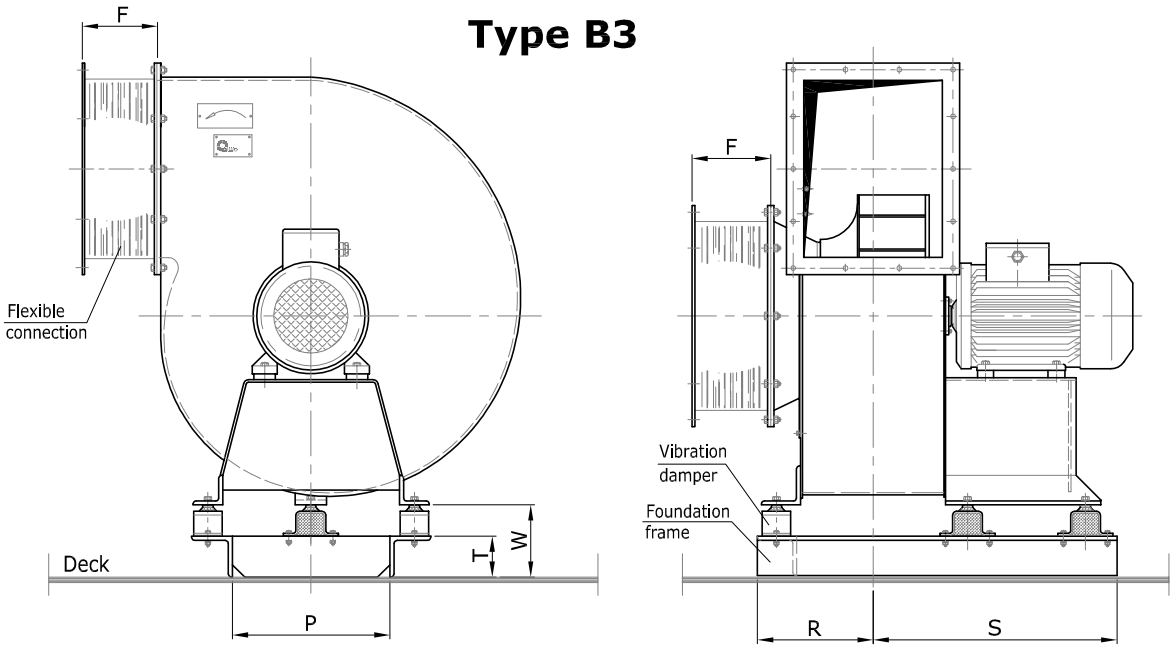
5. MARKING

An example of marking for resilient mounts of centrifugal fan WPM 160 with B5 flanged motor:

FAN RESILIENT MOUNTS WPM 160-B5

Fan to be ordered separately.

Type B3



1. DESTINATION

Resilient mounts of centrifugal fans WPM outfitted with flanged motors - design B3 (see ALWO/C1-02)

significantly reduces the transmission of vibrations and structure-born noise generated by fans installed in ships ventilation systems.

2. CONSTRUCTION

Vertical resilient mounts of centrifugal fans WPM consists of steel framing for welding to steel deck and a set of vibration dampers.

Performance and number of dampers are selected individually in dependance of total weight of fan to be associated, as well as speed of fan's impeller.

Fan inlet and outlet are provided with flexible joints made of non-combustible material and sealed with rubber gaskets.

Dimensions of flanges as per ALWO/C1-02.

3. INSTALLATION GUIDANCE

Ship structure in way of installation of fan to be suitably stiffened.

Plane of foundation frame to be positioned horisontally.

Fantype	DN	F	P	R	S	T	W	Weight* kg
WPM 200	200	125	200	135	300	50	90	6,43
WPM 200A	200	125	200	145	310	50	90	6,65
WPM 250	250	150	255	155	370	50	90	8,25
WPM 250A	250	150	255	165	390	50	90	8,70
WPM 315	315	150	330	185	400	60	105	14,5
WPM 315A	315	150	400	200	550	75	125	14,9
WPM 400	400	150	420	225	500	75	125	23,6
WPM 400A	400	150	420	245	520	75	125	27,7
WPM 500	500	150	520	280	700	100	160	37
WPM 500A	500	150	520	295	750	100	160	41
WPM 630	630	150	680	340	780	100	160	53
WPM 630A	630	150	680	355	850	100	160	58

* Weight of the set without fan

4. SURFACE TREATMENT

Painted with marine epoxy paint SWA 7423-014-250.

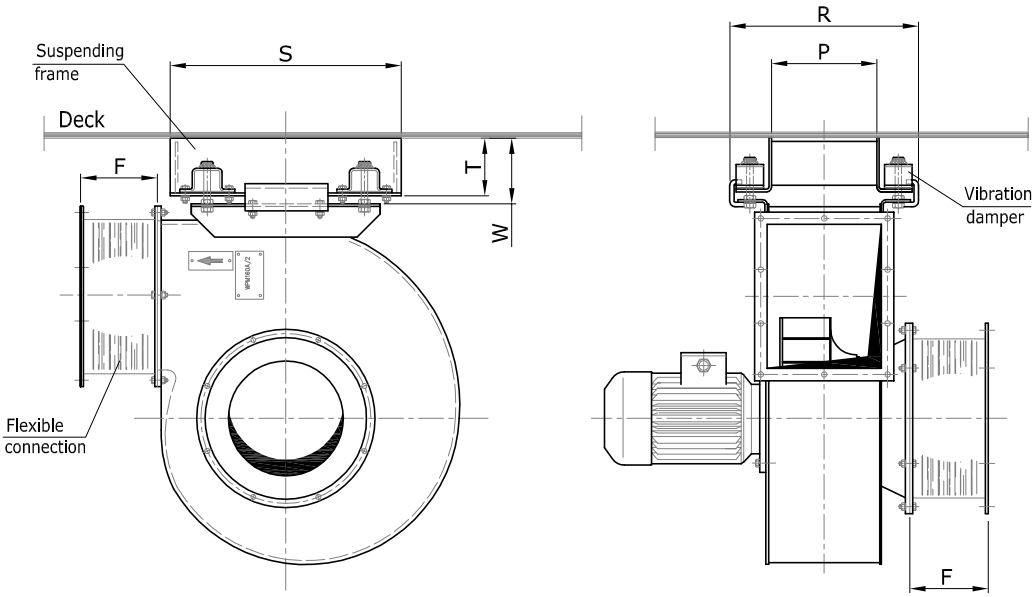
5. MARKING

An example of marking for resilient mounts of centrifugal fan WPM 315 with B3 flanged motor:

FAN RESILIENT MOUNTS WPM 315-B3

Fan to be ordered separately.

UPPER RESILIENT MOUNTS OF CENTRIFUGAL FAN WPM



Fantype	DN	F	P	R	S	T	W	Weight* kg
WPM 125A	125	125	110	220	250	75	90	2,87
WPM 160	160	125	120	245	300	75	90	3,44
WPM 160A	160	125	135	260	300	75	90	3,44
WPM 200	200	125	155	280	350	75	90	4,02
WPM 200A	200	150	175	300	350	75	90	4,02
WPM 250	250	150	200	345	400	75	90	5,06
WPM 250A	250	150	225	370	400	75	90	5,05
WPM 315	315	150	250	395	500	75	90	6,32
WPM 315A	315	150	280	425	500	75	90	6,32

* Weight of the set without fan

1. DESTINATION

Upper resilient mounts of centrifugal fans WPM outfitted with flanged motors - design B5 (see ALWO/C1-02) significantly reduces the transmission of vibrations and structure-born noise generated by fans installed in ships ventilation systems.

2. CONSTRUCTION

Upper resilient mounts of centrifugal fans WPM consists of steel framing for welding to steel deck and a set of vibration dampers. Performance and number of dampers are selected individually in dependance of total weight of fan to be associated, as well as speed of fan's impeller.

Fan inlet and outlet are provided with flexible joints made of non-combustible material and sealed with rubber gaskets. Dimensions of flanges as per ALWO/C1-02.

3. INSTALLATION GUIDANCE

Ship structure in way of installation of fan to be suitably stiffened.

Plane of suspending frame to be positioned horisontally.

4. SURFACE TREATMENT

Painted with marine epoxy paint SWA 7423-014-250.

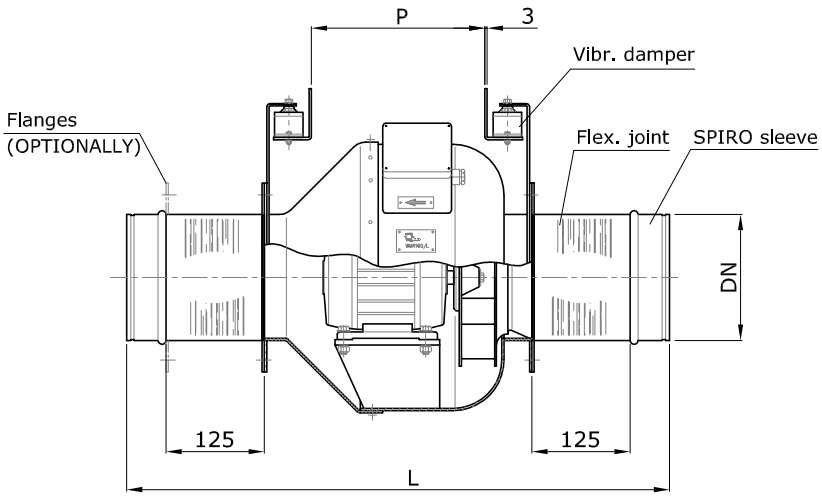
5. MARKING

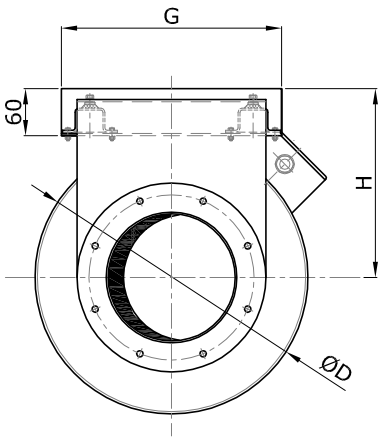
An example of marking for upper resilient mounts (type U) of centrifugal fan WPM 315:

FAN RESILIENT MOUNTS WPM 315-U

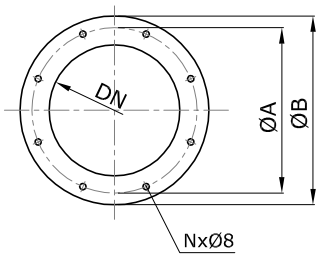
Fan to be ordered separately.

RESILIENT MOUNTS OF DUCT FANS WMR





FLANGE



Fantype	DN	D	G	H	L	P	A	B	N	Weight* kg
WMR 100/L	100	244	80	200	220	125	148	176	4	13,4
WMR 125/L	125	264	80	220	260	125	180	210	4	21,3
WMR 160/L	160	338	80	250	260	125	210	240	8	22,5
WMR 200/M	200	338	80	300	350	125	240	280	8	27,3
WMR 200/K	200	378	100	370	450	150	240	280	8	33,3
WMR 200/L	200	418	100	400	500	150	250	280	8	37,0

* Weight of the set without fan

1. DESTINATION

Resilient mounts of duct fans WMR significantly reduces the transmission of vibrations and structure-born noise generated by fans installed in ships ventilation systems.

2. CONSTRUCTION

Horizontal resilient mounts of duct fans WMR consists of steel bracket for welding to steel structure and a set of vibration dampers.
Performance and number of dampers are selected individually in dependance of total weight of fan to be associated, as well as speed of fan's impeller.

Fan inlet / outlet provided with flexible joints made of non-combustible material and sealed with rubber gaskets.
Casing of fan is fitted with suspending brackets bolted to the housing.
Terminated with standard SPIRO sleeves both sides.

3. INSTALLATION GUIDANCE

Ship structure in way of installation of fan to be suitably stiffened.

4. SURFACE TREATMENT

Painted with marine epoxy paint SWA 7423-014-250.

5. MARKING

An example of marking for horizontal resilient mounts of axial-flow fan WMR 160/L:

FAN RESILIENT MOUNTS WMR 160/L

Fan to be ordered separately.

WMR fan resilient mounts can be optionally delivered with flanged connections, instead of SPIRO sleeves.
For dimensions see detail FLANGE.

DESTINATION

Anti-vibration dampers are destined for resilient mounts of axial-flow and centrifugal fans and other rotating machines.
Anti-vibration dampers are made of high performance, oils and greases resistant rubber composition.

INSTALLATION GUIDANCE

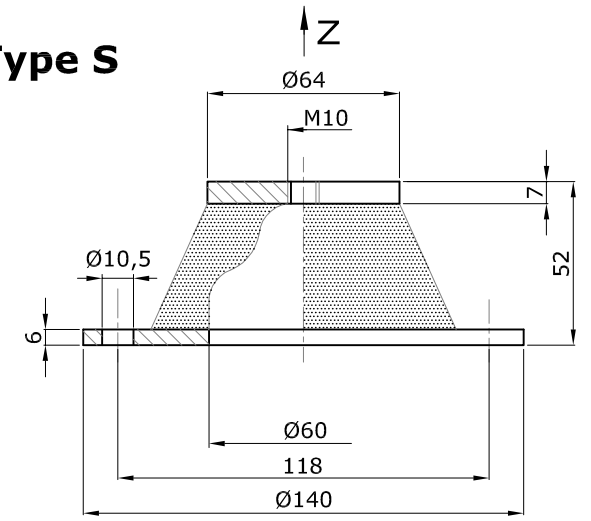
Recommended application for static loads within 0,7 - 1,0 of rated static load. Excess of 5% of rated static load is not allowed.
The level of own vibration frequency of mounts shall be selected to be at least twice less than frequency period of vibration source.

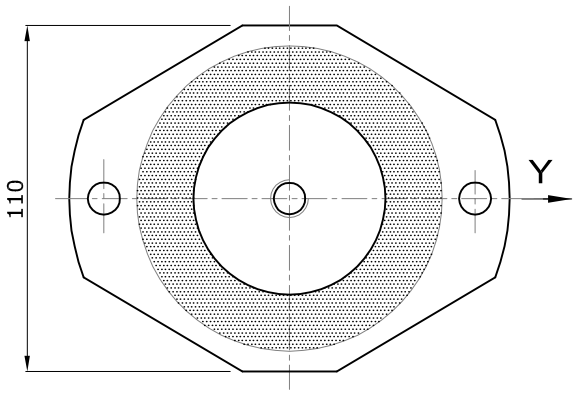
Anti-vibration dampers of U-type are recommended for resilient mounting of the equipment of small dimensions, fitted to bulkheads and other hull structure, in suspended position.
Preferred load along the axis 'Y'. Are to be fitted as pairs in order the transverse gravity forces of the mechanisms fitted.
Anti-vibration dampers of T and S type are destined for the mechanisms causing the vertical static forces on axis 'Z'.

Damper type	Rubber hardness	Force direction	Static stiffeness	Dynamic stiffeness	Shock stiffeness	Rated static load
	°Sh		N/mx10^5			N
S 40	40	z y	0,91 0,27	1,0 0,31	1,06 -	455 135
S 50	50	z y	1,66 0,36	1,76 0,45	1,95 -	830 180
S 60	60	z y	2,55 0,56	3,07 0,88	3,50 -	1275 280
S 65	65	z y	3,12 0,71	4,32 1,42	5,50 -	1560 355

Weight of damper - 0,68kg

Type S

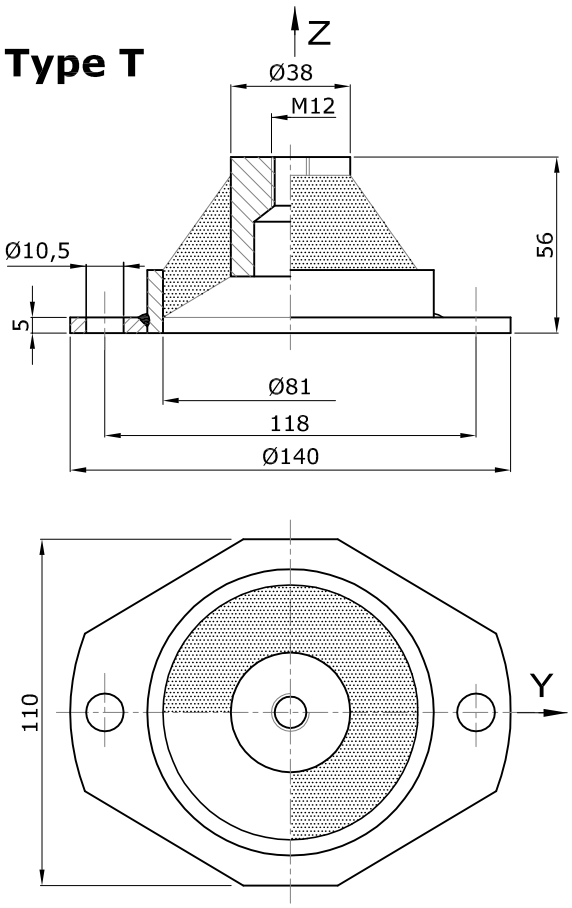




Type T

Damper type	Rubber hardness	Force direction	Static stiffeness	Dynamic stiffeness	Shock stiffeness	Rated static load
	°Sh		N/mx10^5			N
T 40	40	z y	0,62 0,94	0,73 1,05	0,845 -	310 470
T 50	50	z y	1,18 1,45	1,45 1,62	1,58 -	590 725
T 60	60	z y	1,65 2,16	2,37 3,20	2,86 -	825 1080
T 65	65	z y	1,96 2,26	3,48 3,91	4,16 -	980 1130

Weight of damper - 0,73 kg



Type U

Damper type	Rubber hardness	Force direction	Static stiffeness	Dynamic stiffeness	Shock stiffeness	Rated static load
	°Sh		N/mx10^5			N
U 40	40	z y x	0,69 0,127 0,155	0,75 0,135 0,16	0,785 - -	200 63,5 77,5
U 50	50	z y x	1,21 0,163 0,22	1,22 0,227 0,24	1,35 - -	350 81,5 110
U 60	60	z y x	1,71 0,24 0,31	2,07 0,34 0,45	2,60 - -	500 120 155
U 65	65	z y x	2,04 0,28 0,39	2,97 0,57 0,65	3,70 - -	600 140 195

Weight of damper - 0,16 kg