

KWP-P-E

FIRE DAMPERS



Intended use:

KWP-P fire dampers are intended to installation in smoke and heat control systems, acting as protection against spreading of fire, temperature and smoke.

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KWP-P-E fire dampers have the Certificate of Stability Character Users No. 1488-CPR-0444 / W, ed. Through the Institute of Building Technology

During normal operation of the system , the flap of the KWP-P-E damper is in the open or closed position. In case of fire, the actuating system opens the dampers which operate in the fire detection zone (dampers in other zones move to the closed position).

These dampers are asymmetrical flaps, intended for horizontal installation (in the walls). They can be installed in rigid building partitions.

The damper is constructed, manufactured and tested in accordance with the 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".

Sensitivity of the dampers is confirmed by tests in accordance with the standards: **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 KWP-P damper is classified to integrity class C (integrity of casing) on the basis of tests carried out in accordance with **EN 1751** „ Ventilation for buildings. Air terminal devices. Aerodynamic testing of damper and valves".

Technical description

The damper is composed of two bodies made of galvanized steel, which are separated with insulating dividers made of 40 [mm] thick, fire-resistant material. Inside the damper there is a flap, which movement in closed position is limited with stop bar. The axles of the flap cooperate with slide bearings built in the insulating dividers. The closing of the flap is realized by the system of the flexible connectors.

KWP-P-E type fire dampers are based on one unified body. The damper is optionally provided with two inspection holes at the top and the bottom, which makes it is not necessary to install inspection covers in the ducts before the damper, for making the periodic inspection and testing. There is also no need to specify the service side.

Versions of the device

KWP-P-E – smoke control damper (normally closed). The actuating system is BE or BLE series electric actuator from Belimo. The movement of the flap from closed to open position, and vice versa: from open to closed position occurs after connecting the power supply to the actuator. In the actuator there are micro switches, permanently set to indicate the flap position (open/closed). KWP-P-E dampers are not provided with thermal switches and the actuators used, do not have return spring (loss of power does not cause the movement of the flap).

Dimensional series of the KWP-P-E type fire dampers is limited to the gross surface of 1,2 [m]. Above this dimension, dampers are manufactured as set of dampers (batteries).

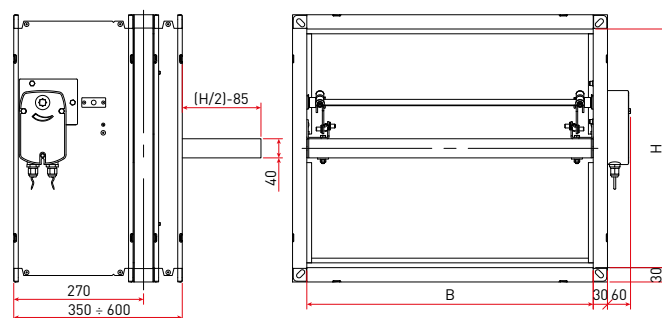


Figure 1. KWP-P-E type smoke control damper.

Special execution

In the version of damper intended to use in aggressive environment, on request:

- all steel components of the KWP type fire damper are replaced with the components made of acidresistant steel 1.4301. The bearings remain brazen and flap is coated with Promat-SR-Impragnierung type impregnant - non-solvent substance made by PROMAT, on the basis of silicates.



Technical data

Table 1. Free sectional area.

H/B	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
	Free sectional area [m²]																										
200	0,028	0,035	0,042	0,049	0,056	0,063	0,070	0,077	0,084	0,091	0,098	0,105	0,112	0,119	0,126	0,133	0,140	0,147	0,154	0,161	0,168	0,175	0,182	0,189	0,196	0,203	0,210
250	0,038	0,048	0,057	0,067	0,076	0,086	0,095	0,105	0,114	0,124	0,133	0,143	0,152	0,162	0,171	0,181	0,190	0,200	0,209	0,219	0,228	0,238	0,247	0,257	0,266	0,276	0,285
300	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	0,300	0,312	0,324	0,336	0,348	0,360
350	0,058	0,073	0,087	0,102	0,116	0,131	0,145	0,160	0,174	0,189	0,203	0,218	0,232	0,247	0,261	0,276	0,290	0,305	0,319	0,334	0,348	0,363	0,377	0,392	0,406	0,421	0,435
400	0,068	0,085	0,102	0,119	0,136	0,153	0,170	0,187	0,204	0,221	0,238	0,255	0,272	0,289	0,306	0,323	0,340	0,357	0,374	0,391	0,408	0,425	0,442	0,459	0,476	0,493	0,510
450	-	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	0,488	0,507	0,527	0,546	0,566	0,585
500	-	0,110	0,132	0,154	0,176	0,198	0,220	0,242	0,264	0,286	0,308	0,330	0,352	0,374	0,396	0,418	0,440	0,462	0,484	0,506	0,528	0,550	0,572	0,594	0,616	0,638	0,660
550	-	0,123	0,147	0,172	0,196	0,221	0,245	0,270	0,294	0,319	0,343	0,368	0,392	0,417	0,441	0,466	0,490	0,515	0,539	0,564	0,588	0,613	0,637	0,662	0,686	0,711	0,735
600	-	0,135	0,162	0,189	0,216	0,243	0,270	0,297	0,324	0,351	0,378	0,405	0,432	0,459	0,486	0,513	0,540	0,567	0,594	0,621	0,648	0,675	0,702	0,729	0,756	0,783	0,810
650	-	0,148	0,177	0,207	0,236	0,266	0,295	0,325	0,354	0,384	0,413	0,443	0,472	0,502	0,531	0,561	0,590	0,620	0,649	0,679	0,708	0,738	0,767	0,797	0,826	0,856	0,885
700	-	0,160	0,192	0,224	0,256	0,288	0,320	0,352	0,384	0,416	0,448	0,480	0,512	0,544	0,576	0,608	0,640	0,672	0,704	0,736	0,768	0,800	0,832	0,864	0,896	0,928	0,960
750	-	0,173	0,207	0,242	0,276	0,311	0,345	0,380	0,414	0,449	0,483	0,518	0,552	0,587	0,621	0,656	0,690	0,725	0,759	0,794	0,828	0,863	0,897	0,932	0,966	1,001	1,035
800	-	-	0,222	0,259	0,296	0,333	0,370	0,407	0,444	0,481	0,518	0,555	0,592	0,629	0,666	0,703	0,740	0,777	0,814	0,851	0,888	0,925	0,962	0,999	1,036	1,073	1,110
850	-	-	0,237	0,277	0,316	0,356	0,395	0,435	0,474	0,514	0,553	0,593	0,632	0,672	0,711	0,751	0,790	0,830	0,869	0,909	0,948	0,988	1,027	1,067	1,106	1,146	1,185
900	-	-	0,252	0,294	0,336	0,378	0,420	0,462	0,504	0,546	0,588	0,630	0,672	0,714	0,756	0,798	0,840	0,882	0,924	0,966	1,008	1,050	1,092	1,134	1,176	1,218	1,260
950	-	-	-	0,312	0,356	0,401	0,445	0,490	0,534	0,579	0,623	0,668	0,712	0,757	0,801	0,846	0,890	0,935	0,979	1,024	1,068	1,113	1,157	1,202	1,246	1,291	1,335
1000	-	-	-	0,329	0,376	0,423	0,470	0,517	0,564	0,611	0,658	0,705	0,752	0,799	0,846	0,893	0,940	0,987	1,034	1,081	1,128	1,175	1,222	1,269	1,316	1,363	1,410
1050	-	-	-	0,347	0,396	0,446	0,495	0,545	0,594	0,644	0,693	0,743	0,792	0,842	0,891	0,941	0,990	1,040	1,089	1,139	1,188	1,238	1,287	1,337	1,386	-	-
1100	-	-	-	-	0,416	0,468	0,520	0,572	0,624	0,676	0,728	0,780	0,832	0,884	0,936	0,988	1,040	1,092	1,144	1,196	1,248	1,300	1,352	1,404	-	-	-
1150	-	-	-	-	0,436	0,491	0,545	0,600	0,654	0,709	0,763	0,818	0,872	0,927	0,981	1,036	1,090	1,145	1,199	1,254	1,308	1,363	1,417	-	-	-	-
1200	-	-	-	-	0,456	0,513	0,570	0,627	0,684	0,741	0,798	0,855	0,912	0,969	1,026	1,083	1,140	1,197	1,254	1,311	1,368	1,425	-	-	-	-	-
1250	-	-	-	-	-	0,536	0,595	0,655	0,714	0,774	0,833	0,893	0,952	1,012	1,071	1,131	1,190	1,250	1,309	1,369	1,428	-	-	-	-	-	-
1300	-	-	-	-	-	0,558	0,620	0,682	0,744	0,806	0,868	0,930	0,992	1,054	1,116	1,178	1,240	1,302	1,364	1,426	-	-	-	-	-	-	-
1350	-	-	-	-	-	0,581	0,645	0,710	0,774	0,839	0,903	0,968	1,032	1,097	1,161	1,226	1,290	1,355	1,419	-	-	-	-	-	-	-	-
1400	-	-	-	-	-	-	0,670	0,737	0,804	0,871	0,938	1,005	1,072	1,139	1,206	1,273	1,340	1,407	-	-	-	-	-	-	-	-	-
1450	-	-	-	-	-	-	0,695	0,765	0,834	0,904	0,973	1,043	1,112	1,182	1,251	1,321	1,390	-	-	-	-	-	-	-	-	-	-
1500	-	-	-	-	-	-	0,720	0,792	0,864	0,936	1,008	1,080	1,152	1,224	1,296	1,368	1,440	-	-	-	-	-	-	-	-	-	-

Standard length of the fire dampers: L=350

On the special order we can manufacture every size of the fire damper within the dimensional series.

Table 2. Weight of KWP damper.

H/B	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
	Weight of KWP damper [kg]													
200	12,4	14,6	16,8	19,0	21,2	23,4	25,6	27,8	30,0	32,2	34,4	41,4	44,0	46,5
300	14,4	17,0	19,7	22,2	24,9	27,5	30,1	32,7	35,4	38,0	40,6	48,3	51,2	54,2
400	16,6	19,6	22,6	25,6	28,6	31,6	34,7	37,7	40,7	43,8	46,8	55,2	58,6	61,9
500	-	22,1	25,6	29,0	32,4	35,8	39,3	42,7	46,1	49,5	52,9	62,2	65,9	69,6
600	-	24,6	28,5	32,2	36,1	39,9	43,8	47,6	51,4	55,2	59,1	69,0	73,2	77,3
700	-	27,1	31,4	35,5	39,8	44,0	48,3	52,5	56,7	61,0	65,2	75,9	80,4	85,0
800	-	29,6	34,3	38,8	43,5	48,1	52,8	57,4	62,1	66,7	71,3	82,8	87,7	92,7
900	-	32,1	37,1	42,1	47,2	52,2	57,3	62,3	67,4	72,4	77,5	89,6	96,2	101,5
1000	-	-	40,1	45,5	51,0	56,4	61,9	67,4	72,8	78,2	83,7	97,8	103,6	109,3
1100	-	-	43,2	48,9	54,8	60,7	66,5	72,4	78,2	84,1	90,2	104,6	-	-
1200	-	-	46,2	52,3	58,7	64,9	71,1	77,5	83,7	90,0	104,5	-	-	-
1300	-	-	-	61,6	68,6	75,6	82,6	89,6	97,8	104,4	-	-	-	-
1400	-	-	-	65,3	72,8	80,1	87,5	96,2	103,6	-	-	-	-	-
1500	-	-	-	69,0	76,9	84,7	92,5	101,5	109,3	-	-	-	-	-

Dampers KWP type fire resistance classification

Cut off dampers of KWP-P-E type:

EI 120 (v_{ew} h_{ow} i↔o) S1500C₁₀₀₀₀ AA_{multi}

This class means that the automatically controlled damper, built in the barrier, has integrity, insulation and smoke leakage not less than 120 min; this class means that after receiving the signal from fire detector, the damper can be automatically controlled by not less than 2 min.

Installation in both, vertical and horizontal axis of rotation of the damper's blade is acceptable.

The level of noise emitted by the fire damper to the duct

Table 3. The level of noise emitted by the fire damper to the duct.

B	H	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
	v [m/s]	L _{WA} [dB(A)]																											
200	4	13	13	17	19	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	21	23	25	27	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8	30	32	34	35	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	38	40	42	43	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
250	4	15	17	19	20	21	23	23	24	24	25	26	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	23	25	27	29	30	31	32	32	33	33	34	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8	32	34	36	37	38	39	40	40	41	42	42	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	40	42	44	45	46	47	48	48	49	50	50	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300	4	16	19	20	22	23	24	25	26	26	27	28	28	29	29	29	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	24	27	29	30	31	32	33	34	34	35	36	36	37	37	38	-	-	-	-	-	-	-	-	-	-	-	-	-
	8	33	35	37	38	40	41	41	42	43	43	44	44	45	45	46	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	41	44	45	47	48	49	49	50	51	51	52	52	53	53	54	-	-	-	-	-	-	-	-	-	-	-	-	-
350	4	17	20	22	23	24	25	26	27	27	28	29	29	29	30	30	31	31	32	-	-	-	-	-	-	-	-	-	-
	6	26	28	30	31	32	33	34	35	36	36	37	37	38	38	39	39	39	40	-	-	-	-	-	-	-	-	-	-
	8	34	37	38	40	41	42	43	43	44	45	45	46	46	47	47	48	48	49	-	-	-	-	-	-	-	-	-	-
	10	42	45	46	48	49	50	51	51	52	53	53	54	54	55	55	56	56	57	57	58	58	59	-	-	-	-	-	-
400	4	19	21	23	24	25	26	27	28	28	29	30	30	31	31	31	32	33	33	33	34	34	-	-	-	-	-	-	-
	6	27	29	31	32	33	34	35	36	37	37	38	38	39	39	40	40	41	41	42	42	43	-	-	-	-	-	-	-
	8	35	38	39	41	42	43	44	44	45	46	46	47	47	48	48	49	49	50	50	51	51	-	-	-	-	-	-	-
	10	43	46	47	49	50	51	52	52	53	54	54	55	55	56	56	57	57	58	58	59	59	-	-	-	-	-	-	-
450	4	19	22	23	25	26	27	28	29	29	30	31	31	32	32	32	33	33	34	34	35	35	36	36	36	36	-	-	
	6	28	30	32	33	34	35	36	37	38	38	39	39	40	40	41	41	42	42	43	43	44	44	44	45	45	-	-	
	8	36	38	40	42	43	44	44	45	46	46	47	47	48	48	49	49	50	50	51	51	52	52	52	52	52	-	-	
	10	44	47	48	50	51	52	52	53	54	54	55	55	56	56	57	57	58	58	59	59	60	60	60	61	61	61	-	-
500	4	20	23	24	26	27	28	29	29	30	31	31	32	32	33	33	34	34	35	35	36	36	36	36	37	37	37	38	38
	6	28	31	32	34	35	36	37	38	38	39	40	40	41	41	42	42	43	43	43	44	44	44	45	45	45	46	46	46
	8	37	39	41	42	43	44	45	46	47	47	48	48	49	49	50	50	51	51	51	52	52	52	53	53	54	54	54	54
	10	45	47	49	50	51	52	53	54	55	55	56	56	57	57	58	58	59	59	59	60	60	60	61	61	61	62	62	62
550	4	21	23	25	26	28	29	29	30	31	31	32	33	33	34	34	35	36	36	37	37	37	37	38	38	38	39	39	
	6	29	31	33	35	36	37	38	38	39	40	40	41	41	42	42	43	43	44	44	44	45	45	45	46	46	46	47	47
	8	38	40	42	43	44	45	46	47	47	48	48	49	49	50	50	51	51	52	52	52	53	53	53	54	55	55	55	55
	10	46	48	50	51	52	53	54	55	55	56	56	57	57	58	58	59	59	60	60	60	61	61	61	62	62	62	63	63
600	4	21	24	26	27	28	29	30	31	31	32	33	33	34	34	35	36	37	37	38	38	38	38	39	39	39	40	40	
	6	30	32	34	35	36	37	38	39	40	40	41	42	42	43	43	44	44	45	45	45	46	46	46	47	47	47	48	48
	8	38	40	42	44	45	46	46	47	48	48	49	50	50	51	51	52	53	53	53	54	54	54	55	55	56	56	56	56
	10	46	49	50	52	53	54	54	55	56	56	57	58	58	59	59	60	61	61	61	62	62	62	63	63	63	64	64	64
650	4	22	24	26	28	29	30	31	31	32	33	33	34	34	35	35	36	37	37	38	38	38	38	39	39	39	40	40	
	6	30	33	34	36	37	38	39	40	40	41	42	42	43	43	44	44	44	45	45	45	46	46	46	47	47	47	48	48
	8	39	41	43	44	45	46	47	48	48	49	50	50	51	51	51	52	52	53	53	53	54	54	54	55	55	56	56	56
	10	47	49	51	52	53	54	55	56	56	57	58	58	59	59	59	60	60	61	61	61	62	62	62	63	63	63	64	64
700	4	22	25	27	28	29	30	31	32	33	33	34	34	35	35	36	36	37	38	38	39	39	39	40	40	40	41	41	
	6	30	33	35	36	38	39	39	40	41	42	42	43	43	44	44	45	46	46	46	47	47	47	48	48	48	49	49	
	8	39	42	43	45	46	47	48	48	49	50	50	51	51	52	52	52	53	54	54	54	55	55	55	56	57	57	57	
	10	47	50	51	53	54	55	56	56	57	58	58	59	59	59	60	60	61	62	62	62	63	63	63	64	64	64	65	65
750	4	22	25	27	29	30	31	32	32	33	34	34	35	35	36	36	37	37	38	38	39	39	39	40	40	40	41	41	
	6	31	34	35	37	38	39	40	41	41	42	43	43	44	44	45	45	45	46	46	46	47	47	47	48	48	48	49	49
	8	39	42	44	45	46	47	48	49	49	50	51	51	52	52	52	53	53	54	54	54	55	55	55	56	57	57	57	
	10	47	50	52	53	54	55	56	57	57	58	59	59	60	60	61	61	62	62	62	63	63	63	64	64	64	65	65	
800	4	23	26	28	29	30	31	32	33	33	34	35	35	36	36	37	37	38	38	39	39	39	40	40	40	41	41		
	6	31	34	36	37	39	40	40	41	42	43	43	44	44	45	45	45	46	46	46	46	47	47	47	48	48	48	49	49
	8	40	42	44	46	47	48	48	49	50	50	51	52	52	52	53	53	54	54	54	54	55	55	55	56	57	57	57	
	10	48	50	52	54	55	56	56	57	58	58	59	59	60	60	61	61	62	62	62	62	63	63	63	64	64	64	65	65

B	H	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
	v [m/s]	L _{WA} [dB(A)]																										
850	4	24	26	28	29	31	32	32	33	34	35	35	36	36	37	37	37	38	39	39	40	40	40	41	41	41	42	42
	6	32	35	36	38	39	40	41	42	42	43	44	44	45	45	45	46	46	47	47	47	48	48	48	49	49	49	50
	8	41	43	45	46	47	48	49	50	50	51	51	52	52	53	53	54	54	55	55	55	56	56	56	57	58	58	58
	10	49	51	53	54	55	56	57	58	58	59	59	60	60	61	61	62	62	63	63	63	64	64	64	65	65	65	66
900	4	24	27	29	30	31	32	33	34	34	35	36	36	37	37	37	38	38	39	39	40	40	40	41	41	41	42	42
	6	32	35	37	38	39	40	41	42	43	43	44	44	45	45	46	46	47	47	47	47	48	48	48	49	49	49	50
	8	41	44	45	46	47	48	49	50	51	51	52	52	53	53	54	54	54	55	55	55	56	56	56	57	58	58	58
	10	49	52	53	54	55	56	57	58	59	59	60	60	61	61	62	62	62	63	63	63	64	64	64	65	65	65	66
950	4	25	27	29	30	31	32	33	34	35	35	36	36	37	37	38	38	39	40	40	41	41	41	42	42	42	43	43
	6	33	36	37	39	40	41	42	42	43	44	44	45	45	46	46	47	47	48	48	48	49	49	49	50	50	50	51
	8	42	44	46	47	48	49	50	50	51	52	52	53	53	54	54	54	55	56	56	56	57	57	57	58	59	59	59
	10	50	52	54	55	56	57	58	58	59	60	60	61	61	62	62	62	63	64	64	64	65	65	65	66	66	66	67
1000	4	24	27	29	31	32	33	34	34	35	36	36	37	37	38	38	39	39	40	40	41	41	41	42	42	42	43	43
	6	33	36	37	39	40	41	42	43	44	44	45	45	46	46	47	47	47	48	48	48	49	49	49	50	50	50	51
	8	42	44	46	47	48	49	50	51	51	52	53	53	54	54	54	55	55	56	56	56	57	57	57	58	59	59	59
	10	50	52	54	55	56	57	58	59	59	60	61	61	62	62	63	63	64	64	64	65	65	65	66	66	66	66	67
1050	4	24	27	29	31	32	33	34	35	35	36	37	37	38	38	39	39	40	40	41	41	41	42	42	42	-	-	
	6	33	36	37	39	41	42	42	43	44	44	45	46	46	47	47	47	48	48	48	48	49	49	49	50	50	-	-
	8	52	44	46	47	49	50	50	51	52	52	53	53	54	54	55	55	56	56	56	56	57	57	57	58	59	-	-
	10	50	52	54	55	57	57	58	59	60	60	61	61	62	62	63	63	63	64	64	64	65	65	65	66	66	-	-
1100	4	25	28	30	31	32	33	34	35	36	36	37	37	38	38	39	39	40	41	41	42	42	42	43	43	-	-	-
	6	33	36	38	39	41	42	43	43	44	45	45	46	46	47	47	48	48	49	49	49	50	50	50	51	-	-	-
	8	42	44	46	48	49	50	51	51	52	53	53	54	54	55	55	56	56	57	57	57	58	58	58	59	-	-	-
	10	50	52	54	56	57	58	59	59	60	61	61	62	62	63	63	64	64	65	65	65	66	66	66	67	-	-	-
1150	4	26	28	30	31	33	34	35	35	36	37	37	38	38	39	39	40	40	41	41	42	42	42	43	-	-	-	-
	6	34	37	38	40	41	42	43	44	45	45	46	46	47	47	48	48	49	49	49	49	50	50	50	-	-	-	-
	8	43	45	47	48	49	50	51	52	52	53	54	54	55	55	56	56	57	57	57	58	58	58	59	-	-	-	-
	10	51	53	55	56	57	58	59	60	60	61	61	62	62	63	63	64	64	65	65	65	66	66	66	-	-	-	-
1200	4	26	28	30	31	33	34	35	36	36	37	38	38	39	39	40	40	41	42	42	43	43	43	-	-	-	-	-
	6	34	37	38	40	41	42	43	44	45	45	46	47	47	48	48	49	49	50	50	50	51	51	-	-	-	-	-
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	6	34	37	39	40	41	42	43	44	45	45	46	47	47	48	48	49	49	50	50	50	51	-	-	-	-	-	-
	8	43	46	47	48	49	50	51	52	53	53	54	54	55	55	56	56	57	58	58	58	59	-	-	-	-	-	-
	10	51	54	55	56	57	58	59	60	61	61	62	62	63	63	63	64	65	66	66	66	67	-	-	-	-	-	-
1300	4	27	30	32	33	34	35	36	37	37	38	38	39	39	40	40	41	41	42	42	43	-	-	-	-	-	-	-
	6	35	38	40	41	42	43	44	45	45	46	46	47	47	48	48	49	49	50	50	50	-	-	-	-	-	-	-
	8	44	47	48	49	50	51	52	53	53	54	54	55	55	56	56	57	57	58	58	58	-	-	-	-	-	-	-
	10	52	55	56	57	58	59	60	60	61	61	62	62	63	63	64	64	65	66	66	66	-	-	-	-	-	-	-
1350	4	27	30	32	33	34	35	36	36	37	37	38	38	39	39	40	40	41	42	42	-	-	-	-	-	-	-	-
	6	35	38	40	41	42	43	44	45	45	46	47	47	48	48	49	49	50	50	50	-	-	-	-	-	-	-	-
	8	44	47	48	49	50	51	52	53	54	54	55	55	56	56	57	57	58	58	58	-	-	-	-	-	-	-	-
	10	52	55	56	57	58	59	60	61	62	62	63	63	64	64	65	65	66	66	66	-	-	-	-	-	-	-	-
1400	4	28	31	33	34	35	36	37	38	39	39	40	40	41	41	42	42	43	43	-	-	-	-	-	-	-	-	-
	6	36	39	41	42	43	44	44	45	45	46	46	47	47	48	48	49	49	50	-	-	-	-	-	-	-	-	-
	8	45	48	49	50	51	51	51	52	53	53	54	54	55	55	56	56	57	58	-	-	-	-	-	-	-	-	-
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1500	4	29	32	34	35	36	37	38	39	39	40	40	41	41	42	42	43	43	-	-	-	-	-	-	-	-	-	-
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	8	46	49	50	51	52	53	53	54	55	56	56	57	57	58	58	59	60	-	-	-	-	-	-	-	-	-	-
	10	54	57	58	59	60	60	61	62	63	64	64	65	65	66	66	67	67	-	-	-	-	-	-	-	-	-	-

B	H	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
	v [m/s]	Δp [Pa]																											
1050	4	10	8	6	5	5	4	4	4	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	-	-	-	
	6	22	18	13	11	11	9	9	9	7	7	7	7	7	7	7	7	7	5	5	5	5	5	5	5	5	-	-	-
	8	40	32	24	20	20	16	16	16	12	12	12	12	12	12	12	12	12	8	8	8	8	8	8	8	8	-	-	-
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1100	4	10	8	6	5	5	4	4	4	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	-	-	-	
	6	22	18	13	11	11	9	9	9	7	7	7	7	7	7	7	5	5	5	5	5	5	5	5	5	-	-	-	
	8	40	32	24	20	20	16	16	16	12	12	12	12	12	12	12	12	8	8	8	8	8	8	8	8	-	-	-	
	10	60	48	35	30	30	24	24	24	18	18	18	18	18	18	18	18	12	12	12	12	12	12	12	12	-	-	-	
1150	4	10	8	6	5	5	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	-	-	-	-	
	6	22	18	13	11	11	9	9	9	7	7	7	7	7	5	5	5	5	5	5	5	5	5	5	-	-	-	-	
	8	40	32	24	20	20	16	16	16	12	12	12	12	12	8	8	8	8	8	8	8	8	8	8	-	-	-	-	
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1200	4	9	8	6	5	5	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	-	-	-	-	
	6	20	18	13	11	11	9	9	9	7	7	7	7	7	5	5	5	5	5	5	5	5	5	5	-	-	-	-	
	8	35	32	24	20	20	16	16	16	12	12	12	12	12	8	8	8	8	8	8	8	8	8	8	-	-	-	-	
	10	55	48	35	30	30	24	24	24	18	18	18	18	18	12	12	12	12	12	12	12	12	12	12	-	-	-	-	
1250	4	9	8	6	5	5	4	4	4	3	3	3	3	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	
	6	20	18	13	11	11	9	9	9	7	7	7	7	5	5	5	5	5	5	5	5	5	5	-	-	-	-	-	
	8	35	32	24	20	20	16	16	16	12	12	12	12	8	8	8	8	8	8	8	8	8	8	-	-	-	-	-	
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1300	4	9	8	6	5	5	4	4	4	3	3	3	3	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	
	6	20	18	13	11	11	9	9	9	7	7	7	7	5	5	5	5	5	5	5	5	5	5	-	-	-	-	-	
	8	35	32	24	20	20	18	18	18	14	14	14	14	10	10	10	10	10	10	10	10	10	10	-	-	-	-	-	
	10	55	48	35	30	30	24	24	24	18	18	18	18	12	12	12	12	12	12	12	12	12	12	-	-	-	-	-	
1350	4	9	8	6	5	5	4	4	4	3	3	3	3	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	
	6	20	18	13	11	11	9	9	9	7	7	7	7	5	5	5	5	5	5	5	5	5	-	-	-	-	-	-	
	8	35	32	24	20	20	18	18	18	14	14	14	14	10	10	10	10	10	10	10	10	10	-	-	-	-	-	-	
	10	55	48	35	30	30	24	24	24	18	18	18	18	12	12	12	12	12	12	12	12	12	-	-	-	-	-	-	
1400	4	9	8	6	6	5	5	4	4	4	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-	-	-	-	
	6	20	18	13	13	11	11	9	9	9	7	7	7	7	5	5	5	5	5	5	5	5	-	-	-	-	-	-	
	8	35	32	24	24	20	20	18	18	18	14	14	14	14	10	10	10	10	10	10	10	10	-	-	-	-	-	-	
	10	55	48	35	35	30	30	24	24	24	18	18	18	18	12	12	12	12	12	12	12	12	-	-	-	-	-	-	
1450	4	9	8	6	6	5	5	4	4	4	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-	-	-	-	
	6	20	18	13	13	11	11	9	9	9	7	7	7	7	5	5	5	5	5	5	5	5	-	-	-	-	-	-	
	8	35	32	24	24	20	20	18	18	18	14	14	14	14	10	10	10	10	10	10	10	10	-	-	-	-	-	-	
	10	55	48	35	35	30	30	24	24	24	18	18	18	18	12	12	12	12	12	12	12	12	-	-	-	-	-	-	
1500	4	8	8	6	6	5	5	4	4	4	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-	-	-	-	
	6	18	18	13	13	11	11	9	9	9	7	7	7	7	5	5	5	5	5	5	5	5	-	-	-	-	-	-	
	8	32	32	24	24	20	20	18	18	18	14	14	14	14	10	10	10	10	10	10	10	10	-	-	-	-	-	-	
	10	48	48	35	35	30	30	24	24	24	18	18	18	18	12	12	12	12	12	12	12	12	-	-	-	-	-	-	

KWP-P-E - Fire dampers

While ordering please provide information according to the following method:

KWP-P-E - x <H> - <L> - <J> - <S> - <M> - <Q> - <P> - <RAL>

B	Width of inside span [mm]
H	Height of inside span [mm]
L	Length of the fire damper [mm], standard 350 (optionally 600 mm)
J	Version of instalation*
	none - horizontal installation
	PO - vertical and horizontal instalation
S	Actuator
	BLE - P ≤ 1,2 m² and H ≤ 1200 mm (B ≤ 800 mm and H ≤ 500 mm for J = PO)
	BE - P > 1,2 m² or H > 1200 mm (B > 800 mm or H > 500 mm for J = PO)
M	mounting in batteries*
	none - none
	M - damper adapted for mounting in batteries
Q	Revision*
	none - no revision
	R - revision
P	Material*
	none - galvanized steel
	SN - stainless steel
	SL - varnished steel
RAL	Colour according to the RAL palette (for SL)*

* optional values - default values will be used if optional values are not specified

Order example: **KWP-P-E-600x400-350-BLE24**