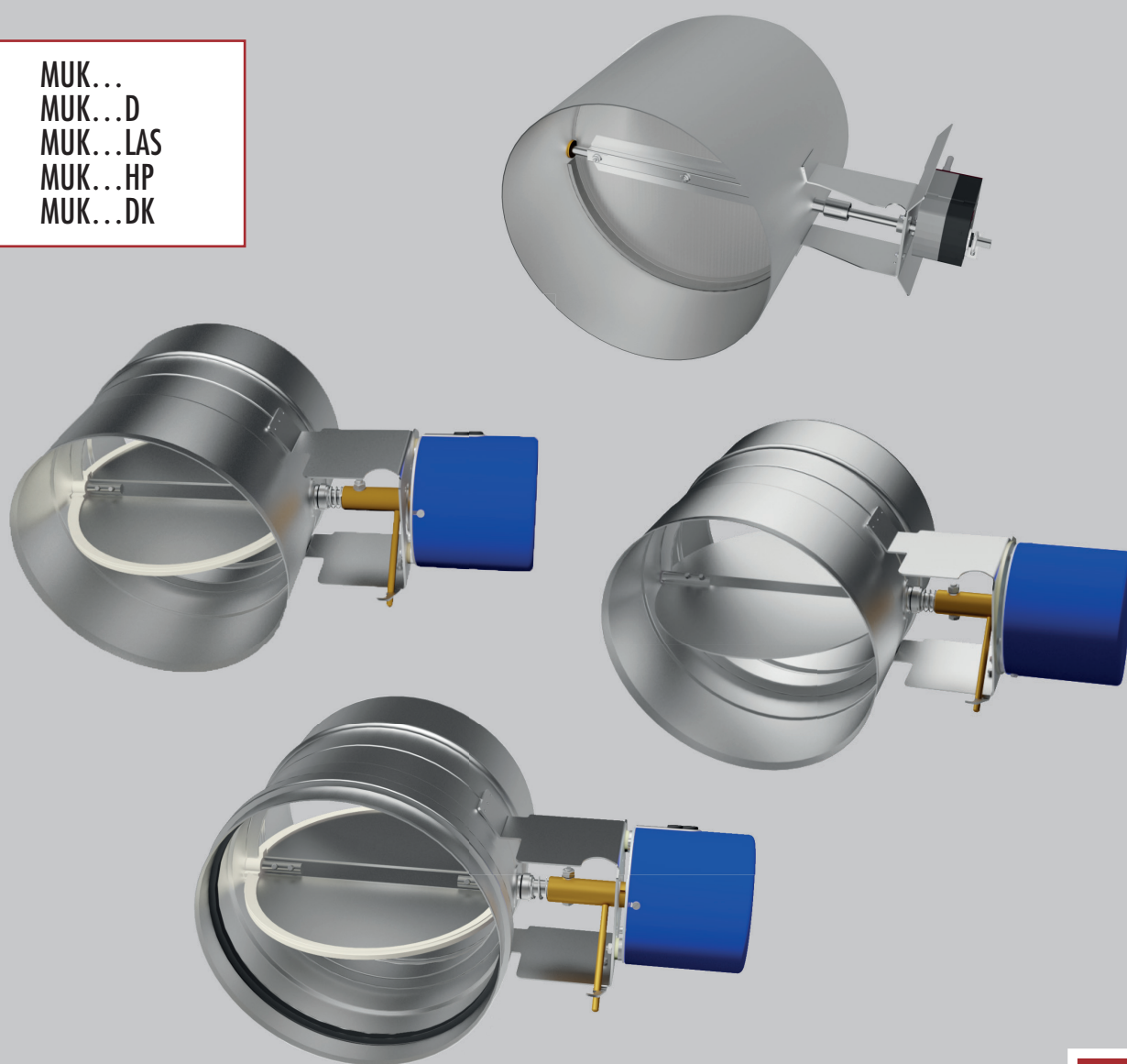


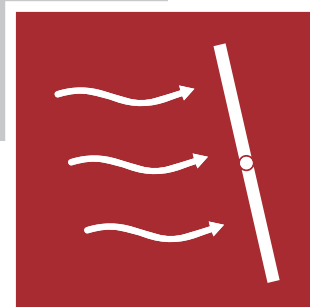
Motorised flue gas dampers for overpressure flue gas systems

Installation Instructions

MUK...
MUK...D
MUK...LAS
MUK...HP
MUK...DK



- These installation instructions are mainly intended for specialist tradesmen.
- Read the installation instructions carefully before starting work!
- Special designs and customized solutions may deviate from these installation instructions in certain respects.



Areas of application

The flue damper type series **MUK...** is suitable for devices without pilot flame with condensate accumulation or cascade systems and flue gas systems in negative and positive pressure operation, the types **MUK 80/125** and **MUK 100/150 (MUK...LAS)** additionally for LAS flue gas systems. This type of damper is not suitable for solid fuels.

Versions

MUK ...

Features:

- Actuator: normally closed
- maximum flue gas temperature: 200 °C (392 °F), 400 °C (752 °F) with optional graphite seal
- Overpressure-tight up to 200 Pa (0.8" W.C.) to the outside
- metallic tight

MUK ... D(K)

Features:

- Actuator: normally closed
- Maximum flue gas temperature: 120 °C (248 °F)
- Overpressure-tight up to 200 Pa (0.8" W.C.) to the outside
- EPDM overmoulded shutoff damper – tight according to DVGW G 635 (leakage rate max. 200 l/h at 100 Pa (7.06 CFH @ 0.4" W.C.) pressure difference)

MUK ... HP

Features:

- Actuator: normally closed
- Maximum flue gas temperature: 400 °C (752 °F)
- Overpressure-tight up to 5,000 Pa (20" W.C.) to the outside
- metallic tight

MUK 80/125 and MUK 100/150 (MUK...LAS)

Features:

- Sockets and box seam with/without seals
- Actuator normally closed
- maximum flue gas temperature: 120 °C (248 °F)
- Overpressure-tight up to 200 Pa (0.8" W.C.) to the outside
- for LAS flue gas systems.
- EPDM overmoulded shutoff damper – tight according to DVGW G 635 (leakage rate max. 200 l/h at 100 Pa (7.06 CFH @ 0.4" W.C.) pressure difference)



Caution

Motor-controlled flue gas dampers may be installed only in dry rooms in accordance with VDE 0100. Relevant laws, standards, regulations and guidelines must be observed. Installation may be carried out only by skilled and competent persons. We recommend that you consult the responsible master chimney sweep before starting installation. Before starting work, the system must be switched off and de-energised.



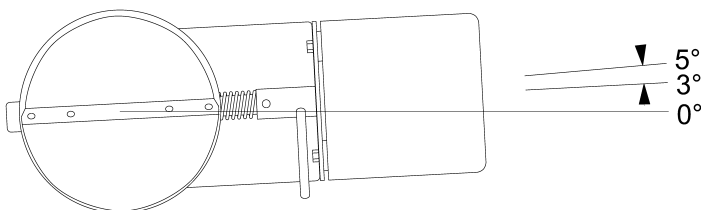
Assembly

Assembly location

It is installed in the connecting pipe between the flue gas socket of the fireplace and the chimney connection. In the case of cascade systems, between boiler port and collector. For the max. ambient temperature of the actuator, please refer to its installation instructions. The actuator must be air-flushed and must not be exposed to accumulated heat (e.g. in cavities).

Installation position

The flue gas damper can be installed in horizontal, diagonal or vertical connecting pipes. The flap axis must be aligned at an angle of 3 to 5° to the horizontal (see figure).



Installation position mot. flue gas damper lateral 3–5°

Installation

The flue gas damper housings are pluggable according to DIN 1298 with one wide and one narrow end (not MUK... LAS, MUK ... DK und MUK ... HP). The flue gas damper can be inserted directly when installing the connecting pipe. In the case of retrofitting, a piece of connecting pipe is dismantled at the planned installation location. Taking into account the plug-in direction, a piece corresponding to the useful length of the flue gas damper must be cut off the dismantled flue pipe. Afterwards, the flue gas damper is reinserted with the remaining pipe section. In the case of overpressure flue gas systems and/or condensate accumulation, the joints must be sealed accordingly.

Fastening

Irrespective of the size of the flue gas damper, check whether it needs to be additionally fixated, for example with pipe clamps. Flue gas dampers must be secured against twisting by the customer.

Insulation

If the exhaust pipe is insulated, a minimum distance of 100 millimetres from the motor mounting plate, damper shaft and motor must be maintained. Free circulation of air must be maintained.

Electrical connection

For a description of the electrical connection, please refer to the respective installation instructions of the actuator.



Commissioning / function test

Before handing over the system, the entire flue gas routing and the function of the flue gas damper must be checked. It must be ensured without fail that the burner goes into operation only when the flue gas damper has released at least 90 % of the pipe cross-section and the limit switch of the actuator has switched through. The switch function can be determined by measuring the voltage.

For actuators STA2(S1) and STA2(S3) this means:

If the wiring is correct, there is no voltage on terminal 3 when the shutoff damper is closed. If the system is put into operation, the flap must first be opened and the limit switch actuated. Terminal 3 must now be energised. Testing the limit switch is possible only when the actuator is mounted onto the flap (coupling of motor switch cams with damper shaft).

For the exact terminal and cable assignments for these and all other actuators, please refer to the respective installation instructions.



Maintenance

During fireplace maintenance, but at least once a year, the proper functioning of the flue gas damper and the flue gas duct must be checked. If necessary, clean the inside and outside of the housing, the shutoff damper and the shaft. Especially with types MUK...D and MUK .../... (LAS version), it is important to ensure that the sprayed-on sealing lip is not damaged by unsuitable tools or cleaning agents. The actuator is maintenance-free.

Manual opening of the flue gas damper (applies to STA motors only)

In the event of actuator failure or for the purpose of inspecting and cleaning the flue gas system, the shutoff damper can be operated from the outside with an adjusting pin and locked in the open position with the locking lever. This closes the limit switch allowing further operation of the fireplace (not with LAS version MUK .../...).

Accessories / spare parts

Actuators:

- "STA 2(S1)" standard motor, 1x non-potential-free limit switch, only open for flap without power
- "STA 2(S3)" like STA2(S1) but two additional potential-free limit switches
- "STA 6" damper normally open
- "TFC230-S2/300 KUW", 2x potential-free limit switches

Collars / connectors:

- "A1" collar up to nominal width 250 mm (1 pair, not condensate-tight)
- "A2" collar up to nominal width 400 mm (1 pair, not condensate-tight)
- "AV GKSA ..." impact sound silencer (1 piece, condensate-tight)

Other motors, flanges or redundant limit switches on request.



Dimensions / technical data*

MUK...	Ø	80	-	100	110	120	130	150	-	180	200	-	250	300	350	400
L1 ± 5	mm	192.0		186.0	186.0	186.0	186.0	186.0		186.0	186.0		186.0	186.0	329.0	329.0
L2 ± 3	mm	60.0		60.0	60.0	60.0	60.0	60.0		60.0	60.0		60.0	60.0	60.0	60.0
L3 ± 3	mm	55.0		55.0	55.0	55.0	55.0	55.0		55.0	55.0		55.0	55.0	55.0	55.0
L4 ± 10	mm	197.0		207.0	212.0	217.0	222.0	232.0		247.0	257.0		282.0	307.0	344.0	369.0
ØI +0,5/-0	mm	80.0		100.0	110.0	120.0	130.0	150.0		180.0	200.0		250.0	300.0	350.0	400.0
ØA +0/-0,5	mm	79.5		99.5	109.5	119.5	129.5	149.5		179.5	199.5		249.5	299.5	349.5	399.5
ØM ± 10	mm	90.0		90.0	90.0	90.0	90.0	90.0		90.0	90.0		90.0	90.0	-	-
Wall thickness	mm	0.8		0.8	0.8	0.8	0.8	0.8		1.0	1.0		1.0	1.0	1.5	1.5
Motor		STA		STA	STA	STA	STA	STA		STA	STA		STA	STA	TFC	TFC
z-value closed	-	> 600														
z-value open	-	<1.0														
Maximum flue gas temperature	°C	200, with optional graphite seal 400														

Overpressure-tight up to 200 Pa (0.8" W.C.) to the outside.

MUK...D	Ø	80	-	100	110	125	150	160	-	180	200	-	250	300
L1 ± 5	mm	192.0		186.0	186.0	186.0	186.0	186.0		186.0	186.0		186.0	186.0
L2 ± 3	mm	60.0		60.0	60.0	60.0	60.0	65.0		60.0	60.0		60.0	60.0
L3 ± 3	mm	55.0		55.0	55.0	55.0	55.0	55.0		55.0	55.0		55.0	55.0
L4 ± 10	mm	197.0		207.0	212.0	219.0	232.0	229.0		247.0	257.0		282.0	306.0
ØI +0,5/-0	mm	80.0		100.0	110.0	125.5	150.0	160.5		180.0	200.0		250.0	300.0
ØA +0/-0,5	mm	79.5		99.5	109.5	125.4	149.5	160.0		179.5	199.5		249.5	299.5
ØM ± 10	mm	90.0		90.0	90.0	90.0	90.0	90.0		90.0	90.0		90.0	90.0
Wall thickness	mm	0.8		0.8	0.8	1.0	0.8	1.0		1.0	1.0		1.0	1.0
Motor		STA		STA	STA	STA	STA	STA		STA	STA		STA	TFC
z-value closed	-	> 600												
z-value open	-	<1.0												
Maximum flue gas temperature	°C	120												

Overpressure-tight up to 200 Pa (0.8" W.C.) to the outside.

MUK...HP	Ø	80	-	100	110	120	130	150	-	180	200	-	250	300	350	400	450	500
L1 ± 5	mm	250.0		250.0	250.0	250.0	250.0	250.0		250.0	250.0		250.0	250.0	330.0	330.0	330.0	500.0
L2 ± 3																		
L3 ± 3																		
L4 ± 10	mm	196.0		206.0	211.0	216.0	221.0	282.0		297.0	307.0		332.0	357.0	395.0	420.0	445.0	469.0
ØI +0,5/-0	mm	77.5		99.5	97.5	107.5	117.5	147.5		177.5	197.5		247.5	297.5	346.5	396.5	446.5	496.5
ØA +0/-0,5	mm	79.5		99.5	109.5	119.5	129.5	149.5		179.5	199.5		249.5	299.5	349.5	399.5	449.5	499.5
ØM ± 10	mm	90.0		90.0	90.0	90.0	90.0	90.0		90.0	90.0		90.0	90.0	-	-	-	-
Wall thickness	mm	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.5	1.5	1.5	1.5
Motor		STA		STA	STA	STA	STA	STA		STA	STA		STA	STA	TFC	TFC	TFC	TFC
z-value closed	-	> 600																
z-value open	-	<1.0																
Maximum flue gas temperature	°C	400																

Overpressure-tight up to 5,000 Pa (20,1" W.C.) to the outside.

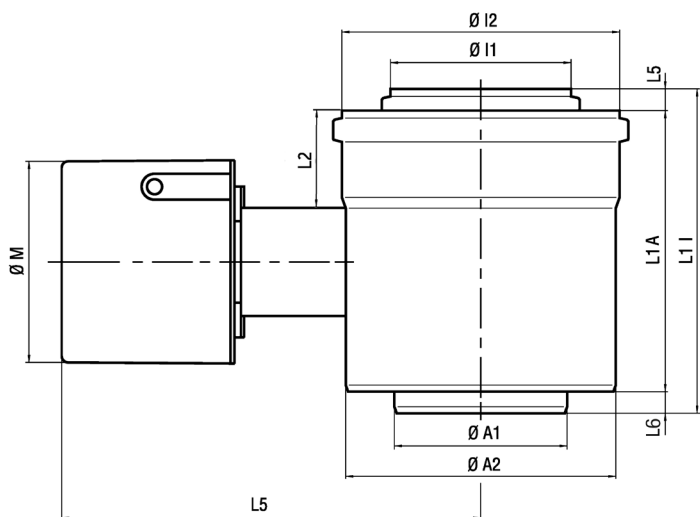
MUK...LAS	Ø	80/125	100/150
L1A ± 3	mm	130	130
L1I ± 3	mm	150	146
L5 ± 3	mm	10	6
L6 ± 3	mm	10	10
L4 ± 10	mm	195	195
ØI1 +1/-0.5	mm	81	101
ØI2 +1/-0.5	mm	127	151
ØA1 +0/-0.5	mm	79.5	99.5
ØA2 +0/-0.5	mm	125	149.5
ØM ± 10	mm	90	90
Wall thickness	mm	0.8	0,8
z-value closed	-	> 600	
z-value open	-	<1.0	
Maximum flue gas temperature	°C	120	

Overpressure-tight up to 200 Pa (0.8" W.C.) to the outside.

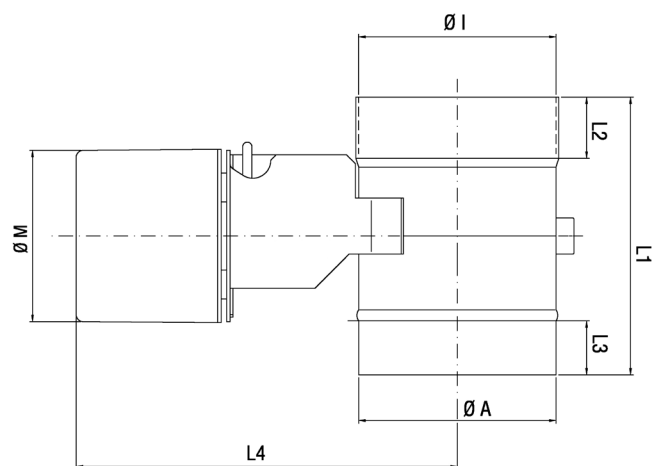
MUK...DK	Ø	80	110	125	160	200
L1 ± 5	mm	192	182	180	218	218
L2 ± 3	mm	55	65	60	65	60
L3 ± 3	mm	55	55	55	77	55
L4 ± 10	mm	196	211	216	229	265
ØI + 0,5 / -0	mm	81	110.5	125.5	160.6	202
ØA + 0 / - 0,5	mm	79.5	109.5	125	160	199.5
ØM ± 10	mm	90	90	90	90	90
Wall thickness	mm	0.8	0.8	1.0	1.0	1.0
Motor		STA	STA	STA	STA	STA
z-value closed	-	> 600				
z-value open	-	<1.0				
Maximum flue gas temperature	°C	120				

Overpressure-tight up to 200 Pa (0.8" W.C.) to the outside.

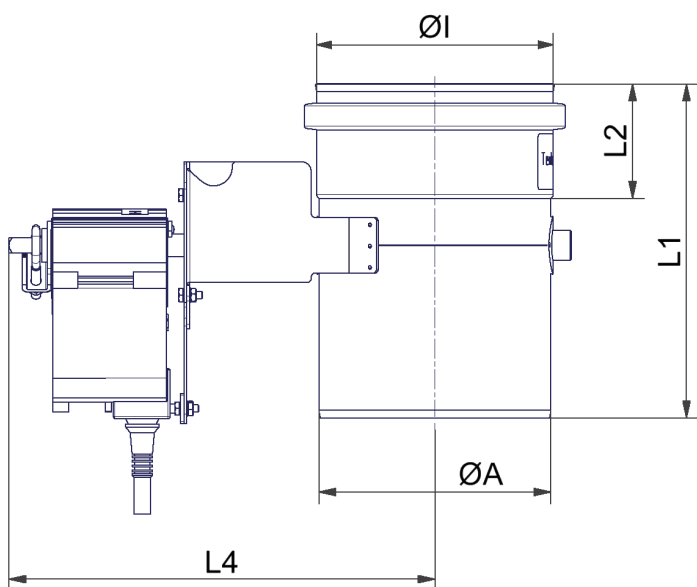
* We reserve the right to make technical changes and errors.



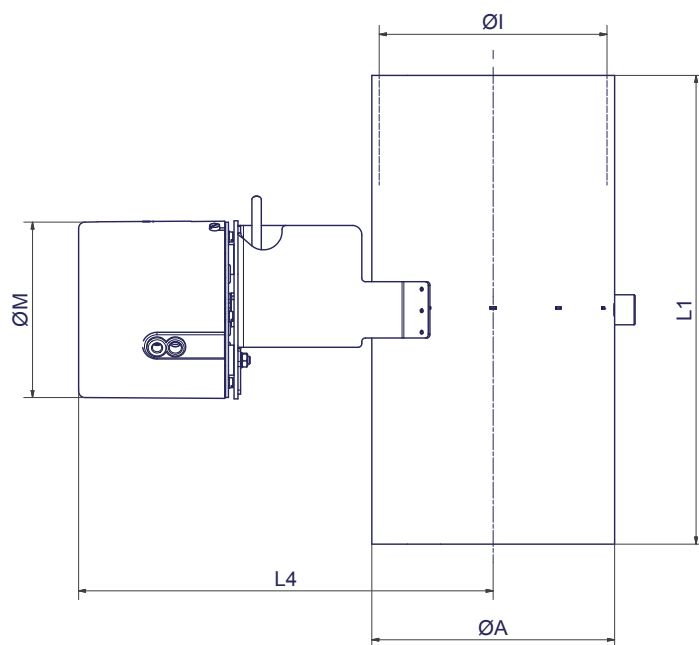
MUK ... LAS



MUK ... and MUK ... D



MUK ... DK



MUK ... HP