

## MULTI-BLADE SMOKE CONTROL DAMPER



### Characteristics:

A multi-blade smoke control damper for fire ventilation and mixed ventilation systems, with an electric actuator without a return spring.



version: 15/03/24

### Intended Use

The WKP-P-E-J and WKP-P-E-W smoke control dampers are used in fire ventilation systems to prevent the expansion of fire, heat and smoke.

#### WKP-P-E-J smoke control damper

It is used in single-compartment fire ventilation systems, in horizontal ventilation ducts. The damper is used for extracting smoke and hot fire gases from rooms or smoke zones located in the same fire zone, at the same time maintaining fire resistance rating and/or smoke leakage criteria for the temperature up to 600°C. In the air supply systems the product is used for supplying fresh (without smoke) makeup air to the smoke zones located in the same fire zone.

#### WKP-P-E-W smoke control damper

Used in multi-compartment fire ventilation systems. During the normal operation of the system, the isolating baffle of the WKP-P-E-W dampers is in the open or closed position. In case of fire, the actuating system opens the dampers that operate in the fire detection zone (dampers in other zones are closed).

The WKP-P-E damper are certified by **CTO Gdańsk**, Certificate of Constancy of Performance **2434-CPR-0015**

The dampers are symmetrical, designed for installation in vertical building partitions (in walls). They may be mounted in rigid or flexible walls.

The dampers are designed, manufactured and tested in accordance with the following standards: **PN-EN 12101-8** "Smoke and heat control systems – Part 8: Smoke control dampers" and PN-EN 13501-4 "Fire classification of construction products and building elements – Part 4: Classification using data from fire resistance tests on components of smoke control systems."

The effectiveness of the dampers is confirmed by tests according to **PN-EN 1366-2 and PN-EN 1366-10** "Fire resistance tests for service installations – Part 2: Fire dampers, Part 10: Smoke control dampers."

The WKP-P-E-W smoke control dampers are classified as tightness class C (housing tightness) devices on the basis of tests carried out according to **EN 1751** "Ventilation for buildings.

Air terminal devices. Aerodynamic testing of dampers and valves."

### Classification of the WKP-P-E-J dampers

The WKP-P-E-J dampers are classified as indicated below and may be mounted in fire ventilation ducts.

E<sub>600</sub> 120 (v<sub>ed-i</sub> ↔ o)S1000C<sub>300</sub>AAsingle

### Classification of the WKP-P-E-W dampers

The WKP-P-E-W dampers are classified as indicated below and may be mounted in the following building partitions:

EI 90 (v<sub>ew-i</sub> ↔ o)S1500C<sub>10000</sub>AAmulti

EI 120 (v<sub>ew-i</sub> ↔ o)S1000C<sub>10000</sub>AAmulti

It means that the automatically controlled damper installed in building partition or in a duct outside the building partition keeps integrity, insulating and smoke leakage properties for at least 120 minutes; the class above also means that the damper may be operated remotely for at least 2 minutes from the moment of receiving the signal from the fire detector.

The WKP-P-E-W fire dampers may be installed in vertical building partitions with both horizontal and vertical blade rotation axis.

### Description

The WKP-P-E-J and WKP-P-E-W smoke control dampers are made up of a rectangular housing, movable blades and a drive system.

The dampers' housing is made of fire-rated boards and steel structural members. Both sides of the housing are equipped with steel connection spigots, which enable easy connection of a duct.

Movable blades, made of mineral silicate composite, are fastened to the housing by means of metal pins.

There are intumescent seals mounted on the inner side of the housing and on the blades. Their characteristic feature is the volume increase at high temperatures, tightly filling all leaks

between the baffle and the body. A bubble seal ensures the leak tightness at ambient temperature.

The WKP damper is provided with an innovative actuating mechanism, which ensures the counter rotation of the blades. The mechanism is made up of, among other things, gears made of fire-rated materials, blades and an electric actuator.

The permissible air velocity for the WKP-P-E damper in a BxH connection duct is 12 m/s.

## Manufacturing versions

The BEN, BEE or BE electric actuator by BELIMO is used as the drive system. Switching between open and closed position of the damper (and vice versa) can be done after the power supply has been connected to the actuator. There are microswitches permanently installed in the actuator for indicating the open/closed position of the damper. The WKP-J and WKP-W dampers do not have return springs (voltage loss will not cause the movement of the damper isolating baffle).

The range of dampers covers the following dimensions: a clear damper width from 200 to 1200 mm (10 mm intervals) and a clear damper height from 200 to 800 mm (100 mm intervals). The basic range of damper sizes along with the actuators used is presented in the table below.

## Dimensions

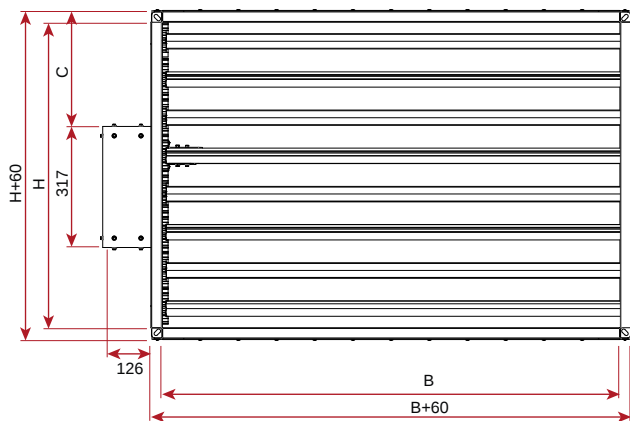


Figure 1. WKP-P damper dimensions

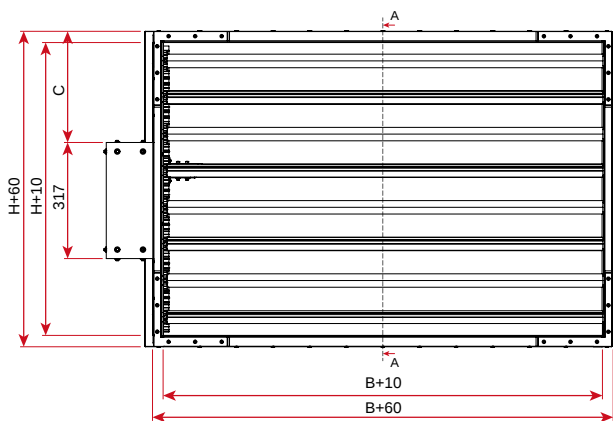


Figure 2. WKP-P-T damper dimensions (without connection frames).

Table 1. C parameter value.

| N | H [mm] | C [mm] |
|---|--------|--------|
| 2 | 200    | 0      |
| 3 | 300    | 100    |
| 4 | 400    | 100    |
| 5 | 500    | 200    |
| 6 | 600    | 200    |
| 7 | 700    | 300    |
| 8 | 800    | 300    |

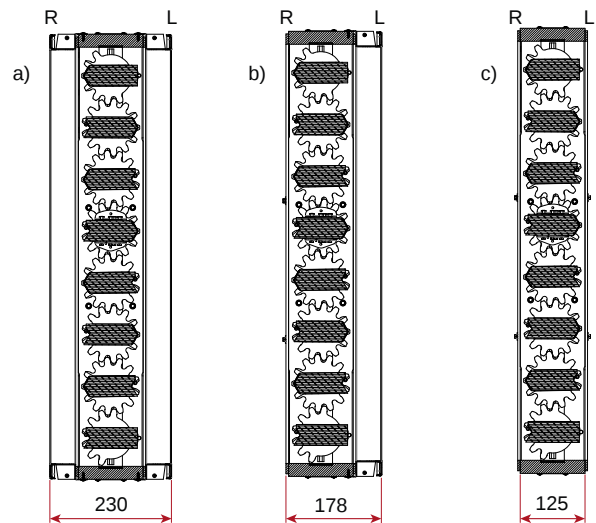
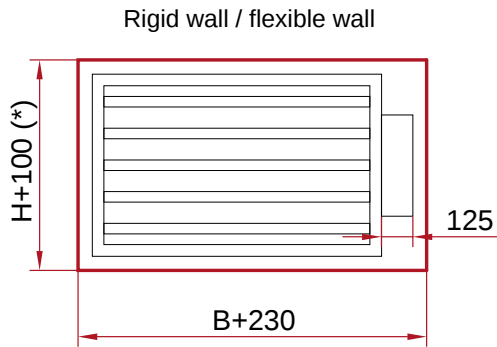


Figure 3. The length of the dampers: a) WKP-P-E-W and WKP-P-E-J dampers b) WKP-P-E-W-KL damper (version with a connection frame on the L side) c) WKP-P-E-W-T damper (without connection frames).

## Installation



Permissible range:  $B + (210 \div 250)$  mm /  $H + (80 \div 120)$  mm<sup>(\*)</sup>

(\*) For dampers with a height of  $H = 200$  mm and  $H = 300$  mm, the installation opening should be  $H + 160$  mm high (permissible range  $H + (140 \div 180)$  mm)

Figure 4. Openings required for the WKP-P damper.

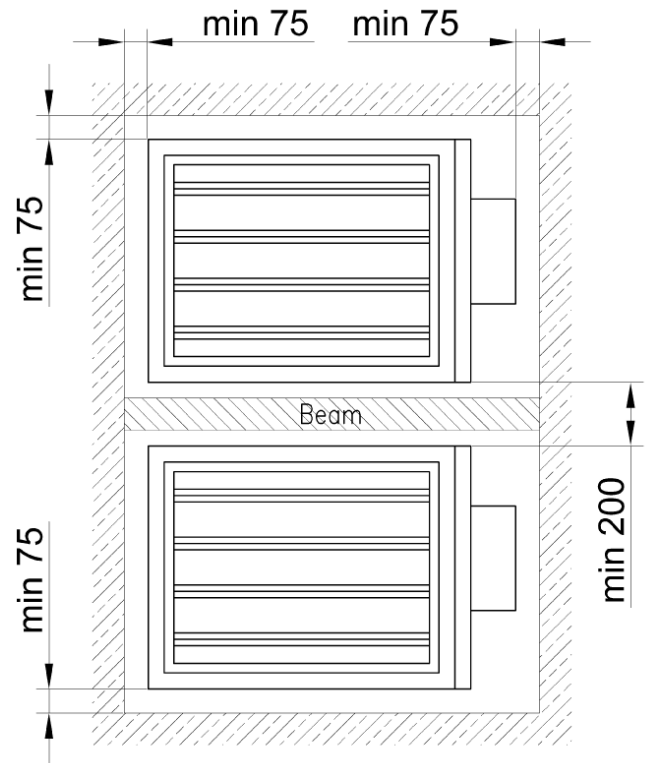


Figure 5. Spacing required between the dampers.

## Technical data

Table 2. The net surface area and the range of actuators used for the WKP-P-E-J damper.

| WKP-P-E-J     | Width B [mm] |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|               | 200          | 250   | 300   | 350   | 400   | 450   | 500   | 550   | 600   | 650   | 700   | 750   | 800   | 850   | 900   | 950   | 1000  | 1050  | 1100  | 1150  | 1200  |       |
| Height H [mm] | 200          | 0,026 | 0,033 | 0,039 | 0,046 | 0,052 | 0,059 | 0,065 | 0,072 | 0,078 | 0,085 | 0,091 | 0,098 | 0,104 | 0,111 | 0,117 | 0,124 | 0,130 | 0,137 | 0,143 | 0,150 | 0,156 |
|               | 300          | 0,039 | 0,049 | 0,059 | 0,068 | 0,078 | 0,088 | 0,098 | 0,107 | 0,117 | 0,127 | 0,137 | 0,146 | 0,156 | 0,166 | 0,176 | 0,185 | 0,195 | 0,205 | 0,215 | 0,224 | 0,234 |
|               | 400          | 0,052 | 0,065 | 0,078 | 0,091 | 0,104 | 0,117 | 0,130 | 0,143 | 0,156 | 0,169 | 0,182 | 0,195 | 0,208 | 0,221 | 0,234 | 0,247 | 0,260 | 0,273 | 0,286 | 0,299 | 0,312 |
|               | 500          | 0,065 | 0,081 | 0,098 | 0,114 | 0,130 | 0,146 | 0,163 | 0,179 | 0,195 | 0,211 | 0,228 | 0,244 | 0,260 | 0,276 | 0,293 | 0,309 | 0,325 | 0,341 | 0,358 | 0,374 | 0,390 |
|               | 600          | 0,078 | 0,098 | 0,117 | 0,137 | 0,156 | 0,176 | 0,195 | 0,215 | 0,234 | 0,254 | 0,273 | 0,293 | 0,312 | 0,332 | 0,351 | 0,371 | 0,390 | 0,410 | 0,429 | 0,449 | 0,468 |
|               | 700          | 0,091 | 0,114 | 0,137 | 0,159 | 0,182 | 0,205 | 0,228 | 0,250 | 0,273 | 0,296 | 0,319 | 0,341 | 0,364 | 0,387 | 0,410 | 0,432 | 0,455 | 0,478 | 0,501 | 0,523 | 0,546 |
|               | 800          | 0,104 | 0,130 | 0,156 | 0,182 | 0,208 | 0,234 | 0,260 | 0,286 | 0,312 | 0,338 | 0,364 | 0,390 | 0,416 | 0,442 | 0,468 | 0,494 | 0,520 | 0,546 | 0,572 | 0,598 | 0,624 |

Table 3. The net surface area and the range of actuators used for the WKP-P-E-W damper.

| WKP-P-E-W     |     | Width B [mm] |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---------------|-----|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|               |     | 200          | 250   | 300   | 350   | 400   | 450   | 500   | 550   | 600   | 650   | 700   | 750   | 800   | 850   | 900   | 950   | 1000  | 1050  | 1100  | 1150  | 1200  |
| Height H [mm] | 200 | 0,024        | 0,030 | 0,036 | 0,042 | 0,048 | 0,054 | 0,060 | 0,066 | 0,072 | 0,078 | 0,084 | 0,090 | 0,096 | 0,102 | 0,108 | 0,114 | 0,120 | 0,126 | 0,132 | 0,138 | 0,144 |
|               | 300 | 0,036        | 0,045 | 0,054 | 0,063 | 0,072 | 0,081 | 0,090 | 0,099 | 0,108 | 0,117 | 0,126 | 0,135 | 0,144 | 0,153 | 0,162 | 0,171 | 0,180 | 0,189 | 0,198 | 0,207 | 0,216 |
|               | 400 | 0,048        | 0,060 | 0,072 | 0,084 | 0,096 | 0,108 | 0,120 | 0,132 | 0,144 | 0,156 | 0,168 | 0,180 | 0,192 | 0,204 | 0,216 | 0,228 | 0,240 | 0,252 | 0,264 | 0,276 | 0,288 |
|               | 500 | 0,060        | 0,075 | 0,090 | 0,105 | 0,120 | 0,135 | 0,150 | 0,165 | 0,180 | 0,195 | 0,210 | 0,225 | 0,240 | 0,255 | 0,270 | 0,285 | 0,300 | 0,315 | 0,330 | 0,345 | 0,360 |
|               | 600 | 0,072        | 0,090 | 0,108 | 0,126 | 0,144 | 0,162 | 0,180 | 0,198 | 0,216 | 0,234 | 0,252 | 0,270 | 0,288 | 0,306 | 0,324 | 0,342 | 0,360 | 0,378 | 0,396 | 0,414 | 0,432 |
|               | 700 | 0,084        | 0,105 | 0,126 | 0,147 | 0,168 | 0,189 | 0,210 | 0,231 | 0,252 | 0,273 | 0,294 | 0,315 | 0,336 | 0,357 | 0,378 | 0,399 | 0,420 | 0,441 | 0,462 | 0,483 | 0,504 |
|               | 800 | 0,096        | 0,120 | 0,144 | 0,168 | 0,192 | 0,216 | 0,240 | 0,264 | 0,288 | 0,312 | 0,336 | 0,360 | 0,384 | 0,408 | 0,432 | 0,456 | 0,480 | 0,504 | 0,528 | 0,552 | 0,576 |

0,360 - siłownik **BEN** ( $B \times H \leq 0,60 \text{ m}^2$ )

0,528 - siłownik **BEE** ( $0,60 \text{ m}^2 < B \times H \leq 0,90 \text{ m}^2$ )

0,578 - siłownik **BE** ( $B \times H > 0,90 \text{ m}^2$ )

Table 4. Pressure loss through the WKP-P-E-J damper,  $\Delta p$  [Pa].

| WKP-P-E-J     |     | v [m/s] | Width B [mm] |     |     |     |     |     |     |     |      |      |      |    |    |    |    |    |    |    |    |    |    |
|---------------|-----|---------|--------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|----|----|----|----|----|----|----|----|----|----|
|               |     |         | 200          | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 |    |    |    |    |    |    |    |    |    |    |
| Height H [mm] | 200 | 4       | 13           | 13  | 13  | 13  | 13  | 13  | 13  | 13  | 13   | 13   | 13   | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
|               |     | 6       | 29           | 29  | 29  | 29  | 29  | 29  | 29  | 29  | 29   | 29   | 29   | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 |
|               |     | 8       | 50           | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50   | 50   | 50   | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
|               |     | 10      | 79           | 79  | 79  | 79  | 79  | 79  | 79  | 79  | 79   | 79   | 79   | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
|               | 300 | 4       | 13           | 13  | 13  | 13  | 13  | 13  | 13  | 13  | 13   | 13   | 13   | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
|               |     | 6       | 27           | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 27   | 27   | 27   | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 |
|               |     | 8       | 51           | 51  | 51  | 51  | 51  | 51  | 51  | 51  | 51   | 51   | 51   | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 |
|               |     | 10      | 81           | 81  | 81  | 81  | 81  | 81  | 81  | 81  | 81   | 81   | 81   | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 |
|               | 400 | 4       | 12           | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12   | 12   | 12   | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
|               |     | 6       | 26           | 26  | 26  | 26  | 26  | 26  | 26  | 26  | 26   | 26   | 26   | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
|               |     | 8       | 49           | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49   | 49   | 49   | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 |
|               |     | 10      | 78           | 78  | 78  | 78  | 78  | 78  | 78  | 78  | 78   | 78   | 78   | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 |
|               | 500 | 4       | 11           | 11  | 11  | 11  | 11  | 11  | 11  | 11  | 11   | 11   | 11   | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
|               |     | 6       | 24           | 24  | 24  | 24  | 24  | 24  | 24  | 24  | 24   | 24   | 24   | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
|               |     | 8       | 43           | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43   | 43   | 43   | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 |
|               |     | 10      | 69           | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69   | 69   | 69   | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
|               | 600 | 4       | 10           | 10  | 10  | 10  | 10  | 10  | 10  | 10  | 10   | 10   | 10   | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
|               |     | 6       | 23           | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 23   | 23   | 23   | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
|               |     | 8       | 41           | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41   | 41   | 41   | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
|               |     | 10      | 68           | 68  | 68  | 68  | 68  | 68  | 68  | 68  | 68   | 68   | 68   | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
|               | 700 | 4       | 9            | 10  | 10  | 10  | 10  | 10  | 10  | 10  | 10   | 10   | 10   | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
|               |     | 6       | 22           | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 23   | 23   | 23   | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
|               |     | 8       | 38           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40   | 40   | 40   | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
|               |     | 10      | 62           | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63   | 63   | 63   | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
|               | 800 | 4       | 9            | 9   | 9   | 9   | 9   | 9   | 9   | 9   | 9    | 9    | 9    | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
|               |     | 6       | 21           | 21  | 21  | 21  | 21  | 21  | 21  | 21  | 21   | 21   | 21   | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
|               |     | 8       | 38           | 38  | 38  | 38  | 38  | 38  | 38  | 38  | 38   | 38   | 38   | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 |
|               |     | 10      | 60           | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60   | 60   | 60   | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |

v [m/s] – air flow velocity in the BxH connection duct

Table 5. Pressure loss through the WKP-P-E-W damper,  $\Delta p$  [Pa].

| WKP-P-E-W        |     | v<br>[m/s] | Width B [mm] |     |     |     |     |     |     |     |      |      |      |    |
|------------------|-----|------------|--------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|----|
|                  |     |            | 200          | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 |    |
| Height H<br>[mm] | 200 | 4          | 14           | 14  | 14  | 14  | 14  | 14  | 14  | 14  | 14   | 14   | 14   | 14 |
|                  |     | 6          | 30           | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30   | 30   | 30   | 30 |
|                  |     | 8          | 51           | 51  | 51  | 51  | 51  | 51  | 51  | 51  | 51   | 51   | 51   | 51 |
|                  |     | 10         | 80           | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80   | 80   | 80   | 80 |
|                  | 300 | 4          | 14           | 14  | 14  | 14  | 14  | 14  | 14  | 14  | 14   | 14   | 14   | 14 |
|                  |     | 6          | 29           | 29  | 29  | 29  | 29  | 29  | 29  | 29  | 29   | 29   | 29   | 29 |
|                  |     | 8          | 52           | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52   | 52   | 52   | 52 |
|                  |     | 10         | 83           | 83  | 83  | 83  | 83  | 83  | 83  | 83  | 83   | 83   | 83   | 83 |
|                  | 400 | 4          | 12           | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12   | 12   | 12   | 12 |
|                  |     | 6          | 28           | 28  | 28  | 28  | 28  | 28  | 28  | 28  | 28   | 28   | 28   | 28 |
|                  |     | 8          | 50           | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50   | 50   | 50   | 50 |
|                  |     | 10         | 79           | 79  | 79  | 79  | 79  | 79  | 79  | 79  | 79   | 79   | 79   | 79 |
|                  | 500 | 4          | 11           | 11  | 11  | 11  | 11  | 11  | 11  | 11  | 11   | 11   | 11   | 11 |
|                  |     | 6          | 25           | 25  | 25  | 25  | 25  | 25  | 25  | 25  | 25   | 25   | 25   | 25 |
|                  |     | 8          | 44           | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44   | 44   | 44   | 44 |
|                  |     | 10         | 70           | 70  | 70  | 70  | 70  | 70  | 70  | 70  | 70   | 70   | 70   | 70 |
|                  | 600 | 4          | 11           | 11  | 11  | 11  | 11  | 11  | 11  | 11  | 11   | 11   | 11   | 11 |
|                  |     | 6          | 24           | 24  | 24  | 24  | 24  | 24  | 24  | 24  | 24   | 24   | 24   | 24 |
|                  |     | 8          | 42           | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42   | 42   | 42   | 42 |
|                  |     | 10         | 69           | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69   | 69   | 69   | 69 |
|                  | 700 | 4          | 10           | 10  | 10  | 10  | 10  | 10  | 10  | 10  | 10   | 10   | 10   | 10 |
|                  |     | 6          | 23           | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 23   | 23   | 23   | 23 |
|                  |     | 8          | 40           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40   | 40   | 40   | 40 |
|                  |     | 10         | 63           | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63   | 63   | 63   | 63 |
|                  | 800 | 4          | 10           | 10  | 10  | 10  | 10  | 10  | 10  | 10  | 10   | 10   | 10   | 10 |
|                  |     | 6          | 21           | 21  | 21  | 21  | 21  | 21  | 21  | 21  | 21   | 21   | 21   | 21 |
|                  |     | 8          | 39           | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39   | 39   | 39   | 39 |
|                  |     | 10         | 61           | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61   | 61   | 61   | 61 |

v [m/s] – air flow velocity in the BxH connection duct

Table 6. Sound power level emitted by the WKP-P damper to the duct,  $L_{WA}$  [dB(A)].

| WKP-P         |     | v [m/s] | Width B [mm] |     |     |     |     |     |     |     |      |      |      |
|---------------|-----|---------|--------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|
|               |     |         | 200          | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 |
| Height H [mm] | 200 | 4       | 25           | 25  | 26  | 27  | 27  | 28  | 30  | 31  | 31   | 32   | 32   |
|               |     | 6       | 36           | 36  | 37  | 38  | 39  | 40  | 41  | 41  | 42   | 43   | 44   |
|               |     | 8       | 45           | 46  | 47  | 47  | 48  | 49  | 49  | 50  | 50   | 51   | 51   |
|               |     | 10      | 49           | 50  | 53  | 54  | 55  | 55  | 55  | 55  | 55   | 55   | 56   |
|               | 300 | 4       | 26           | 26  | 27  | 27  | 27  | 28  | 32  | 32  | 33   | 33   | 33   |
|               |     | 6       | 37           | 37  | 38  | 39  | 40  | 41  | 43  | 43  | 43   | 44   | 45   |
|               |     | 8       | 46           | 46  | 47  | 47  | 47  | 48  | 50  | 50  | 52   | 52   | 52   |
|               |     | 10      | 51           | 52  | 54  | 55  | 56  | 56  | 56  | 56  | 57   | 57   | 57   |
|               | 400 | 4       | 27           | 27  | 27  | 27  | 27  | 28  | 33  | 33  | 34   | 34   | 34   |
|               |     | 6       | 37           | 38  | 38  | 39  | 40  | 42  | 44  | 44  | 44   | 44   | 45   |
|               |     | 8       | 46           | 45  | 45  | 45  | 45  | 47  | 51  | 52  | 53   | 53   | 52   |
|               |     | 10      | 52           | 53  | 55  | 55  | 56  | 57  | 57  | 57  | 58   | 57   | 57   |
|               | 500 | 4       | 27           | 28  | 29  | 30  | 30  | 32  | 34  | 35  | 35   | 35   | 34   |
|               |     | 6       | 38           | 38  | 39  | 40  | 42  | 43  | 45  | 45  | 45   | 45   | 45   |
|               |     | 8       | 46           | 47  | 48  | 48  | 49  | 50  | 52  | 52  | 53   | 53   | 53   |
|               |     | 10      | 53           | 54  | 55  | 56  | 57  | 57  | 57  | 58  | 58   | 58   | 58   |
|               | 600 | 4       | 27           | 30  | 31  | 32  | 33  | 34  | 34  | 34  | 35   | 35   | 34   |
|               |     | 6       | 38           | 40  | 43  | 43  | 43  | 44  | 45  | 45  | 45   | 45   | 45   |
|               |     | 8       | 46           | 47  | 48  | 50  | 52  | 52  | 52  | 53  | 53   | 53   | 53   |
|               |     | 10      | 53           | 54  | 55  | 55  | 56  | 57  | 57  | 57  | 58   | 58   | 58   |
|               | 700 | 4       | 28           | 29  | 31  | 32  | 33  | 34  | 35  | 35  | 35   | 35   | 35   |
|               |     | 6       | 40           | 42  | 43  | 44  | 44  | 44  | 45  | 45  | 45   | 46   | 46   |
|               |     | 8       | 47           | 48  | 50  | 52  | 53  | 53  | 52  | 52  | 53   | 54   | 54   |
|               |     | 10      | 54           | 55  | 55  | 57  | 59  | 58  | 58  | 58  | 59   | 59   | 59   |
|               | 800 | 4       | 29           | 30  | 31  | 32  | 33  | 34  | 35  | 35  | 35   | 36   | 36   |
|               |     | 6       | 41           | 42  | 43  | 44  | 45  | 45  | 45  | 45  | 45   | 45   | 46   |
|               |     | 8       | 47           | 48  | 51  | 52  | 53  | 52  | 52  | 52  | 53   | 53   | 54   |
|               |     | 10      | 54           | 55  | 55  | 56  | 59  | 59  | 59  | 59  | 59   | 59   | 59   |

v [m/s] – air flow velocity in the BxH connection duct

Table 7. WKP-P-E-J damper weight, m [kg].

| WKP-P-E-J     |     | Width B [mm] |     |     |     |     |     |     |     |      |      |      |
|---------------|-----|--------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|
|               |     | 200          | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 |
| Height H [mm] | 200 | 12           | 14  | 16  | 17  | 19  | 20  | 22  | 24  | 26   | 28   | 29   |
|               | 300 | 13           | 15  | 17  | 19  | 20  | 22  | 25  | 26  | 28   | 30   | 32   |
|               | 400 | 14           | 16  | 18  | 20  | 22  | 25  | 27  | 29  | 31   | 32   | 34   |
|               | 500 | 15           | 18  | 20  | 22  | 25  | 27  | 29  | 31  | 33   | 35   | 37   |
|               | 600 | 17           | 19  | 21  | 24  | 27  | 29  | 31  | 33  | 35   | 38   | 40   |
|               | 700 | 18           | 20  | 23  | 26  | 28  | 31  | 33  | 36  | 38   | 40   | 43   |
|               | 800 | 19           | 22  | 25  | 27  | 30  | 33  | 35  | 38  | 40   | 43   | 46   |

Table 8. WKP-P-E-W damper weight, m [kg].

| WKP-P-E-W     |     | Width B [mm] |     |     |     |     |     |     |     |      |      |      |
|---------------|-----|--------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|
|               |     | 200          | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 |
| Height H [mm] | 200 | 12           | 14  | 16  | 17  | 19  | 20  | 22  | 25  | 27   | 29   | 30   |
|               | 300 | 14           | 15  | 17  | 19  | 21  | 23  | 25  | 27  | 29   | 31   | 32   |
|               | 400 | 15           | 17  | 19  | 21  | 23  | 26  | 27  | 29  | 31   | 33   | 35   |
|               | 500 | 16           | 18  | 20  | 22  | 25  | 28  | 30  | 32  | 34   | 36   | 39   |
|               | 600 | 17           | 19  | 22  | 25  | 27  | 30  | 32  | 35  | 37   | 39   | 42   |
|               | 700 | 18           | 21  | 24  | 27  | 29  | 32  | 34  | 37  | 40   | 42   | 45   |
|               | 800 | 19           | 23  | 26  | 28  | 31  | 34  | 37  | 40  | 42   | 45   | 48   |

Table 9. The list of WKP-P-E-J and WKP-P-E-W dampers.

| Name           | WKP-P-E-J  | WKP-P-E-W  |
|----------------|--|--|
| Intended use   | For single-compartment fire ventilation systems              | For multi-compartment fire ventilation systems   |
| Classification | E600 120 (v <sub>ed</sub> i→o)S1000C <sub>300</sub> AAsingle | EI 90 (v <sub>ew</sub> i→o)S1500C <sub>1000</sub> AAmulti  |
|                |  | EI 120 (v <sub>ew</sub> i→o)S1000C <sub>1000</sub> AAmulti   |
| Installation   | In horizontal fire ducts                                     | In rigid vertical building partitions, of min.120 mm thickness or more, both with horizontal and vertical blade rotation axis. |
| Drive          | BEN, BEE or BE Belimo actuators                              | BEN, BEE or BE Belimo actuators  |



Grilles and covers dedicated for multi-blade cut-off dampers can be found in the WKP-O damper data sheet.

# WKP-P - Multi-blade smoke control damper

When ordering, please provide information in accordance with the following pattern:

WKP-P - <F> - <R> - <W> - <B> x <H> - <A>

Where:

|          |   |
|----------|---|
| <b>F</b> | type of the actuation system used                               |
|          | <b>E</b> - electric actuator without return spring              |
| <b>R</b> | intended use*   |
|          | <b>J</b> - for single-compartment fire ventilation systems      |
|          | W - for multi-compartment fire ventilation systems              |
| <b>W</b> | manufacturing version   |
|          | <b>K</b> - with connection frames (spigots) - default           |
|          | T - no connection frames (transfer version)                     |
|          | KL - with one connection frame on L-side                        |
|          | KR - with one connection frame on R-side                        |
| <b>B</b> | damper clear width [mm]   |
| <b>H</b> | damper clear height [mm]  |
| <b>A</b> | type of the actuator  |
|          | BEN - for $B \times H \leq 0,60 \text{ m}^2$                    |
|          | BEE - for $0,60 \text{ m}^2 < B \times H \leq 0,90 \text{ m}^2$ |
|          | BE - for $B \times H > 0,90 \text{ m}^2$                        |
|          | <b>Product marking:</b>   |
|          | 24/230 - supply voltage   |
|          | ST - connection socket  |

\* optional items – if not indicated, default values will be used

Sample product marking: **WKP-P-E-W-K-1200x800-BE24**