



INSTALLATION MANUAL OF

KTM(-E/-ME)

TYPE
FIRE DAMPERS



NOTE:

This manual does not replace the operation and maintenance documentation

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SMAY

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1488-CPR-0438/W

EN 15650:2010
Cut-off fire damper
Type: KTM, KTM-E, KTM-ME

Nominal activation conditions/sensitivity:
Closing/opening in appropriate moment and acceptable time - pass

Response time/closing time - pass

Operational reliability:

KTM-ME	20 000 cycles - pass
KTM-E	10 00 cycles - pass
KTM	300 cycles - pass

Fire resistance:
Integrity - E
Insulation- I
Smoke leakage - S
Mechanical stability (under E):
- EI 120 (v_e h₀ i↔o) S
- EI 90 (v_e h₀ i↔o) S
Maintenance of the cross-section (under E)

Durability:
Of response delay - pass
Of operational reliability - pass

INSTALLATION MANUAL OF KTM TYPE FIRE DAMPERS

1. Prior to the installation, fire dampers should be checked whether there has been no damage to the dampers during transportation or storage.
2. Check whether the damper blade could be opened and closed (fully open and closed position). The full opening and closing must proceed smoothly (not stepwise).
In the fire dampers KTM with diameter DN > 125, in order to enable the free rotation of the blade, tilt the bumper while opening the damper blade and to unlock the screw in engaged to it (e.g. as shown in Figure 1).

The fire dampers, to maintain declared EIS120 (or EIS90) fire resistance class, should be installed in walls which are verified and classified as EI120 (or EIS90). It is allowed to use KTM fire dampers for different fire resistance class walls (EI30, EI60, EI90), however it must be understood that the fire resistance class EI of the whole finished installation is corresponding to the least classified element in the installation.

KTM type fire dampers may be installed in different types of construction barriers (rigid and light barriers):

- concrete walls with thickness of not less than 115 [mm],
- brickwork or aerated concrete walls with thickness of not less than 115 [mm],
- plasterboard walls with steel frame with thickness of not less than 100 [mm],
- concrete ceilings with thickness of not less than 150 [mm],
- aerated concrete ceilings with thickness of not less than 150mm].

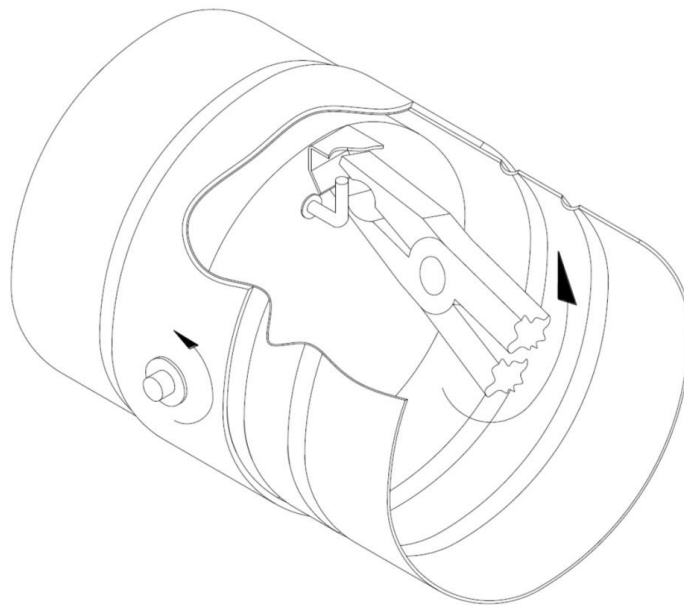


Figure 1. Method of opening the blade of KTM type fire damper

I - RIGID WALL BARRIERS

INSTALLATION TECHNOLOGY

according to figure 2, 3 and 4

1. Make an opening in the wall with the minimal size $DN + 40$ [mm]
2. Put the fire damper into the installation opening, suspend or support it in such way that damper blade axis is in the distance of not less than 55 mm from both wall surfaces (see fig. 2 and 3).
3. After setting the fire damper in accordance to the guidelines, fill the gap between the fire damper and the wall with cement mortar, cement and lime mortar or concrete.

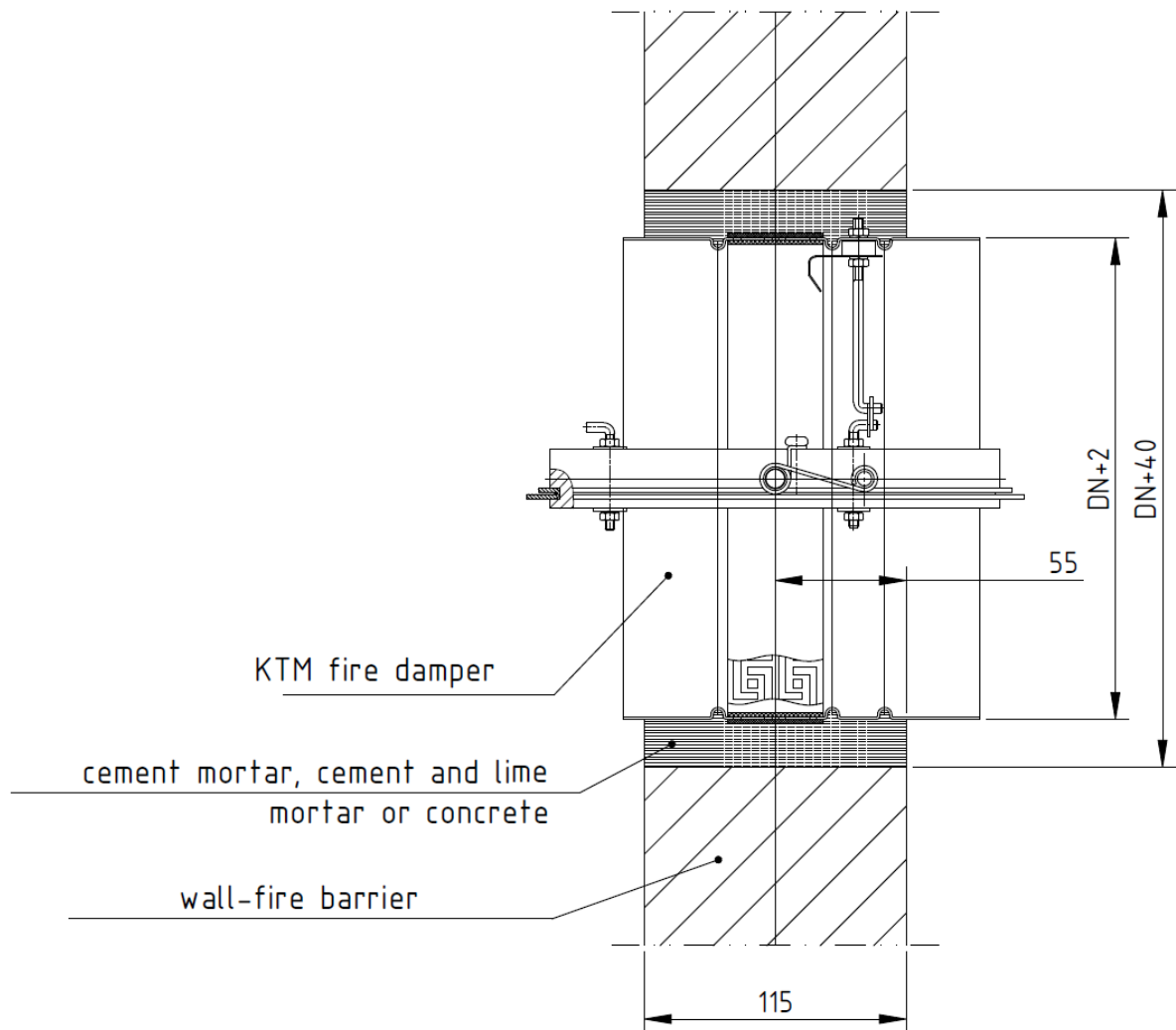


Figure 2. Installation of KTM fire damper (female coupling) in rigid wall barrier

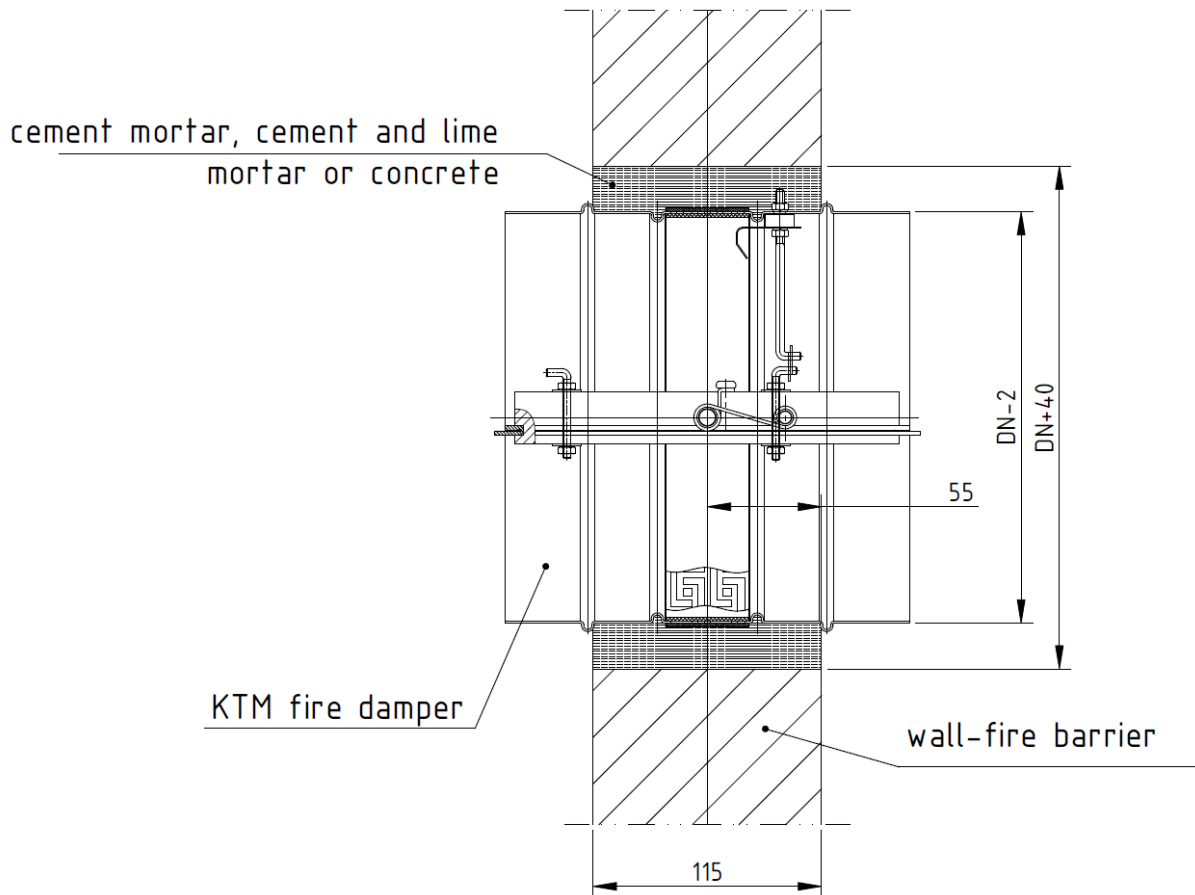


Figure 3. Installation of fire damper KTM (male coupling) in rigid wall barrier

4. After drying of the mortar (approx. 48h), remove used supports, test the fire damper operation and leave it in the fully open position (by installing the thermal fuse in the KTM type fire damper as shown in fig. 4).

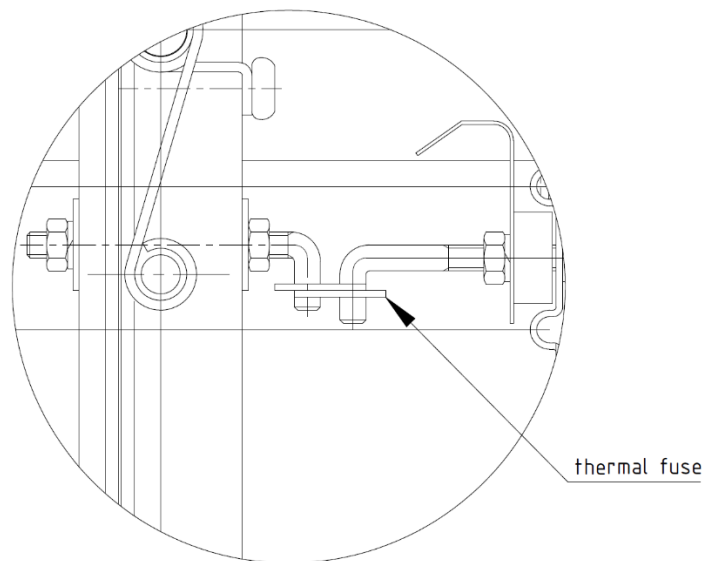


Figure 4. Thermal fuse installation method

REMARKS:

The KTM and KTM-E(ME) fire dampers may be installed also in horizontal barriers, thicker than the length of the damper body. In such case, ventilation duct would be partially inbuilt in the fire barrier KTM built-in inside the barrier (Figure 5).

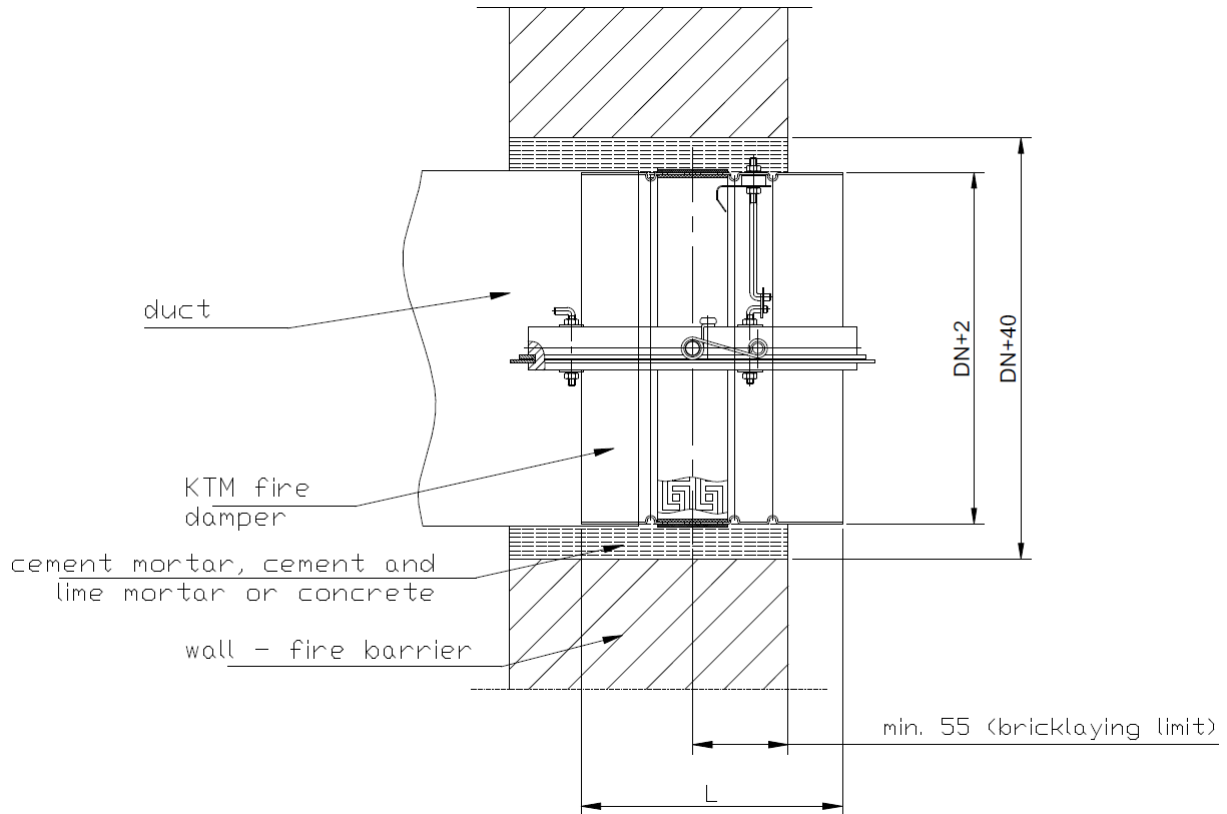


Figure 5. Diagram of the KTM fire damper inbuilt in a barrier thicker than the length of the damper body

II - LIGHT WALL BARRIERS

INSTALLATION TECHNOLOGY

according to figure 6, 7 and 8

1. Make an opening in the wall with the minimal size $DN + 20$ [mm].
2. Put the fire damper into the installation opening. The fire damper should be suspended or supported it in such way that axis of the fire damper should coincide with the axis of the wall.
3. After setting the fire damper in accordance to the guidelines, fill the gap between the fire damper and the wall with mineral wool with density not less than 80 [kg/m³].
4. The place of filling with mineral wool should be additionally sealed by mounting the plasterboard bands with thickness of 12,5 [mm] and applying a fire protection coating with thickness of about 1 [mm].

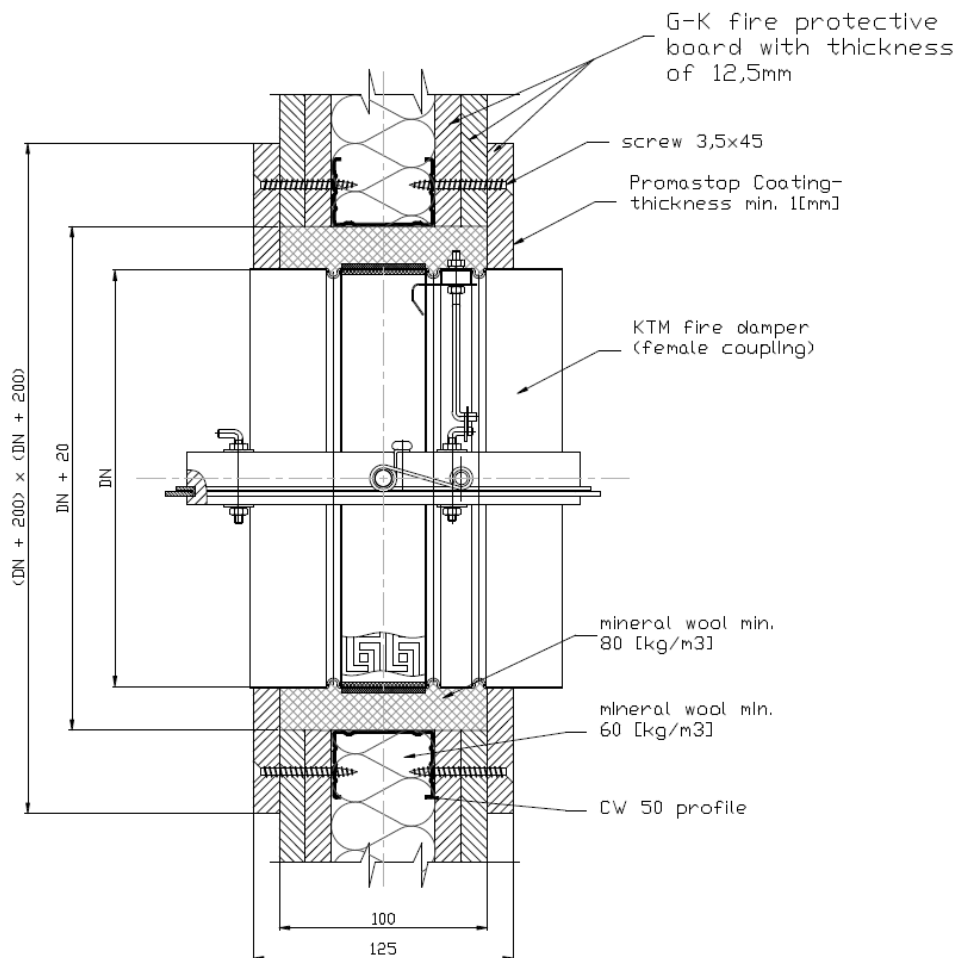


Figure 6. Installation of KTM fire damper (female coupling) in light wall barrier

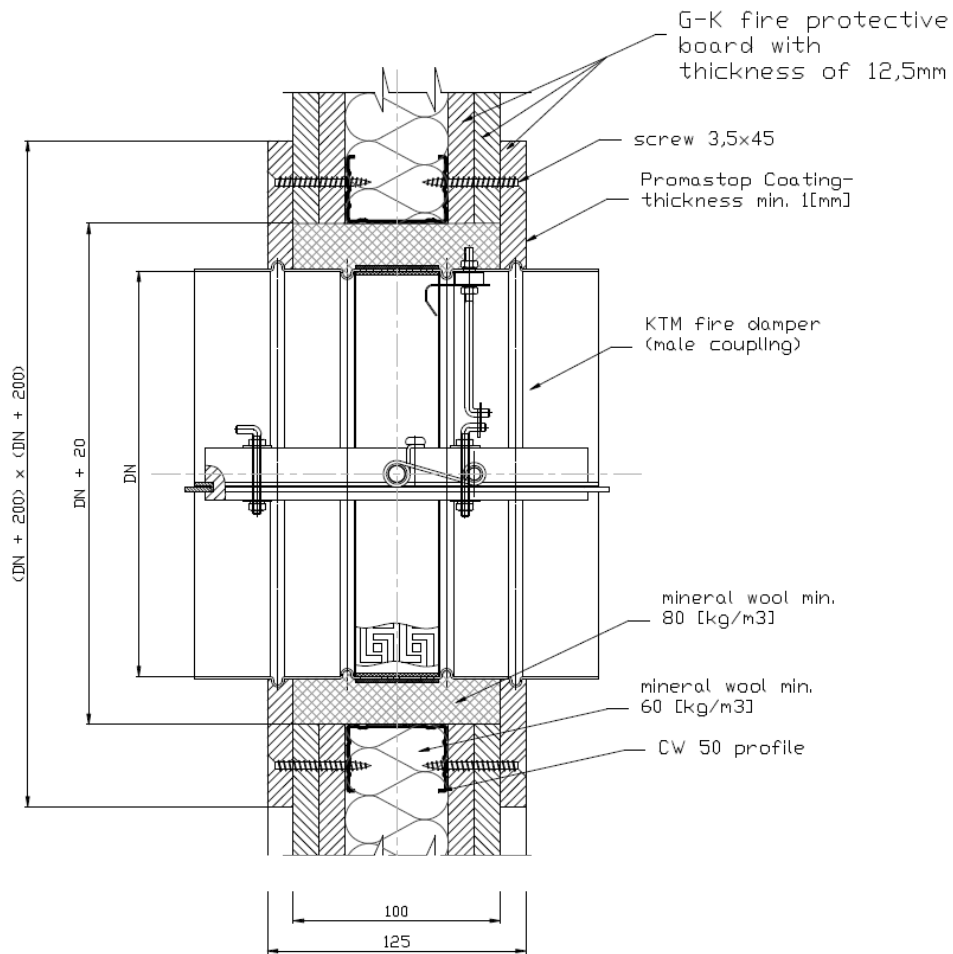


Figure 7. Installation of KTM fire damper (male coupling) in light wall barrier

5. After drying of fire protection coating (approx. 2h), remove used supports, test the fire damper operation and leave it in the fully open position (by installing the thermal fuse in the KTM type fire damper as shown in fig. 8).

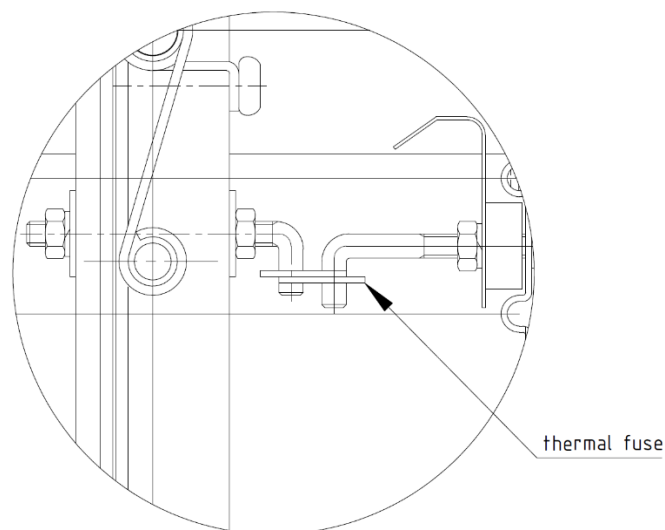


Figure 8. Thermal fuse installation method

III - RIGID CEILING BARRIERS

INSTALLATION TECHNOLOGY

according to figure 9, 10 and 11

1. Make an opening in the ceiling with the minimal size $DN + 40$ [mm].
2. Put the fire damper into the installation opening, suspend or support it in such way that damper blade axis is in the distance of not less than 55 mm from bottom or top surface of the ceiling (see fig. 9 and 10).
3. After setting the fire damper in accordance to the guidelines, fill the gap between the fire damper and the wall with cement mortar, cement and lime mortar or concrete.

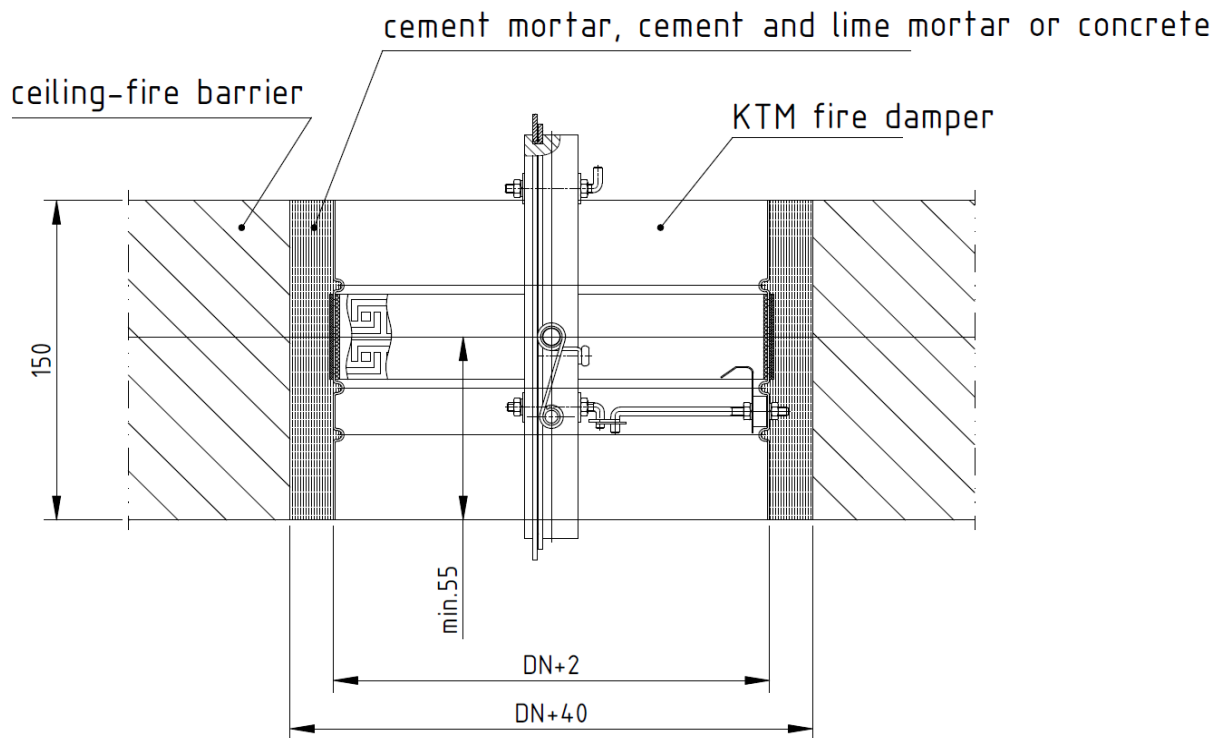


Figure 9. Installation of KTM fire damper (female coupling) in rigid ceiling barrier

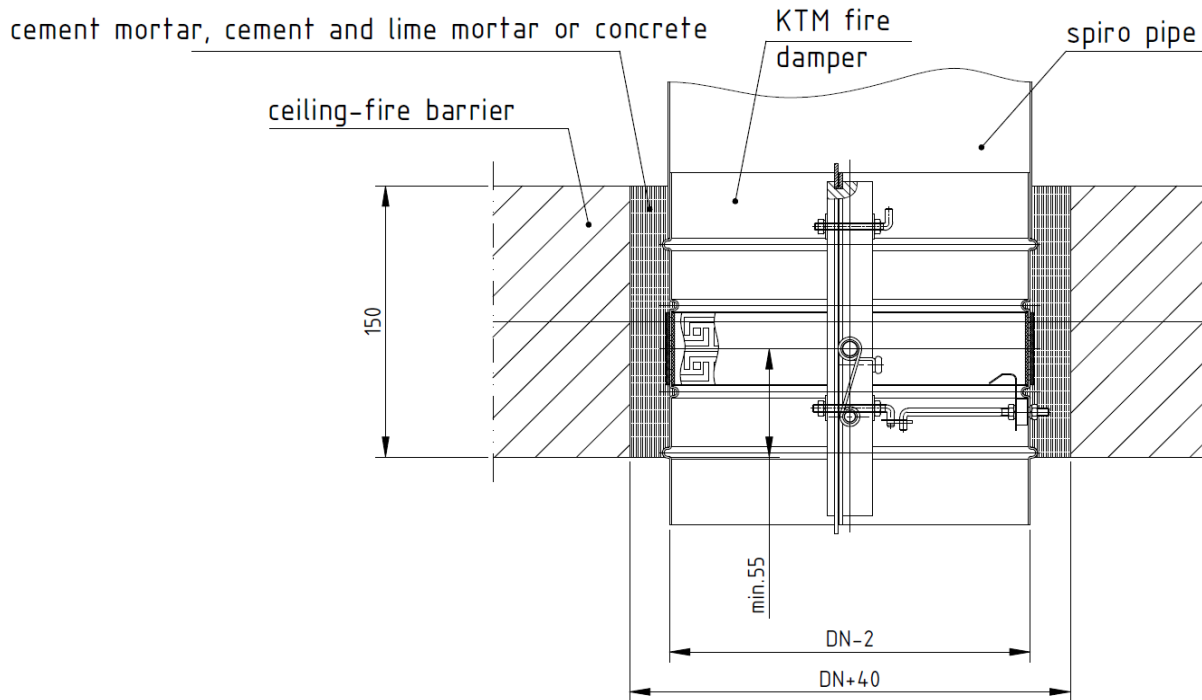


Figure 10. Installation of KTM fire damper (male coupling) in rigid ceiling barrier

4. After drying of the mortar (approx. 48h), remove used supports, test the fire damper operation and leave it in the fully open position (by installing the thermal fuse in the KTM type fire damper as shown in fig. 11).

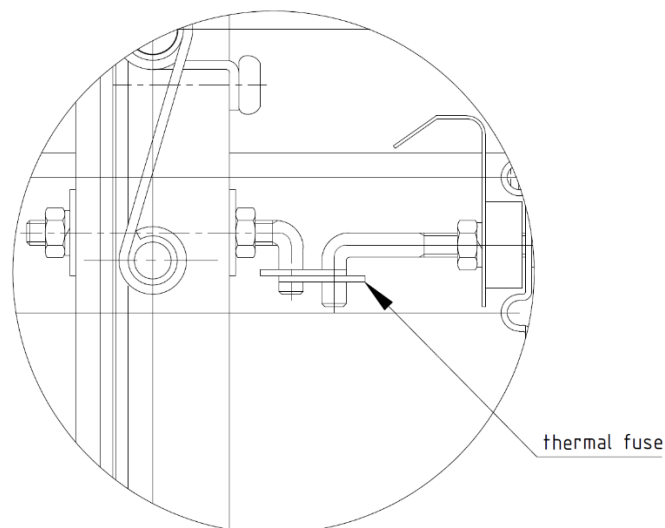


Figure 11. Thermal fuse installation method

INSTALLATION MANUAL OF KTM-E(ME) TYPE FIRE DAMPERS IN FIRE BARRIERS

INSTALLATION TECHNOLOGY according to figure 12 and 13

The installation of the KTM-E(ME) fire damper in the fire barriers should be carried out in the same way as the installation of the KTM fire damper (as described in the manual). The use of rigid support for the E(ME) type driving adapter with installed actuator should be included during the installation process till the moment, when the fire barrier construction obtain stability.

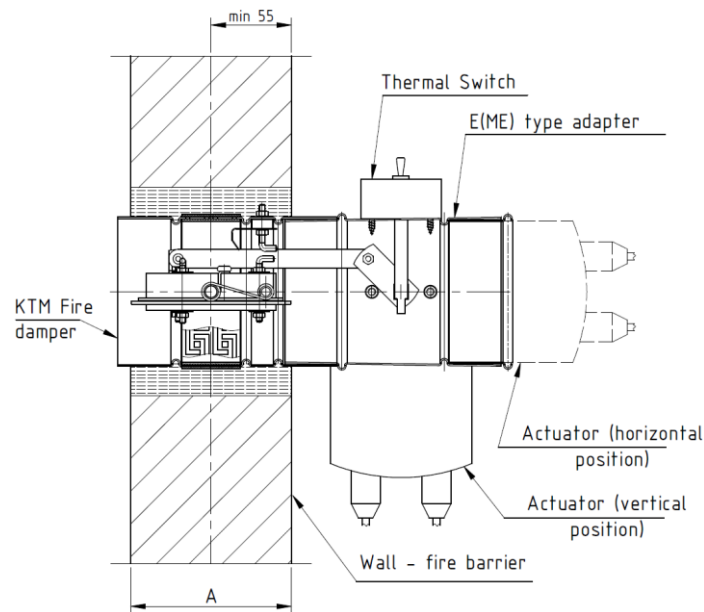


Figure 12. Installation of KTM-E(ME) fire dampers in fire barriers.

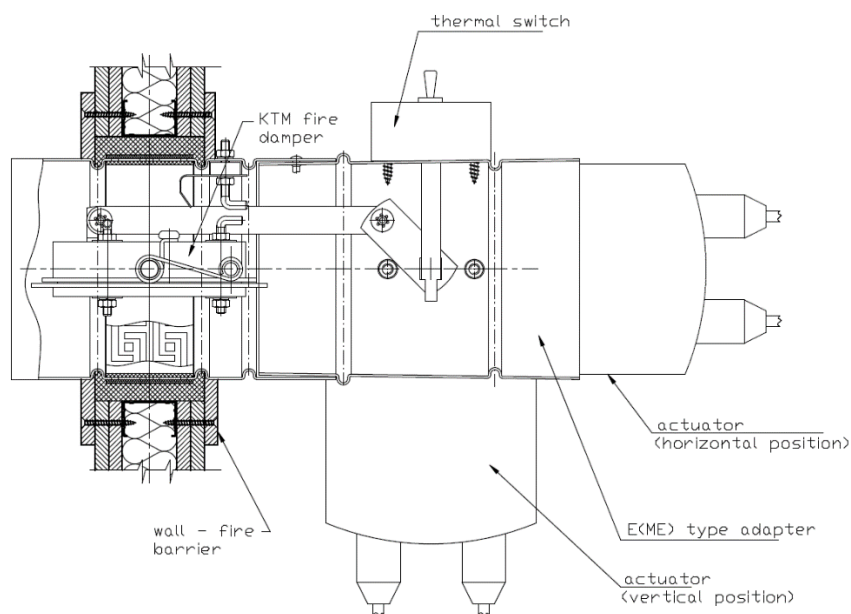


Figure 13. Installation of KTM-E(ME) fire damper in light fire barrier

ADDITIONAL ACCESSORIES

Flange connections may be used with KTM fire dampers (fig. 14 and 15)

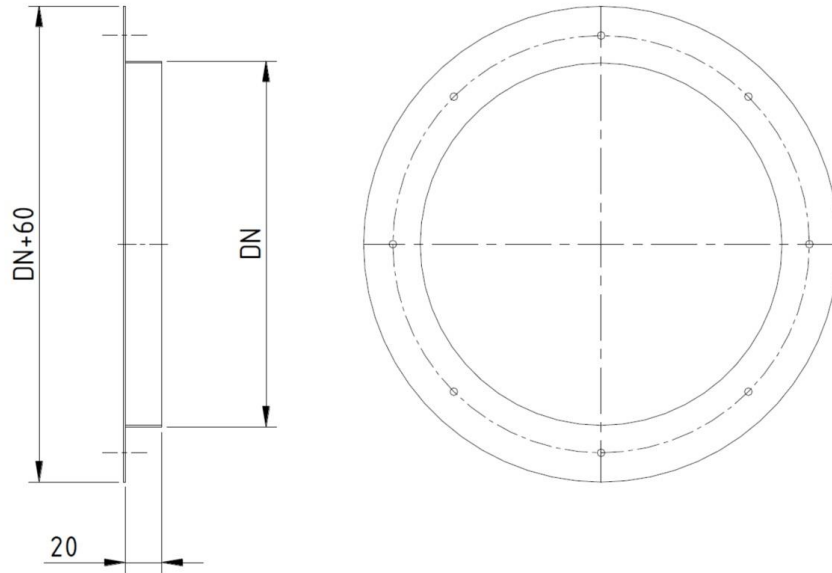


Figure 14. Flange connection

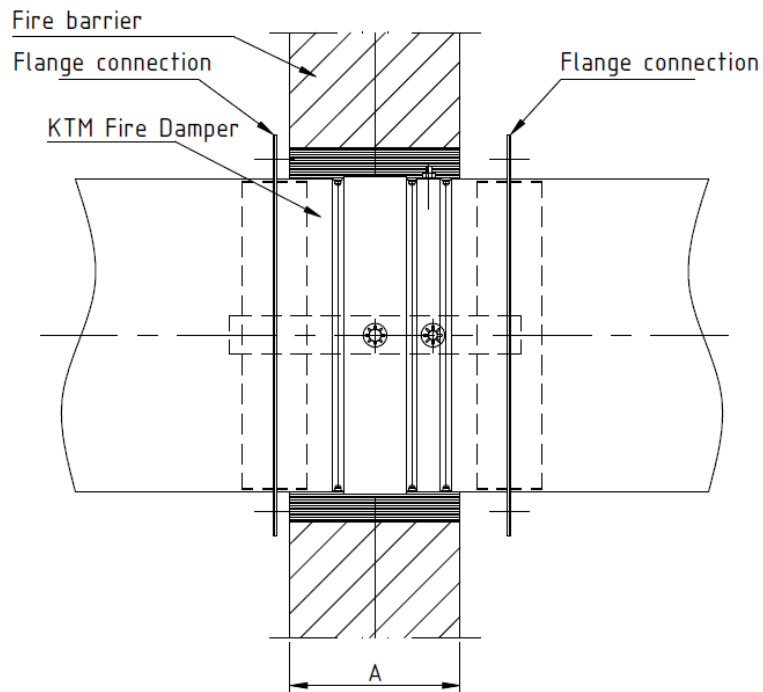


Figure 15. KTM fire damper with flange connection

In order to allow technical inspection of KTM fire dampers, SMAY L.L.C. recommends the use of telescope connections as shown in figure 16.

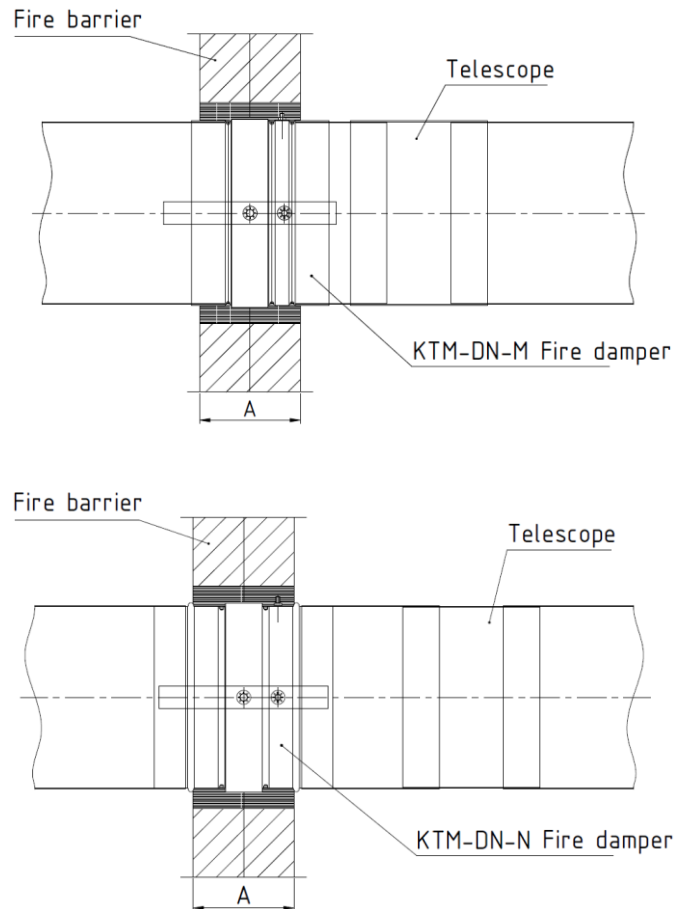


Figure 16. Telescope connections for technical inspection

ADDITIONAL INFORMATION

Weight of KTM fire dampers [kg]

DN	KTM female coupling	KTM male coupling	KTM-E female coupling	KTM-E male coupling
250	1,7	2,0	4,6	4,9
200	1,4	1,6	4,1	4,3
160	1,1	1,3	3,7	3,9
125	0,9	1,0	3,3	3,4
100	0,8	0,9	3,1	3,2