Operation and maintenance manual

NCA Series 400H hand operated single blade leakage rated fire damper

Regular inspection and maintenance of fire dampers is essential to ensure they remain in good working condition. It is the system owner's responsibility to ensure this is carried out.

In accordance with EN 15650:2010 fire damper maintenance routines, such as that given below, must be carried out at intervals not exceeding 6 months.

Some automatic systems may allow more frequent testing (48 hours or less) and this may be required by national regulation.

Please note: This document is relevant only to hand operated S400 dampers. For S400 dampers equipped with an actuator please see the relevant document.

Periodic maintenance procedure

Damper type:	NCA Series 400H hand operated single blade leakage rated fire damper
Thermal link rated temperature: *Delete as appropriate*	68°C (red bulb in link) or 93°C (green bulb in link)
Damper reference (if applicable):	
Damper location (within site):	
Date of inspection:	

Step	Operation	***Notes***	Yes/No
1	Is the damper open?	*The damper handle should be parallel with the damper body, indicating the damper is open*	
2	Is the handle mechanism secure and undamaged?	*Using a pozi-drive screwdriver, ensure the machine screw inside the spindle cap is secure*	
3	Remove access door/s to access the inside of ductwork and damper blade	*Both sides of the damper blade should be easily accessible*	N/A
4	Is the damper blade in the fully open position and secure?	*The damper blade should be in the fully open position.* *Gently try to move the blade by hand, it should not rotate.*	
5	Is the damper blade unobstructed?	*Ensure there is nothing present which is obstructing or could obstruct the damper blade operating*	
6	Is the thermal link clean and free from damage and corrosion?	*Thermal links must be cleaned with care and if damaged or heavily soiled must be replaced* *Caution - Thermal links are fragile*	
7	Is the damper blade and case clean and free from damage and corrosion?	*Use a damp cloth, brush or vacuum cleaner to remove any dirt and debris.* *If damaged or corroded dampers must be replaced* *Caution - Blade sealing fabric is sharp, PPE should be used*	
8	Does the damper close correctly?	*Pull the test handle on the external mechanism, the damper should close*	
9	Does the damper open correctly?	*Rotate the setting handle 90° anti-clockwise until the underside of the handle latches onto the thermal link*	
10	Do you have any concerns about the installation?	*Is there anything that does not look correct, do you have any doubts etc.?*	
11	Refit access door/s securely	*N/A*	N/A

If any of questions 1 - 9 is answered 'no', or if the answer to question 10 is 'yes', please see troubleshooting overleaf.

Troubleshooting

Symptom	Possible causes	Action
Damper closed and cannot be reset open	Thermal link has activated	Check thermal link by comparing with figures 1 and 2, page 3 If activated thermal links must be replaced See below: 'Thermal link replacement'
	Handle mechanism not engaged on thermal link correctly	Check machine screw in spindle cap is tightly screwed down
Test handle hard to pull	Lack of lubrication	Remove handle mechanism, sparingly apply viscous lubricant to region of spindle where handle slides, refit handle mechanism See below: 'Handle mechanism removal and replacement'
Damper blade not fully opening or closing	Damper motion obstructed by debris	Remove debris. Ensure no damage has been caused to damper.
	Increased actuation resistance	Lubrication required, see below: 'Lubrication procedure' Manipulate blade sealing fabric until pliable, ensure fabric is left leaning in correct direction. *Caution - Blade sealing fabric is sharp, PPE should be used* *Handle should be disengaged from thermal link during sealing fabric manipulation to avoid subjecting the link to undue force.*
	Handle mechanism fitted incorrectly	Remove and refit mechanism correctly See below: Handle mechanism removal and replacement procedure' Ensure no damage has been caused to damper
	Mechanical failure	Contact HVC
Damper blade loose	Mechanical failure	Contact HVC

Contact HVC if the above does not solve your problem.

Additional procedures

Thermal link replacement

1. Remove handle mechanism as per steps 1 - 3 of 'Handle mechanism removal and replacement procedure' adjacent.
2. Remove activated link (12mm spanner required) and discard.
3. Refit new link ensuring correct temperature rating is used, 68°C (red bulb in link) or 93°C (green bulb in link).
4. Refit handle mechanism as per step 4 of 'Handle mechanism removal and replacement procedure' adjacent.
5. Open damper as per step 8 of the periodic maintenance procedure.

Lubrication

1. Remove access door/s to access the inside of ductwork and damper blade.
2. Clean damper if required following step 7 of the periodic maintenance procedure.
3. Apply a small amount of light oil (WD40 spray grease recommended) directly into the blade axle bushes and/or the inside of the case against where the blade seals.
4. Remove any excess oil with a cloth.
5. Conduct a cycle test as per steps 8 and 9 of the periodic maintenance procedure and observe whether the operation has improved. Several reapplications/cycles may be required to permit the lubricant to reach all required areas.

Handle mechanism removal and replacement

1. Ensure damper is closed (setting handle perpendicular with damper case).
2. Referring to page 3, figure 3 if necessary, unscrew the machine screw in the shaft end cap (pozi-drive screwdriver required).
3. Slide spindle cap, compression spring, test handle and setting handle off shaft.
4. To refit, reverse previous steps, ensuring setting handle is replaced perpendicular to damper case.

Figures

Figure 1

Thermal link non-activated state

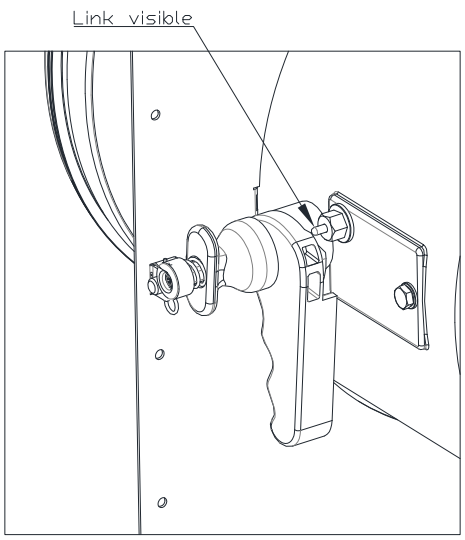

Figure 2

Thermal link activated state

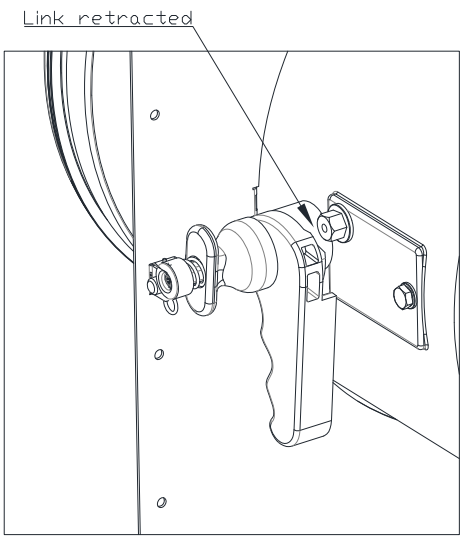

Figure 3

Handle assembly