

BLD – Non-return damper



Overview

- Fixed frame in painted, galvanized or stainless steel. Blades of galvanized or stainless steel.
- Models for horizontal or vertical installation
- Available as ATEX certified
- Leakage class (EN1751:2014) of closed damper up to class 2. Details available from Halton.
- Blades contain silicone seal to lower the leakage through blades
- Blades linked and open in parallel
- Adjustable by changing the position of counterweights. Standard construction places weights on the right hand side, weights on the left hand side available as an option.
- Maximum duct pressure for damper construction 5000 Pa and maximum air velocity 15 m/s. In case of high duct pressure, contact Halton Marine for finding the most suitable solution
- Temperature operation range up to +100°C, optionally up to +180°C

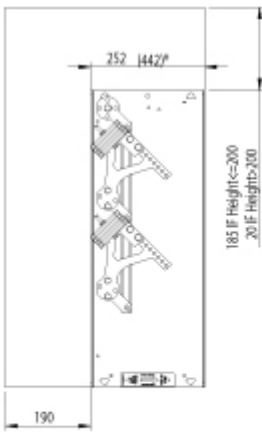
Specification

Halton BLD non-return dampers are used in offshore and marine applications to prevent backflow through ventilation ductwork system. The BLD dampers do not need an actuator or motor. Non-return dampers can be installed in rectangular or circular ducts, horizontally or vertically. If required, they can easily be set by adjusting the weight of each damper/installation. When the blades are in the open position, the device does not cause significant pressure loss, noise or flow disturbance.

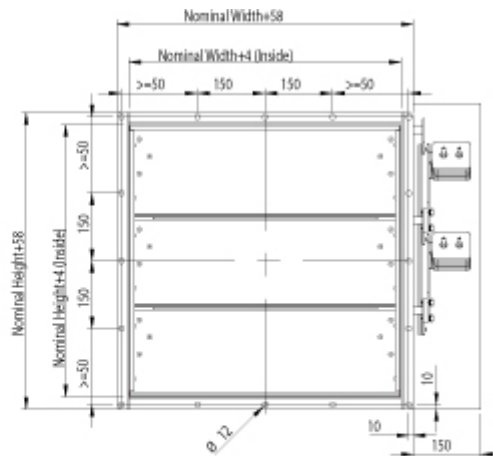
Dimensions and Material Thickness

BLD non-return dampers meet international standards for both rectangular (width B 150-1200 mm and height H 150-1400 mm, 1mm division) and circular ducts (Ø100 – 1250 mm). Non-standard dimensions are available on request. Standard flange width 27 mm. Flanges and drilling also available according to ISO 15138 standards. Modular construction sizes up to 2400×2800 mm. Standard frame material thickness 3 mm. Blades made of two sheets, each being 0.8 mm thick (sandwich design).

BLD, general drawing

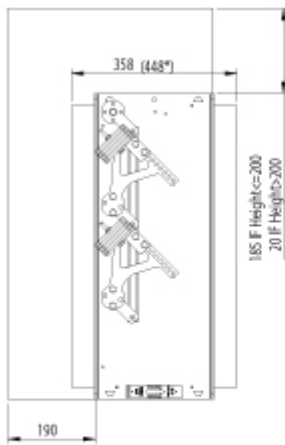


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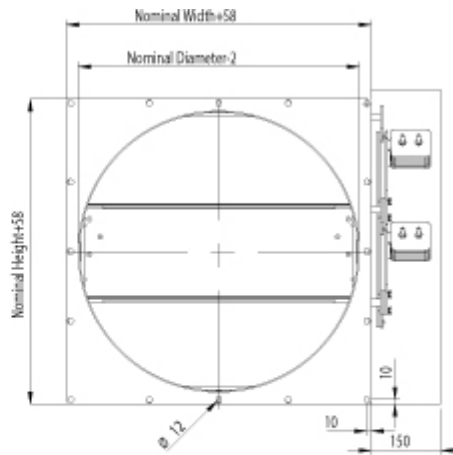


OPERATION AREA

BLD drawing, circular connections

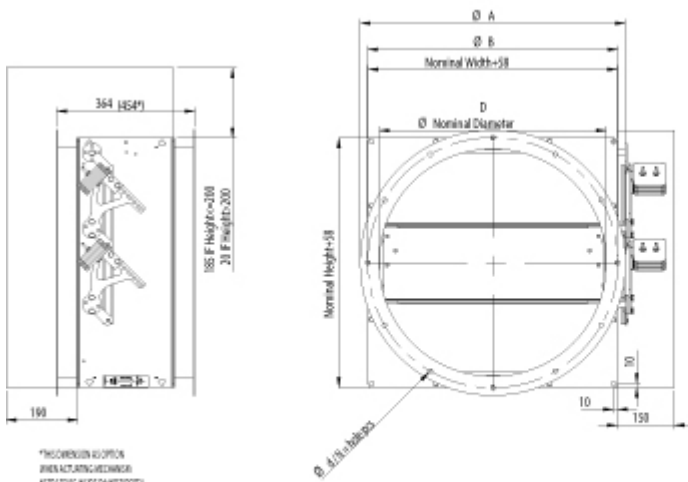


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WHEN ACTUATING MECHANISM
NEEDS TO BE INSIDE DOWNER DEPTH



OPERATION AREA

BLD circular, with connection flanges



*THIS DIMENSION AS OPTION
WHEN ACTUATING MECHANISM
NEEDS TO BE INSIDE DOWNER DEPTH

OPERATION AREA

D	B	A	d	N
200	225	300	8,5	4
250	280	350	12	4
315	355	415	12	8
400	450	500	12	8
500	500	600	12	12
630	690	730	12	12
800	860	900	12	16
1000	1070	1100	15	16
1250	1320	1350	15	20

Material and Finishing

PART	MATERIAL	FINISHING
Frame	Carbon steel	Painted or galvanised
Frame	Stainless steel EN 1.4301 (AISI304), EN 1.4404 (AISI316L), EN 1.4432 (AISI316L)	–
Blades	Steel	Galvanised
Blades	Stainless steel EN 1.4301 (AISI304), EN 1.4404 (AISI316L), EN 1.4432 (AISI316L)	–
Maintenance-free bearings	Stainless steel EN 1.4404 (AISI316L) / Option: bronze bearings available	–
Shafts	Stainless steel EN 1.4404 (AISI316L)	–

Standard frame material thickness 3 mm.

Blades are made of two sheets, each of being 0.8 mm thick.

Product Models and Accessories

- Models for horizontal and vertical installation available
- Circular connection pieces are available.
- Standard construction places weights on the right hand side. Weights on the left hand side available as an option.

Operation Principles

Non-return damper will allow one-way airflow in the ductwork. This feature is based on imbalanced blades. When the pressure in the ductwork drops below minimum opening force required, the blades close and seal the duct to prevent backflow. The minimum opening force can be adjusted with weights. Minimum opening pressure 30 Pa.

Weights

Weights of standard BLD dampers (kg). Frame thickness 3 mm.

H/HEIGHT (mm)	B / WIDTH (mm)											
	150	200	300	400	500	600	700	800	900	1000	1100	1200
150	8	9	11	13	15	16	18	20	22	24	25	27
200	10	12	12	14	16	19	20	22	24	26	28	29
300	12	13	15	18	20	21	24	26	29	31	34	35
400	14	15	18	20	23	25	28	30	33	36	37	40
500	17	17	21	24	27	29	32	35	37	40	43	45
600	19	20	24	26	29	32	36	39	42	45	47	51
700	21	23	26	30	33	37	40	43	47	50	53	57
800	22	24	27	33	36	40	43	47	51	54	58	62
900	26	28	32	36	39	44	48	52	56	60	63	67
1000	28	30	34	39	43	48	51	55	60	64	68	72
1100	31	33	38	42	47	51	56	60	65	70	72	78
1200	33	35	40	45	50	54	59	64	69	74	78	84
1300	36	38	44	48	53	58	64	69	74	79	83	89
1400	38	40	46	51	56	62	67	73	78	83	88	94

D2 ØD	WEIGHT
mm	kg
100	12
160	12
200	15
250	17
315	21
400	26
500	36
630	45
800	63
1000	87
1250	116

Weights stated above include counter weights.

Installation

Installation and maintenance instructions are with each non-return damper delivery. Copies of Operation and Maintenance manuals are available from Halton Marine Sales offices and distributors.

Product Code

(S)=Shape of Connection

- (A) Circular (D1)
- (B) Circular (D1) outlet
- (C) Circular (D2)
- (R) Rectangular

(W)=Width

Min=150 mm
Max=1200 mm

(H)=Height

Min=150 mm
Max=1400 mm

(D)=Diameter

Min=100 mm

Max=1250 mm

(SF)=Flange Option

- (H0) Connection flange in circular connections
- (H1) Connection + loose flange in circular connections
- (HA) Flanges (2 sides)
- (HB) Counter flanges (2 sides)
- (HC) Counter flange (1 side)
- (N0) (N0) ISO 15138 flange drilling CO+CIR
- (N1) ISO 15138 flange drilling CO+LO+CIR
- (NA) Not Assigned (circular connection)
- (NR) ISO 15138 flange drilling

(DF)=Deep Frame Model

- (N) No
- (Y) Yes

(LM)=Left Hand Model

- (N) No
- (Y) Yes

(CW)=Counter Weights Included

- (Y) Yes

(MA)=Material Blades

- (AS) Stainless steel 0.8 mm EN1.4404
- (CS) Carbon steel 0.75 mm
- (LS) Stainless steel 0.8 mm EN1.4432
- (SS) Stainless steel 0.8 mm EN1.4301

(FM)=Frame Material

- (A3) Stainless steel 3 mm EN1.4404
- (C3) Carbon steel 3 mm EN1.4404
- (L3) Stainless steel 3 mm EN1.4432
- (S3) Stainless steel 3 mm EN1.4301

(FI)=Finishing

- (HG) Hot galvanized
- (NA) Not Assigned (acid treatment)
- (PN) Painting

(BM)=Bearing Material

- (BR) Bronze
- (AS) Stainless steel EN1.4404

Code example

BLD/R-1000-1000,SF=HA,DF=N,LM=N,CW=Y,MA=CS,FM=C3,FI=HG,BM=AS,ZT=N