

## Halton UTK, UTT

Multi-blade Damper



- Temperature operation range up to +100°C, optionally up to +200°C
- Galvanised steel design
- Classification of casing leakage EN 1751 class B

UTK:

- Shut-off, adjustment, balancing, adjustment or control damper with opposed blade construction
- Tightness in closed position fulfills EN 1751 class 1 requirements

UTT:

- Shut-off and balancing damper for outdoor air intake and exhaust air with opposed blade design
- Damper blades comprise thermal insulation
- Tightness in closed position fulfills EN 1751 class 3 requirements

### Product models and Accessories

- Model with stainless steel (AISI 316) design
- Model with insulated casing
- Model with heat-proof design
- Circular duct connections
- Several actuator options

**MATERIAL UTK**

PART	MATERIAL	NOTE
Casing	Galvanised steel	Stainless steel AISI 316 also available
Blades (envelope design)	Galvanised steel	Stainless steel AISI 316 also available
Damper blade gaskets	Silicon	Heat-proof model: LTE silicon
Duct gasket	Rubber compound	Circular connections
Slide bearings	Alloy of polyamide and molybdenum sulphide	Self-lubricated Heat-proof model stainless steel AISI 316
Drive shaft	Galvanised steel	Rectangular (15x15 mm) bar

**MATERIAL UTT**

PART	MATERIAL	NOTE
Casing	Galvanised steel	Stainless steel AISI 316 also available
Blades (sandwich design)	Galvanised steel	Stainless steel AISI 316 also available
Damper blade insulation	Polyurethane	CFC free
Damper blade gaskets	Silicon	Heat-proof model: LTE silicon
Gasket inside the casing	Silicon	Fixed in an aluminium profile
Duct gasket	Rubber compound	Circular connections
Slide bearings	Alloy of polyamide and molybdenum sulphide	Self-lubricated Heat-proof model stainless steel AISI 316
Drive shaft	Galvanised steel	Rectangular (15x15 mm) bar

**QUICK SELECTION**

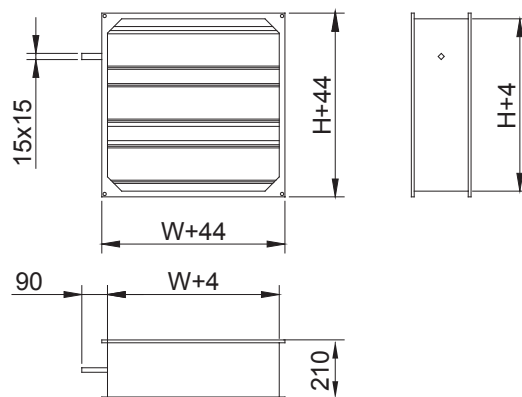
HxW [mm]	qmin		qmax	
	[l/s]	[m <sup>3</sup> /h]	[l/s]	[m <sup>3</sup> /h]
200x400	160	576	480	1728
400x400	320	1152	960	3456
400x800	640	2304	1920	6912
800x800	1280	4608	3840	13824
1000x1000	2000	7200	6000	21600
1000x2000	4000	14400	12000	43200

qmin 1 m/s duct velocity

qmax 6 m/s duct velocity - recommended maximum airflow for comfort applications

## DIMENSIONS

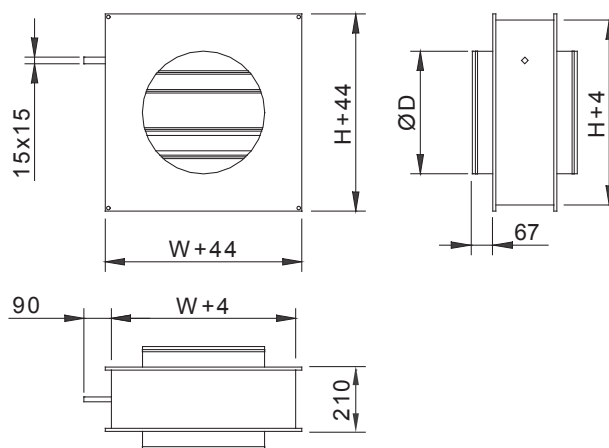
W	H
100,200,...,2400	100,200,...,2400



## Models with circular connections

CT=D1; CT=D2

∅D	WxH
100	150x150
125	150x150
160	200x200
200	200x200
250	250x250
315	300x300
400	400x400
500	500x500
630	600x600
710	800x800
800	800x800
1000	1000x1000
1250	1250x1250



## Product models and Accessories

The product models MD=I and MD=J have a double sheet casing with mineral wool insulation. The insulation thickness is 20 mm.

The damper is available equipped with either manual adjustment or actuator operation.

The adjustment and control arrangement options are:

The damper actuator is selected from the list below according to the operating voltage, control arrangement and the required torque of the damper. The torque of the selected actuator can be higher than the required torque of the damper.

ADJUSTMENT & CONTROL OPTIONS	CODE	NOTE
Manual handle adjustment	MO = MA	
Manual extension bar adjustment	AC = BA	Handle extension arrangement
Actuator operation	MO=	See Actuator options

## Actuator options

### LM-MODELS

Torque, damper size ...4 Nm A<0.4 m<sup>2</sup>

Manual override operation, mechanical position limit

ACTUATOR TYPE	CODE MO	CONTROL ARRANGEMENT	OPERATING VOLTAGE	POWER CONSUMPTION
LM 24A	B6	On-off, 1- or 2-wire control	AC/DC 24 V	2 VA
LM 24A-S	B7	On-off, 1- or 2- wire control, auxiliary switch	AC/DC 24 V	2 VA
LM 230A	B8	On-off, 1- wire control	AC 230 V	4 VA
LM 230A-S	B9	On-off, 1- wire control, auxiliary switch	AC 230 V	4 VA
LM 24A-SR	B0	Control signal DC 0...10 V	AC/DC 24 V	2 VA

### LF-MODELS

Torque, damper size ... 4 Nm A<0.4 m<sup>2</sup>

Spring return, mechanical position limit

ACTUATOR TYPE	CODE MO	CONTROL ARRANGEMENT	OPERATING VOLTAGE	POWER CONSUMPTION
LF 24	B1	On-off	AC/DC 24 V	7 VA
LF 24-S	B2	On-off, auxiliary switch	AC/DC 24 V	7 VA
LF 230	B3	On-off	AC 230 V	7 VA
LF 230-S	B4	On-off, auxiliary switch	AC 230 V	7 VA
LF 24-SR	B5	Control signal DC 0...10 V	AC/DC 24 V	5 VA

### NM-MODELS

Torque, damper size ... 8 Nm A<1.2 m<sup>2</sup>

Manual override operation, mechanical position limit

ACTUATOR TYPE	CODE MO	CONTROL ARRANGEMENT	OPERATING VOLTAGE	POWER CONSUMPTION
NM 24A	C1	On-off, 1- or 2-wire control	AC/DC 24 V	4 VA
NM 230A	C2	On-off, 2- wire control	AC 230 V	6 VA
NM 24A-SR	C3	Control signal DC 0...10 V	AC 24 V	4 VA
NM 230	C4	On-off, 1- wire control	AC 230 V	18 VA

### BLF-MODELS

Torque, damper size ... 4 Nm A<0.4 m<sup>2</sup>

Spring return, manual operation, position lock

ACTUATOR TYPE	CODE MO	CONTROL ARRANGEMENT	OPERATING VOLTAGE	POWER CONSUMPTION
BLF24-HL	L1	On-off, 2 auxiliary switches	AC/DC 24 V	7 VA
BLF230-HL	L5	On-off, 2 auxiliary switches	AC 230 V	7 VA

### BF-MODELS

Torque, damper size ...12 Nm A<2.5 m<sup>2</sup>

Spring return, manual operation, position lock

ACTUATOR TYPE	CODE MO	CONTROL ARRANGEMENT	OPERATING VOLTAGE	POWER CONSUMPTION
BF24 - 2.1HL	E1	On-off, 2 auxiliary switches	AC/DC 24 V	10 VA
BF230 - 2.1HL	E3	On-off, 2 auxiliary switches	AC 230 V	12.5 VA
BF120	E7	On-off, 2 auxiliary switches	AC 120 V	12.5 VA

## AF-MODELS

Torque, damper size ... 15 Nm A<2.8 m<sup>2</sup>

Spring return, manual operation, position lock

ACTUATOR TYPE	CODE MO	CONTROL ARRANGEMENT	OPERATING VOLTAGE	POWER CONSUMPTION
AF 24	A6		AC/DC 24 V	10 VA
AF 24-S	A7	2 auxiliary switches	AC/DC 24 V	10 VA
AF 230	A8		AC 230 V	11 VA
AF 230-S	A9	2 auxiliary switches	AC 230 V	11 VA
AF24-SR	A0	Control signal DC 0...10 V or 0...20 V phase-cut	AC 24 V	10 VA

## SM-MODELS

Torque, damper size ... 18 Nm A<3.3 m<sup>2</sup>

Manual override operation, mechanical position limit

ACTUATOR TYPE	CODE MO	CONTROL ARRANGEMENT	OPERATING VOLTAGE	POWER CONSUMPTION
AM 24A	A1	On-off, 1- or 2-wire control	AC/DC 24 V	4.5 VA
AM 2A4-S	A2	On-off, 2-wire control, 2 auxiliary switches	AC/DC 24 V	4.5 VA
AM 230A	A3	On-off, 1- or 2-wire control	AC 230 V	25 VA
AM 230A-S	A4	On-off, 1-wire control, 2 auxiliary switches	AC 230 V	25 VA
AM 24-SR	A5	Control signal DC 0...10 V	24 VAC	5 VA

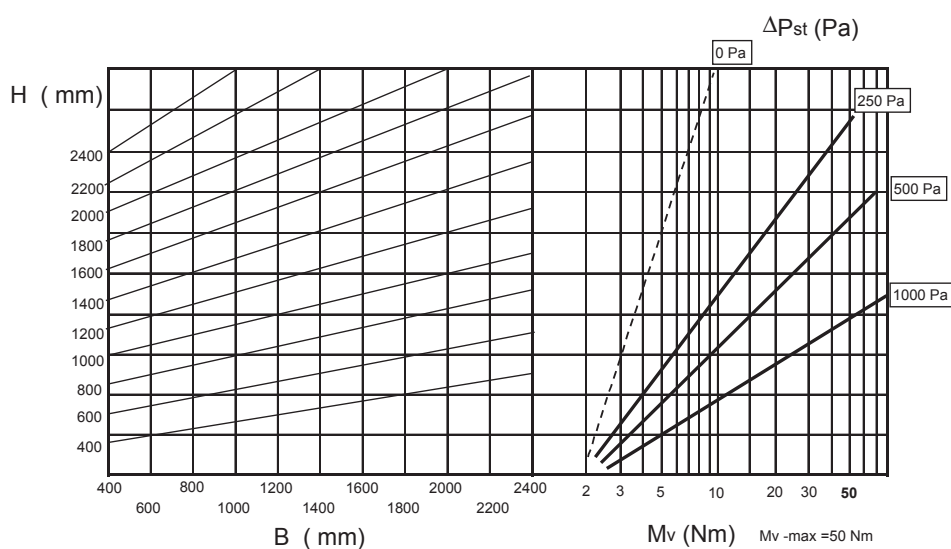
## GM-MODELS

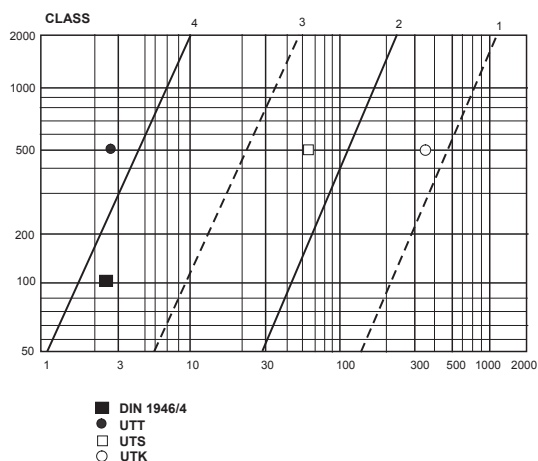
Torque, damper size ...30 Nm A<6 m<sup>2</sup>

Manual override operation

ACTUATOR TYPE	CODE MO	CONTROL ARRANGEMENT	OPERATING VOLTAGE	POWER CONSUMPTION
GM 24A	G1	On-off, 1- or 2-wire control	AC/DC 24 V	7 VA
GM 230A	G2	On-off, 2-wire control	AC 230 V	7 VA

## Required torque for damper actuator





## Function

### UTK

The UTK dampers are used to shut off, adjust or control airflow in ductwork in applications where damper leakage does not have significant importance. In the closed position the UTK damper leakage class is 1 in accordance with the EN1751 standard.

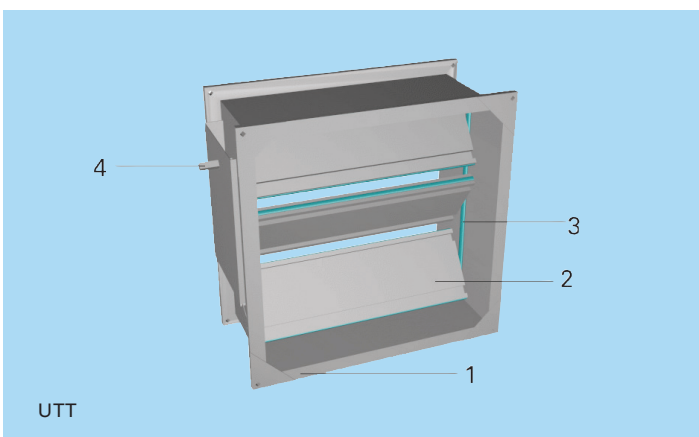
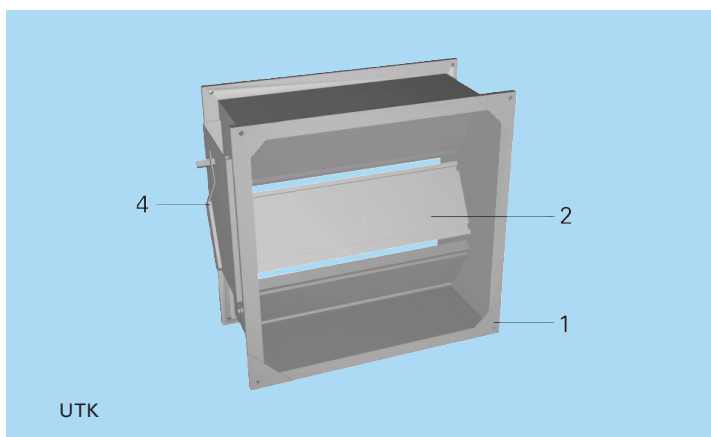
### UTT

The UTT dampers are used to shut off or control airflow in ductwork where tightness, thermal insulation and reliability are important. In the closed position the UTT damper leakage class is 3 in accordance with the EN1751 standard.

In the open position the blades are turned in the direction of flow and do not cause significant pressure losses.

Damper sizes conform with the international standards EN 1505, EN1506 and ISO 1707 for rectangular and circular ducts.

The maximum operation temperature of a standard damper is +100°C (for optional models +200°C). Heat transmission of the damper is 6 W/(m²K).



## Installation

### CODE DESCRIPTION

1	Casing
2	Blade
3	Gasket
4	Manual adjustment handle / actuator platform

Install the damper in the ductwork with the blades in horizontal or vertical position.

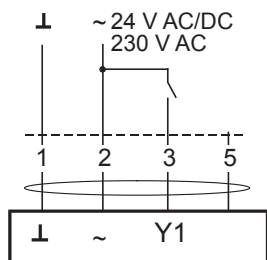
Fasten the damper in the ductwork using slip joints.

Optional models enable fastening the damper to duct flange by using bolts.

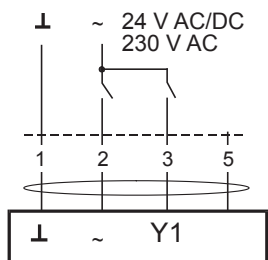
Drill holes in the damper flange if necessary (options L1 & L2).

Use a seal between the flanges in order to tighten the seam.

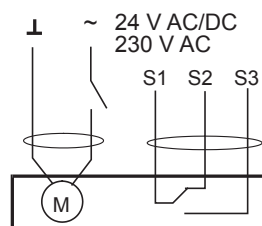
Fasten the circular connections by riveting or screwing.



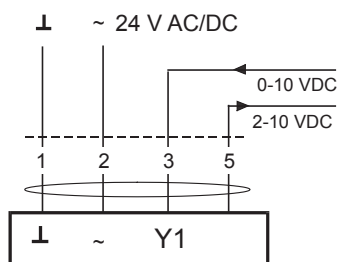
LM...A SM...A  
NM...A GM...A



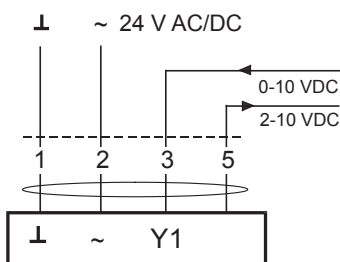
LM...A SM...A  
NM...A GM...A



LF BF  
AF BLF



GM24A-SR  
AF24A-SR

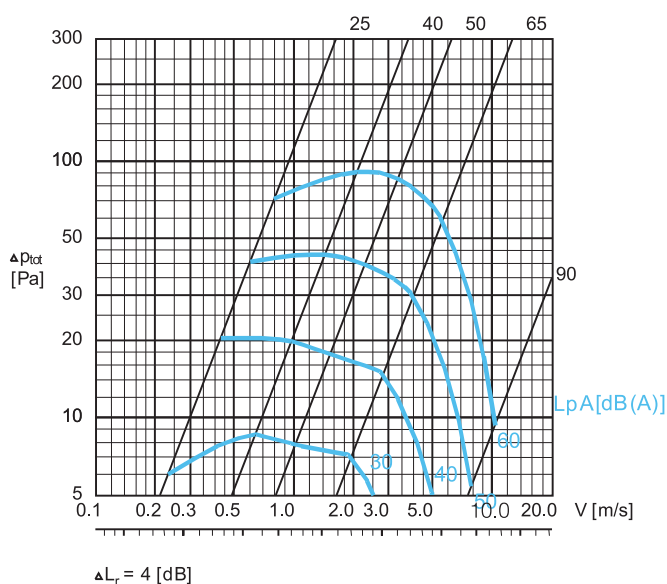


LM24A-SR LF24-SR  
NM24A-SR SM24A-SR

## Pressure drop and sound data

Sound power level  $L_w$  [dB]

UTK, UTT



The sound power level  $L_w$  in each octave band is computed by adding the corresponding correction factor  $K_{ok}$  to the sound pressure level in the selection chart according to the following equation.

$$L_w = L_{PA} + K_{ok} + K_A$$

The correction factor  $K_{ok}$  is the average of the operating area.

A [m <sup>2</sup> ]	0,10	0,12	0,25	0,30	0,40	0,50	0,60	1,0	1,6	2,0
KA /dB	-10	-9	-6	-5	-4	-3	-2	0	+2	-3
f [Hz]	63	125	250	500	1000	2000	4000	8000		
kok	11	11	9	7	5	3	-4	-10		
l/dB	+/-6	+/-6	+/-5	+/-4	+/-3	+/-3	+/-3	+/-3	+/-3	+/-3

### Suggested specifications

The casing and blades shall be made from galvanised steel (or stainless steel AISI 316).  
 The blade gaskets shall be of silicon (or EPDM-rubber).  
 The drive shaft socket shall be of galvanised steel with self-lubricating slide bearings.  
 The bearing shall be made from an alloy of polyamide and molybdenum sulphide (or stainless steel AISI 316 or stainless steel AISI 304 or bronze).  
 The damper shall be installed into rectangular ductwork in compliance with EN 1751, or in circular ducts  $D=100 \dots 1250$  mm in accordance with EN 1751.

UTK: The damper shall meet the tightness requirements of EN 1751 class 1.  
 UTT: The damper shall meet the tightness requirements of EN 1751 class 3.  
 The casing of the damper shall meet the tightness requirements of EN 1751 class B.  
 The damper shall be suitable for either manual adjustment or actuator operation.



## Product code

UTK/S-W-H-D

UTT/S-W-H-D

S = Type of duct connections

- R Rectangular connections
- C Circular connections

W = Width

- S=R: 100,+1,...,2400
- S=C and D=100: 150
- S=C and D=125: 150
- S=C and D=160: 200
- S=C and D=200: 200
- S=C and D=250: 250
- S=C and D=315: 300
- S=C and D=400: 400
- S=C and D=500: 500
- S=C and D=630: 600
- S=C and D=710: 800
- S=C and D=800: 800
- S=C and D=1000: 1000
- S=C and D=1250: 1250 S=C: 150

H = Height

- S=R: 100,+1,...,2400
- S=C: W

D = Diameter of duct connection

- S=C: 100, 125, 160, 200, 250, 315, 400, 500, 630, 710, 800, 1000, 1250

Specifics and accessories

CT = Type of circular connection

- D2 2 circular connections
- D1 1 circular connection

SF = Flange option

- NA Standard with no flanges
- L1 Standard model / Flange on one side
- L2 Flanges on both sides
- R2 Flanges with holes on both sides

MA = Material

- CS Steel
- AS Stainless steel, AISI 316

MD = Model

- N Standard
- H Heat-proof
- I Insulated
- J Heat-proof and insulated

BM = Bearing material

- ST Standard (Plastic)
- AS Stainless steel (AISI 316)
- SS Stainless steel (AISI 304)

MO = Actuator type

MA	Manual handle
NA	Not assigned
E1	Electric BF24-2.1HL
E3	Electric BF230-2.1HL
E7	Electric BF120-HL
P0	Pneumatic, Rot. AT101
P1	Pneumatic, Lin. RODER 245N
P2	Pneumatic, Lin. RODER 300N
P5	Pneumatic, Rot. ES65
P6	Pneumatic ON/OFF AVS-cylinde
A1	Electric SM24A
A2	Electric SM24A-S
A3	Electric SM230A
A4	Electric SM230A-S
A5	Electric SM24A-SR
A6	Electric AF24
A7	Electric AF24-S
A8	Electric AF230
A9	Electric AF230-S
A0	Electric AF24-SR
B1	Electric LF24
B2	Electric LF24-S
B3	Electric LF230
B4	Electric LF230-S
B5	Electric LF24-SR
B6	Electric LM24A
B7	Electric LM24A-S
B8	Electric LM230
B9	Electric LM230A-S
B0	Electric LM24A-SR
C1	Electric NM24A
C2	Electric NM230A
C3	Electric NM24A-SR
G1	Electric GM24A
G2	Electric GM230A
L1	Electric BLF24-HL
L5	Electric BLF230-HL

AC = Accessories

BA	Bar adjustment
S1	SN1 Auxiliary switch
S2	SN1/500 auxiliary switch
S3	S1A auxiliary switch
S4	S2A auxiliary switch
L1	Limit switch, 1 pc, IP65
L2	Limit switches, 2 pcs, IP65
L3	EX-proof limit switch, 1 pc, IP66
L4	EX-proof limit switches, 2 pcs, IP66
M1	Solenoid valve 24 VAC
M2	Solenoid valve 230 VAC

Code example

UTK/R-100-100, SF=NA, MA=CS, MD=N, BM=ST,  
MO=MA