

**Characteristics**

Volume control dampers 200 mm pitch.
Counter rotating or parallel movement driven by manual control or servomotor.

Material

Galvanized steel frame.
Galvanized steel blades.
Nylon spindles (on request steel spindles for high temperatures).

Fixing

By bolts on flanges corners.

Models

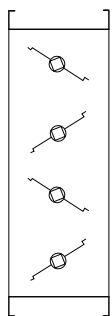
ZR-200/R: opposed blade damper with manual control.
ZR-200/M: opposed blade damper with pin for servo-motor.
ZR-200/PP: parallel blade damper with pin for servo-motor.
ZR-200/PPM: parallel blade damper with manual control.
T10: veneered blades.



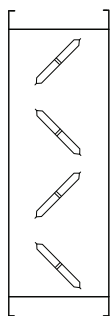
CM 10 - manual control mechanism.

Configuration

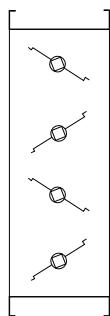
Standard blades



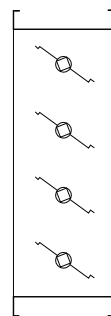
Veneered blades



Opposed blades



Parallel blades



Universal plate (Standard)



Manual control

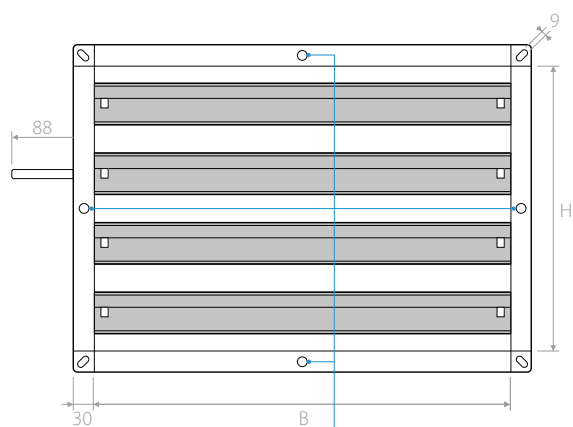


Servomotor

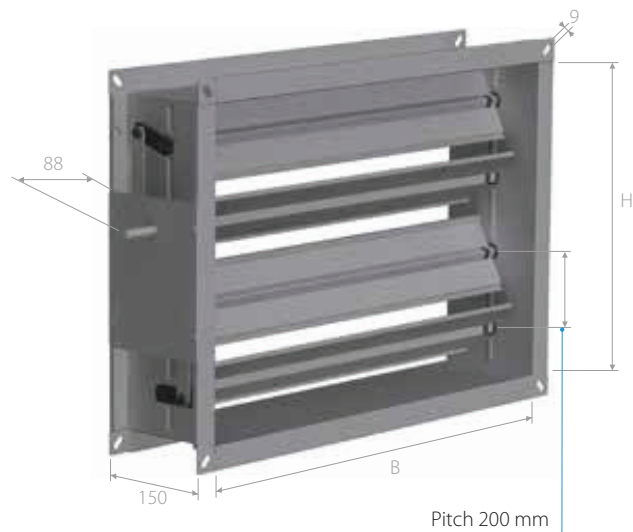


Construction designs

Standard blades



Hole Ø 9 mm, pitch 300 mm



Pitch 200 mm

Identification scheme servomotor size

	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
410	0,08	0,12	0,16	0,21	0,25	0,29	0,33	0,37	0,41	0,45	0,49	0,53	0,57	0,62
610	0,12	0,18	0,24	0,31	0,37	0,43	0,49	0,55	0,61	0,67	0,73	0,79	0,85	0,92
810	0,16	0,24	0,32	0,41	0,49	0,57	0,65	0,73	0,81	0,89	0,97	1,05	1,13	1,22
1010	0,2	0,3	0,4	0,51	0,61	0,71	0,81	0,91	1,01	1,11	1,21	1,31	1,41	1,52
1210	0,24	0,36	0,48	0,61	0,73	0,85	0,97	1,09	1,21	1,33	1,45	1,57	1,69	1,82
1410	0,28	0,42	0,56	0,71	0,85	0,99	1,13	1,27	1,41	1,55	1,69	1,83	1,97	2,12
1610	0,32	0,48	0,64	0,81	0,97	1,13	1,29	1,45	1,61	1,77	1,93	2,09	2,25	2,42
1810	0,36	0,54	0,72	0,91	1,09	1,27	1,45	1,63	1,81	1,99	2,17	2,35	2,53	2,72
2010	0,4	0,6	0,8	1,01	1,21	1,41	1,61	1,81	2,01	2,21	2,41	2,61	2,81	3,02
2210	0,44	0,66	0,88	1,11	1,33	1,55	1,77	1,99	2,21	2,43	2,65	2,87	3,09	3,32
2410	0,48	0,72	0,96	1,21	1,45	1,69	1,93	2,17	2,41	2,65	2,89	3,13	3,37	3,62
2610	0,52	0,78	1,04	1,31	1,57	1,83	2,09	2,35	2,61	2,87	3,13	3,39	3,65	3,92
2810	0,56	0,84	1,12	1,41	1,69	1,97	2,25	2,53	2,81	3,09	3,37	3,65	3,93	4,22
3010	0,6	0,9	1,2	1,51	1,81	2,11	2,41	2,71	3,01	3,31	3,61	3,91	4,21	4,52

	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000
210	0,34	0,36	0,38	0,4	0,42	0,44	0,46	0,48	0,5	0,53	0,55	0,57	0,59	0,61	0,63
410	0,66	0,7	0,74	0,78	0,82	0,86	0,9	0,94	0,98	1,03	1,07	1,11	1,15	1,19	1,23
610	0,98	1,04	1,1	1,16	1,22	1,28	1,34	1,4	1,46	1,53	1,59	1,65	1,71	1,77	1,83
810	1,3	1,38	1,46	1,54	1,62	1,7	1,78	1,86	1,94	2,03	2,11	2,19	2,27	2,35	2,43
1010	1,62	1,72	1,82	1,92	2,02	2,12	2,22	2,32	2,42	2,53	2,63	2,73	2,83	2,93	3,03
1210	1,94	2,06	2,18	2,3	2,42	2,54	2,66	2,78	2,9	3,03	3,15	3,27	3,39	3,51	3,63
1410	2,26	2,4	2,54	2,68	2,82	2,96	3,1	3,24	3,38	3,53	3,67	3,81	3,95	4,09	4,23
1610	2,58	2,74	2,9	3,06	3,22										
1810	2,9	3,08	3,26	3,44	3,62										
2010	3,22	3,42	3,62	3,82	4,02										

Calculated area in square meters [m²]

Damper area < 0,4 m²

Damper area < 1 m²

Damper area < 2 m²

Damper area > 2 < 4 m²

Damper area > 4 < 8 m²

Servo-motors

Without spring return

CODE	VOLTAGE	COMMAND	€
CM24L	24 V	On-Off/3-p	
CM230L	230 V	On-Off/3-p	
CM24SRL	24 V	proportional	



CM
for dampers up to 0,4 m²
2 Nm

CODE	VOLTAGE	COMMAND	€
LM24A	24 V	On-Off / 3-t.	
LM24AS	24 V	On-Off / 3-t.	
LM24ASR	24 V	proportional	
LM230A	230 V	On-Off	
LM230AS	230 V	On-Off	
LM230ASR	230 V	proportional	



LM
for dampers up to 1 m²
5 Nm

CODE	VOLTAGE	COMMAND	€
NM24A	24 V	On-Off / 3-t.	
NM24ASR	24 V	proportional	
NM230A	230 V	On-Off	



NM
for dampers up to 2 m²
10 Nm

CODE	VOLTAGE	COMMAND	€
SM24A	24 V	On-Off / 3-t.	
SM24ASR	24 V	proportional	
SM230A	230 V	On-Off / 3-t.	
SM230ASR	230 V	proportional	



SM
for dampers up to 4 m²
20 Nm

CODE	VOLTAGE	COMMAND	€
GM24A	24 V	On-Off / 3-t.	
GM24ASR	24 V	proportional	
GM230A	230 V	On-Off / 3-t.	



GM
for dampers up to 8 m²
40 Nm

CODE	No. of contacts	SWITCHING POWER	APPLICATION ON	€
S1A	1 x SPDT	1 mA ... 3 (0,5) A 250 V c.a.	LM - NM - SM - GM / 24-230 V	
S2A	2 x SPDT			



S1A



S2A

CODE	VOLTAGE	SIMULTANEOUS REGULATION	APPLICATION ON	€
SGA24	AC/DC 24 V	max 10 motors	LM - NM - SM - GM / 24-230 V	
SGF24				



SGA24



SGF24

With spring return

CODE	VOLTAGE	COMMAND	€
TF24	24 V	On-Off	
TF24S	24 V	On-Off	
TF230	230 V	On-Off	
TF230S	230 V	On-Off	
TF24SR	24 V	proportional	



TF
for dampers up to 0,4 m²
2 Nm

CODE	VOLTAGE	COMMAND	€
LF24	24 V	On-Off	
LF24S	24 V	On-Off	
LF230	230 V	On-Off	
LF230S	230 V	On-Off	
LF24SR	24 V	proportional	



TF
for dampers up to 0,8 m²
4 Nm

CODE	VOLTAGE	COMMAND	€
NFA	230 VAC	On-Off	
NFAS2	230 VAC	On-Off	
NFA	24 VAC/DC	On-Off	
NFAS2	24 VAC/DC	On-Off	
NF24ASR	24 VAC/DC	proportional	
NF24ASRS2	24 VAC/DC	proportional	



NF
for dampers up to 2 m²
10 Nm

CODE	VOLTAGE	COMMAND	€
SFA	230 VAC	On-Off	
SFAS2	230 VAC	On-Off	
SFA	24 VAC/DC	On-Off	
SFAS2	24 VAC/DC	On-Off	
SF24ASR	24 VAC/DC	proportional	
SF24ASRS2	24 VAC/DC	proportional	



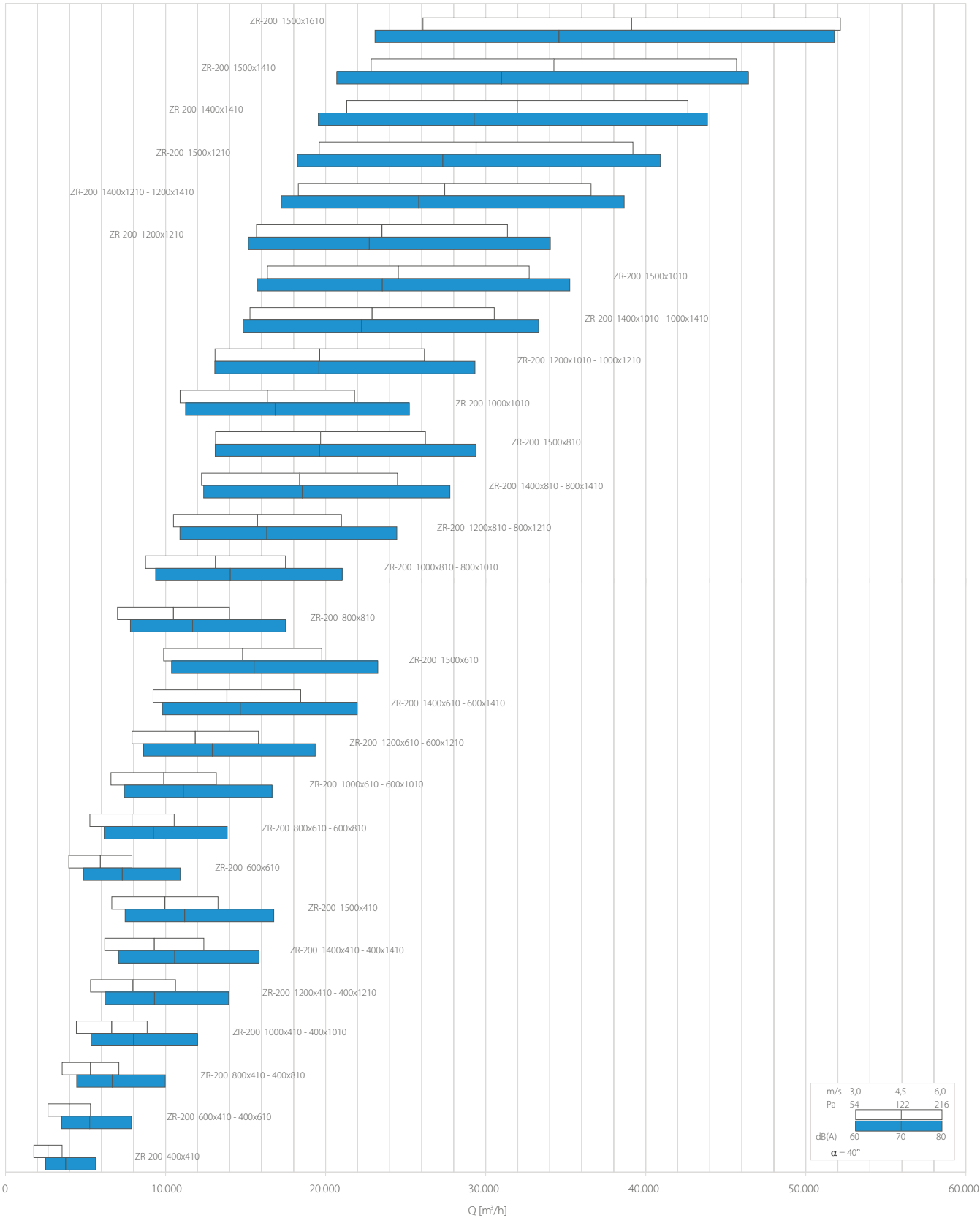
SF
for dampers up to 4 m²
20 Nm

CODE	VOLTAGE	COMMAND	€
EF230A	230 VAC	On-Off	
EF230AS2	230 VAC	On-Off	
EF24A	24 VAC/DC	On-Off	
EF24AS2	24 VAC/DC	On-Off	
EF24ASR	24 VAC/DC	proportional	
EF24ASRS2	24 VAC/DC	proportional	



EF
for dampers up to 6 m²
30 Nm

Quick selection diagram



Selection table

Model	A _f [m²]	v [m/s]		Q [m³/h]		Dp (α=40°) [Pa]		L _{WA} (α=40°) [dB(A)]	
		min	max	min	max	min	max	min	max
ZR-200 400x410	0,1640	3	6	1770	3540	54	216	51	68
ZR-200 600x410 - 400x610	0,2460	3	6	2660	5310	54	216	53	70
ZR-200 800x410 - 400x810	0,3280	3	6	3540	7080	54	216	54	72
ZR-200 1000x410 - 400x1010	0,4100	3	6	4430	8860	54	216	55	72
ZR-200 1200x410 - 400x1210	0,4920	3	6	5310	10630	54	216	56	73
ZR-200 1400x410 - 400x1410	0,5740	3	6	6200	12400	54	216	57	74
ZR-200 1500x410	0,6150	3	6	6640	13280	54	216	57	74
ZR-200 600x610	0,3660	3	6	3950	7910	54	216	55	72
ZR-200 800x610 - 600x810	0,4880	3	6	5270	10540	54	216	56	73
ZR-200 1000x610 - 600x1010	0,6100	3	6	6590	13180	54	216	57	74
ZR-200 1200x610 - 600x1210	0,7320	3	6	7910	15810	54	216	58	75
ZR-200 1400x610 - 600x1410	0,8540	3	6	9220	18450	54	216	59	76
ZR-200 1500x610	0,9150	3	6	9880	19760	54	216	59	76
ZR-200 800x810	0,6480	3	6	7000	14000	54	216	57	74
ZR-200 1000x810 - 800x1010	0,8100	3	6	8750	17500	54	216	58	75
ZR-200 1200x810 - 800x1210	0,9720	3	6	10500	21000	54	216	59	76
ZR-200 1400x810 - 800x1410	1,1340	3	6	12250	24490	54	216	60	77
ZR-200 1500x810	1,2150	3	6	13120	26240	54	216	60	77
ZR-200 1000x1010	1,0100	3	6	10910	21820	54	216	59	76
ZR-200 1200x1010 - 1000x1210	1,2120	3	6	13090	26180	54	216	60	77
ZR-200 1400x1010 - 1000x1410	1,4140	3	6	15270	30540	54	216	61	78
ZR-200 1500x1010	1,5150	3	6	16360	32720	54	216	61	78
ZR-200 1200x1210	1,4520	3	6	15680	31360	54	216	61	78
ZR-200 1400x1210 - 1200x1410	1,6940	3	6	18300	36590	54	216	61	79
ZR-200 1500x1210	1,8150	3	6	19600	39200	54	216	62	79
ZR-200 1400x1410	1,9740	3	6	21320	42640	54	216	62	79
ZR-200 1500x1410	2,1150	3	6	22840	45680	54	216	62	80
ZR-200 1500x1610	2,4150	3	6	26080	52160	54	216	63	80