



jaga

TECHNICAL INFO

BROCHURE € 2012-2013.EX

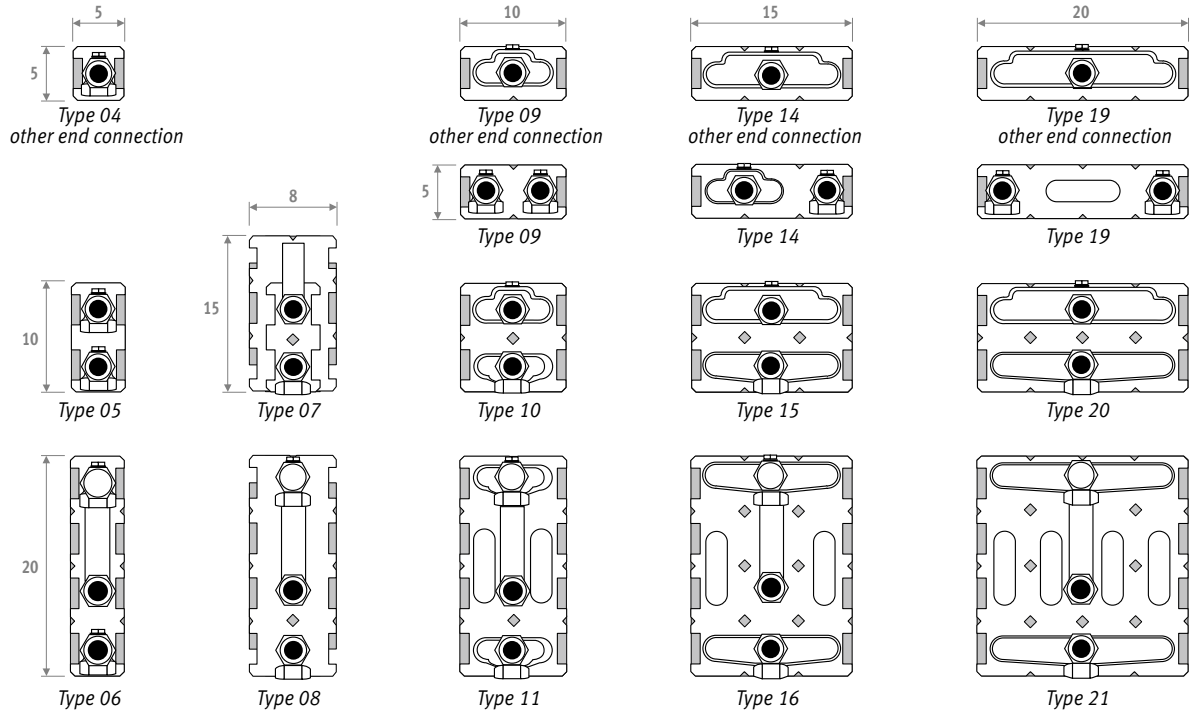






TECHNICAL INFORMATION

ENERGY SAVERS ■ HEAT EXCHANGERS OVERVIEW



Type	Strada	Linea Plus	Tempo	Maxi	Mini	Knockonwood	Play	Installation into a wall recess	Tempo freestanding	Mini freestanding	Mini freestanding DBE	Knockonwood freestanding	Mini Canal H / W	Mini Canal DBE H / W	Canal Plus Canal Compact
04 opposite end connection	-	-	-	-	-	-	-	-	-	-	-	-	✓ 09-11/14	-	-
05	-	-	-	-	-	-	-	-	-	-	-	-	✓ 14/14	-	-
06	-	-	-	-	✓	-	-	-	-	✓	-	-	-	-	-
07	✓*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08	✓**	-	-	-	-	✓	-	-	-	-	-	-	-	-	-
09	-	-	-	-	-	-	-	-	-	-	-	-	✓ 09-11/18-26	-	-
09 opposite end connection	-	-	-	-	✓	-	-	-	-	✓	-	-	-	-	-
10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	✓ 14-19/26	✓ 14/26	✓
11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	✓ 09-11/34	-	-
14 opposite end connection	-	-	-	-	✓	-	-	-	-	✓	-	-	-	-	-
15	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓ 14-19/34	✓ 14/34	✓
16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	✓ 09-11/42	-	-
19 opposite end connection	-	-	-	-	✓	-	-	-	-	✓	-	-	-	-	-
20	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	-	✓ 14-19/42	✓ 14/42	✓
21	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	-	-	-	-

* Strada type 06, height 20

** Knockonwood and Strada type 06, all other heights

CORRECTION FACTORS ■ ENERGY SAVERS

AVERAGE CORRECTION FACTORS ACCORDING TO EN442 - 75/65/20°C

Tv	Tl	Tr	25	30	35	40	45	50	55	60	65	70	75	80	85
90	18		0.45	0.58	0.69	0.79	0.89	0.98	1.07	1.16	1.24	1.34	1.41	1.49	1.56
	20		0.38	0.52	0.63	0.74	0.83	0.92	1.01	1.10	1.18	1.28	1.35	1.43	1.50
	22		0.30	0.46	0.57	0.68	0.78	0.87	0.96	1.04	1.13	1.22	1.30	1.37	1.44
	24		0.20	0.39	0.52	0.62	0.72	0.81	0.90	0.99	1.07	1.15	1.24	1.31	1.38
85	18		0.42	0.54	0.65	0.75	0.84	0.93	1.01	1.10	1.20	1.27	1.34	1.41	
	20		0.36	0.49	0.59	0.69	0.79	0.87	0.96	1.04	1.12	1.21	1.28	1.35	
	22		0.28	0.42	0.54	0.64	0.73	0.82	0.90	0.99	1.06	1.15	1.22	1.30	
	24		0.19	0.36	0.48	0.58	0.68	0.76	0.85	0.93	1.01	1.10	1.17	1.24	
80	18		0.39	0.51	0.61	0.70	0.79	0.88	0.96	1.04	1.12	1.20	1.27		
	20		0.33	0.45	0.56	0.65	0.74	0.82	0.90	0.98	1.07	1.14	1.21		
	22		0.26	0.39	0.50	0.60	0.68	0.77	0.85	0.93	1.01	1.08	1.15		
	24		0.17	0.34	0.45	0.54	0.63	0.72	0.80	0.87	0.96	1.03	1.10		
75	18		0.37	0.47	0.57	0.66	0.74	0.82	0.90	0.99	1.05	1.12			
	20		0.30	0.42	0.52	0.61	0.69	0.77	0.85	0.93	1.00	1.07			
	22		0.24	0.36	0.46	0.55	0.64	0.72	0.79	0.88	0.95	1.01			
	24		0.16	0.31	0.41	0.50	0.59	0.67	0.74	0.83	0.89	0.96			
70	18		0.34	0.44	0.53	0.61	0.69	0.77	0.85	0.92	0.99				
	20		0.28	0.39	0.48	0.56	0.64	0.72	0.80	0.87	0.93				
	22		0.22	0.33	0.43	0.51	0.59	0.67	0.74	0.81	0.88				
	24		0.14	0.28	0.38	0.46	0.54	0.62	0.69	0.76	0.83				
65	18		0.31	0.40	0.49	0.57	0.64	0.71	0.79	0.85					
	20		0.25	0.35	0.44	0.52	0.59	0.66	0.74	0.80					
	22		0.19	0.30	0.39	0.47	0.54	0.61	0.69	0.75					
	24		0.12	0.25	0.34	0.42	0.50	0.57	0.64	0.70					
60	18		0.28	0.37	0.45	0.52	0.59	0.66	0.73						
	20		0.23	0.32	0.40	0.47	0.54	0.62	0.68						
	22		0.17	0.27	0.35	0.43	0.50	0.57	0.63						
	24		0.11	0.23	0.31	0.38	0.45	0.52	0.58						
55	18		0.25	0.33	0.40	0.47	0.55	0.60							
	20		0.20	0.29	0.36	0.43	0.50	0.56							
	22		0.15	0.24	0.32	0.38	0.45	0.51							
	24		0.09	0.20	0.27	0.34	0.40	0.47							
50	18		0.22	0.30	0.36	0.43	0.49								
	20		0.18	0.25	0.32	0.38	0.44								
	22		0.13	0.21	0.28	0.34	0.40								
	24		0.08	0.17	0.24	0.30	0.36								
45	18		0.19	0.26	0.32	0.38									
	20		0.15	0.22	0.28	0.34									
	22		0.11	0.18	0.24	0.30									
	24		0.06	0.14	0.20	0.26									
40	18		0.16	0.22	0.28										
	20		0.12	0.18	0.24										
	22		0.09	0.15	0.20										
	24		0.05	0.12	0.17										
35	18		0.13	0.19											
	20		0.10	0.15											
	22		0.07	0.12											
	24		0.03	0.09											
30	18		0.10												
	20		0.07												
	22		0.04												
	24		0.02												

The indicated outputs with ΔT 50 and ΔT 60 are the exact outputs. ΔT 50 output measured in accordance with EN 442 and ΔT 60 output calculated according to EN 442. An average correction factor is given in this table for all other ΔT outputs, applicable for all dimensions.

ENERGY SAVERS WITH DBE - CORRECTION FACTORS


AVERAGE CORRECTION FACTORS
ACCORDING TO EN442 - 75/65/20°C



Tv	Tl	Tr	25	30	35	40	45	50	55	60	65	70	75	80	85
90	18		0.56	0.67	0.76	0.84	0.92	0.99	1.05	1.11	1.17	1.24	1.29	1.34	1.39
	20		0.49	0.62	0.71	0.80	0.87	0.94	1.01	1.07	1.13	1.20	1.25	1.30	1.35
	22		0.42	0.56	0.66	0.75	0.83	0.90	0.97	1.03	1.09	1.16	1.21	1.26	1.31
	24		0.31	0.50	0.61	0.71	0.79	0.86	0.93	0.99	1.05	1.11	1.17	1.22	1.27
85	18		0.53	0.64	0.73	0.81	0.88	0.95	1.01	1.07	1.14	1.19	1.24	1.29	
	20		0.47	0.59	0.68	0.76	0.84	0.91	0.97	1.03	1.09	1.15	1.20	1.25	
	22		0.39	0.53	0.63	0.72	0.79	0.86	0.93	0.99	1.05	1.11	1.16	1.21	
	24		0.29	0.47	0.58	0.67	0.75	0.82	0.89	0.95	1.01	1.07	1.12	1.17	
80	18		0.50	0.61	0.70	0.77	0.84	0.91	0.97	1.03	1.09	1.14	1.19		
	20		0.44	0.56	0.65	0.73	0.80	0.87	0.93	0.99	1.05	1.10	1.15		
	22		0.37	0.50	0.60	0.68	0.76	0.82	0.89	0.95	1.01	1.06	1.11		
	24		0.27	0.45	0.55	0.64	0.71	0.78	0.85	0.91	0.97	1.02	1.07		
75	18		0.48	0.58	0.66	0.74	0.80	0.87	0.93	0.99	1.04	1.09			
	20		0.42	0.53	0.62	0.69	0.76	0.82	0.88	0.95	1.00	1.05			
	22		0.35	0.48	0.57	0.65	0.72	0.78	0.84	0.91	0.96	1.01			
	24		0.25	0.42	0.52	0.60	0.68	0.74	0.80	0.87	0.92	0.97			
70	18		0.45	0.55	0.63	0.70	0.76	0.82	0.89	0.94	0.99				
	20		0.39	0.50	0.58	0.65	0.72	0.78	0.85	0.90	0.95				
	22		0.32	0.45	0.54	0.61	0.68	0.74	0.80	0.86	0.91				
	24		0.24	0.39	0.49	0.57	0.64	0.70	0.76	0.82	0.87				
65	18		0.42	0.51	0.59	0.66	0.72	0.78	0.84	0.89					
	20		0.36	0.47	0.55	0.62	0.68	0.74	0.80	0.85					
	22		0.30	0.42	0.50	0.57	0.64	0.70	0.76	0.81					
	24		0.22	0.36	0.46	0.53	0.60	0.66	0.72	0.77					
60	18		0.39	0.48	0.55	0.62	0.68	0.74	0.79						
	20		0.34	0.43	0.51	0.58	0.64	0.70	0.75						
	22		0.28	0.39	0.47	0.54	0.60	0.66	0.71						
	24		0.20	0.33	0.42	0.49	0.56	0.62	0.67						
55	18		0.36	0.44	0.51	0.58	0.64	0.69							
	20		0.31	0.40	0.47	0.54	0.60	0.65							
	22		0.25	0.35	0.43	0.49	0.55	0.61							
	24		0.17	0.30	0.39	0.45	0.51	0.57							
50	18		0.33	0.41	0.47	0.53	0.59								
	20		0.28	0.36	0.43	0.49	0.55								
	22		0.22	0.32	0.39	0.45	0.51								
	24		0.15	0.27	0.35	0.41	0.47								
45	18		0.30	0.37	0.43	0.49									
	20		0.25	0.33	0.39	0.45									
	22		0.20	0.28	0.35	0.41									
	24		0.13	0.24	0.31	0.37									
40	18		0.26	0.33	0.39										
	20		0.22	0.29	0.35										
	22		0.17	0.25	0.31										
	24		0.11	0.20	0.27										
35	18		0.23	0.29											
	20		0.18	0.25											
	22		0.14	0.21											
	24		0.08	0.16											
30	18		0.19												
	20		0.14												
	22		0.10												
	24		0.06												

The indicated outputs with ΔT 50 and ΔT 60 are the exact outputs. ΔT 50 output measured in accordance with EN 442 and ΔT 60 output calculated according to EN 442. An average correction factor is given in this table for all other ΔT outputs, applicable for all dimensions.

CORRECTION FACTORS ■ ENERGY SAVERS WITH DBE



Using DBE:
max. flow temperature 75°C
max. air humidity 95% R.H.

REVERBERATION TIME

Reverberation time (c) T2	Correction [dB(A)]
2.5	+ 6.2
2.0	+ 5.2
1.5	+ 4.0
1.0	+ 2.2

$$P_2 = P_1 - 10 \log \frac{T_2}{T_1}$$

- P₁ = table of sound pressure
- P₂ = sound pressure to be calculated
- T₁ = reverberation time of room of reference (T₁ = 0.6 s)
- T₂ = reverberation time of room

ROOM VOLUME

Content m ³	Correction [dB(A)]
80	0
150	- 2.7
200	- 4.0
250	- 4.9
300	- 5.7
350	- 6.4
400	- 7.0
500	- 8.0
600	- 8.8

Calculation of sound pressure for other room content

$$P_2 = P_1 - 10 \log \frac{V_2}{V_1}$$

- P₁ = table of sound pressure
- P₂ = sound pressure to be calculated
- V₁ = size of reference room (80 m³)
- V₂ = room size

SEVERAL APPLIANCES WITH AN EQUAL SOUND LEVEL IN A ROOM

Number [dB(A)]	Correction [dB(A)]
2	+ 3.0
3	+ 4.8

- P₂ = P₁ + 10 log n
- P₁ = sound level one appliance
- P₂ = sound pressure to be calculated
- n = number of appliances

NOISE PRESSURE 1 UNIT dB(A)

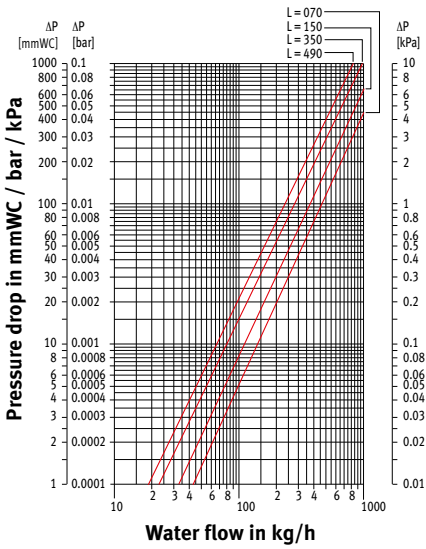
Type	Comfort	Boost
DBEU.06	27	34
DBEU.10	29	35
DBEU.15	27	31

Reverberation time RT60 0.6 s
Reference room V₁ 80m³
Reference pressure P₀ 2.10⁻⁵Pa

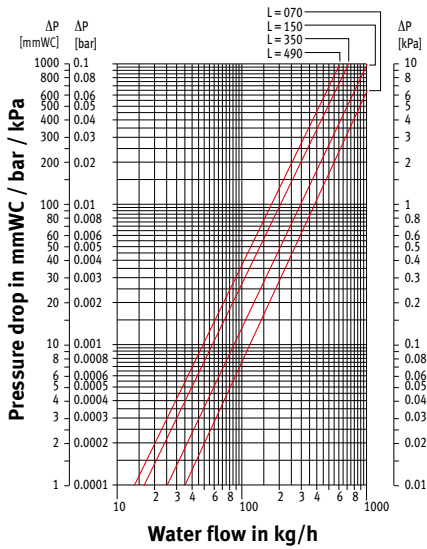
Number of units	NOISE PRESSURE COMFORT dB(A)						MAX. MEASURED POWER (Watts)					
	1	2	3	4	5	6	1	2	3	4	5	6
DBEU.06	27.0	30.0	31.8	33.0	34.0	34.8	2.7	5.4	8.1	10.8	13.5	16.2
DBEU.10	29.0	32.0	33.8	35.0	36.0	36.8	2.8	5.6	8.4	11.2	14	16.8
DBEU.15	27.0	30.0	31.8	33.0	34.0	34.8	2.2	4.4	6.6	8.8	11	13.2

ENERGY SAVERS ■ PRESSURE DROP

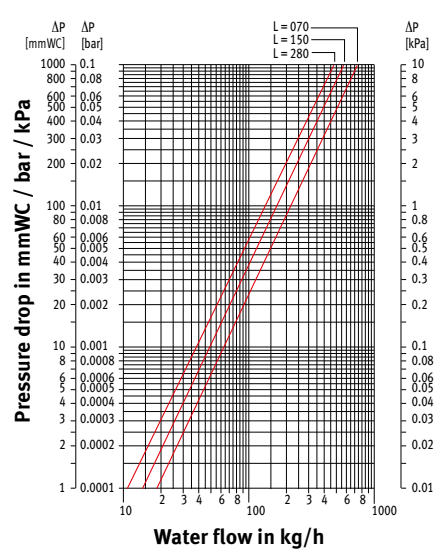
**PRESSURE DROP TYPE 04
OPPOSITE END CONNECTION**



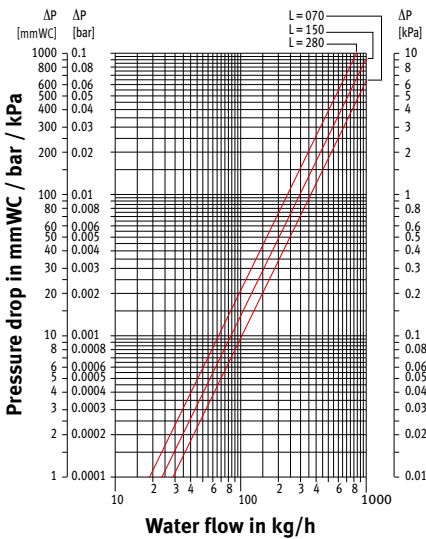
PRESSURE DROP TYPE 05



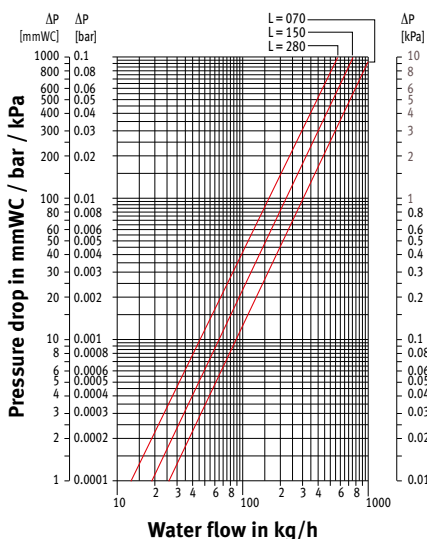
PRESSURE DROP TYPE 06



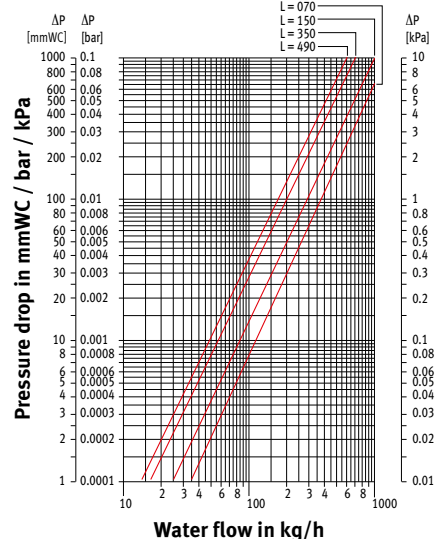
PRESSURE DROP TYPE 07



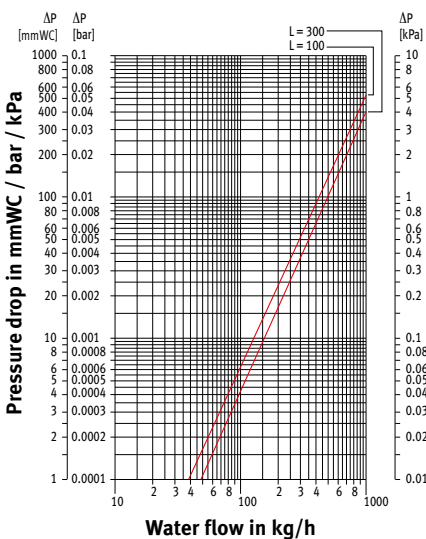
PRESSURE DROP TYPE 08



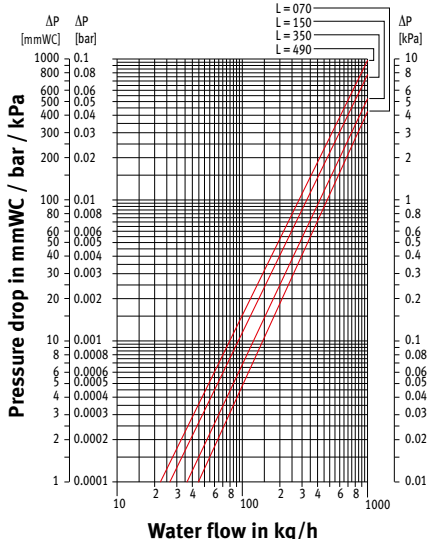
PRESSURE DROP TYPE 09



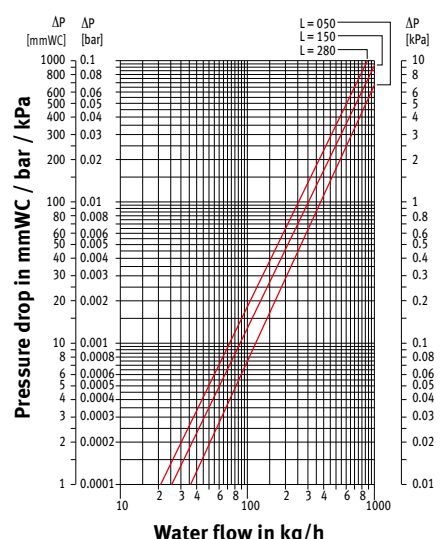
**PRESSURE DROP TYPE 09
OPPOSITE END CONNECTION**



PRESSURE DROP TYPE 10

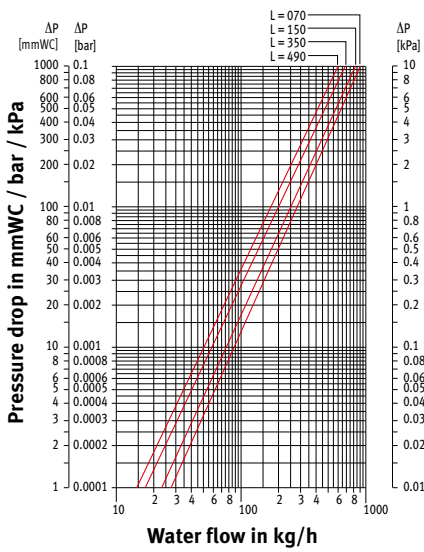


PRESSURE DROP TYPE 11

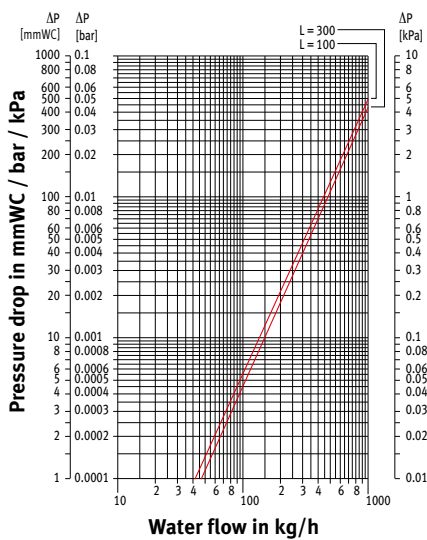


PRESSURE DROP ENERGY SAVERS

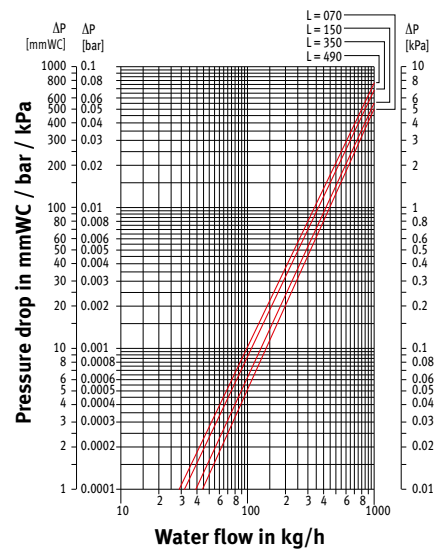
PRESSURE DROP TYPE 14



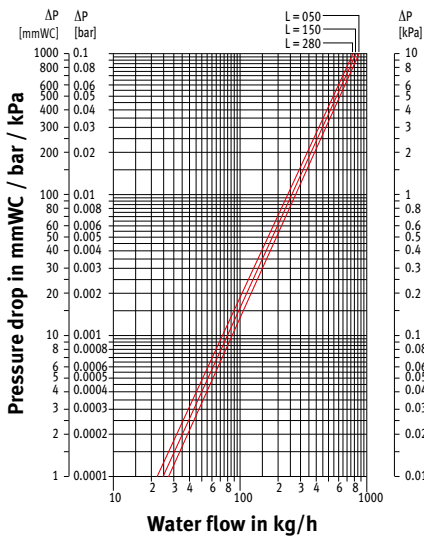
PRESSURE DROP TYPE 14 OPPOSITE END CONNECTION



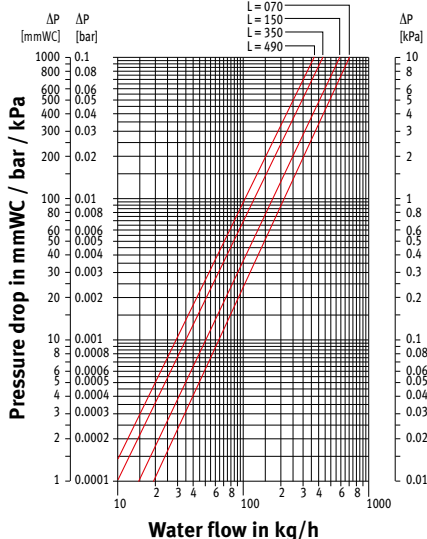
PRESSURE DROP TYPE 15



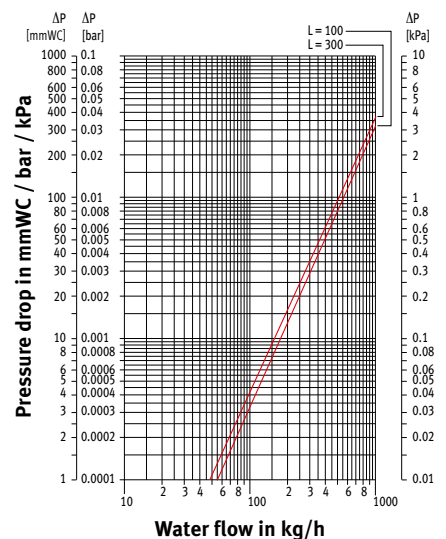
PRESSURE DROP TYPE 16



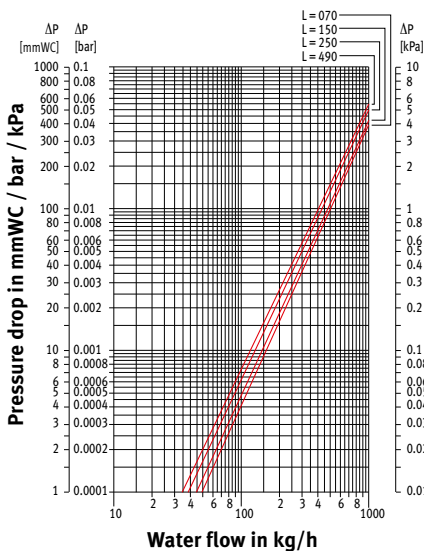
PRESSURE DROP TYPE 19



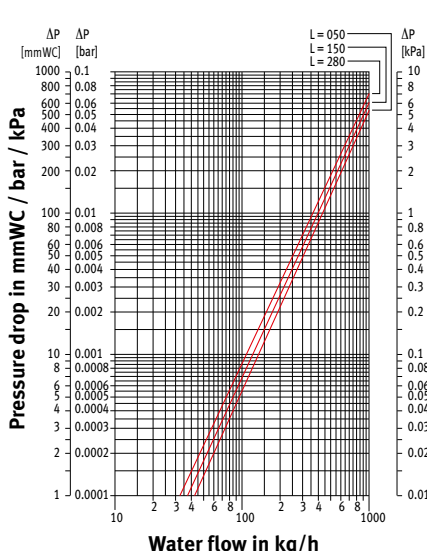
PRESSURE DROP TYPE 19 OPPOSITE END CONNECTION



PRESSURE DROP TYPE 20



PRESSURE DROP TYPE 21



ENERGY SAVERS - WEIGHT (IN KG/METRE)

STRADA WALL MOUNTED MODEL

H	T	06	10	11	15	16	20	21
020	6.7	7.5	---	9.4	---	11.4	---	---
035	9.0	9.8	11.2	11.9	14.2	14.0	16.7	---
050	11.1	12.0	13.5	14.4	16.7	16.7	19.5	---
065	13.3	14.3	15.8	16.9	19.2	19.4	22.1	---
095	17.5	18.9	20.4	21.8	24.1	24.8	27.5	---

LINEA PLUS WALL MOUNTED MODEL

H	T	10	11	15	16	20	21
020	5.9	---	7.0	---	8.2	---	---
035	8.2	9.7	9.5	12.0	11.0	14.3	---
050	10.6	12.1	12.1	14.6	13.8	17.1	---
065	13.0	14.4	14.7	17.2	16.7	19.9	---
095	15.4	19.1	17.0	22.4	18.8	25.6	---

TEMPO WALL MOUNTED MODEL

H	T	10	11	15	16	20	21
020	5.4	---	6.7	---	8.3	---	---
030	6.6	8.2	8.1	10.8	9.8	13.4	---
040	7.8	9.4	9.5	12.2	11.3	14.9	---
050	9.0	10.7	10.8	13.6	12.9	16.4	---
060	10.3	11.9	12.2	14.9	14.4	17.9	---
070	11.5	13.1	13.6	16.3	15.9	19.4	---

MAXI WALL MOUNTED MODEL WT

H	T	10	11	15	16	20	21
044	19.0	21.2	21.3	24.4	23.5	27.3	---
059	24.3	25.8	26.9	29.4	29.6	32.5	---
074	29.6	31.2	32.5	34.9	35.3	38.2	---

MAXI WALL MOUNTED MODEL WF

H	T	10	11	15	16	20	21
044	19.0	21.2	22.2	25.4	25.3	29.4	---
059	24.3	25.8	27.8	30.2	31.4	34.3	---
074	29.6	31.2	33.3	35.8	37.0	39.9	---

MAXI FLOOR MODEL FT

H	T	10	11	15	16	20	21
044	17.5	19.6	19.7	22.8	22.0	25.7	---
059	22.8	24.3	25.3	27.8	28.1	30.9	---
074	28.1	29.6	30.8	33.3	33.7	36.6	---

MAXI FLOOR MODEL FF

H	T	10	11	15	16	20	21
044	17.5	---	20.6	---	37.7	---	---
059	22.8	24.3	26.3	28.7	29.8	32.7	---
074	28.1	29.6	31.8	34.3	35.5	38.4	---

KNOCKONWOOD WALL MOUNTED MODEL

H	T	06	10	11	15	16
030	8.3	7.8	9.9	8.9	12.2	---
055	12.3	12.0	13.6	14.1	19.7	---
080	17.4	16.9	18.6	18.6	21.1	---

PLAY WALL MOUNTED MODEL

H	T	10	11	15	16	20	21
035	14.2	15.6	16.9	19.4	19.7	22.6	---
050	16.4	17.8	19.4	21.9	22.5	25.4	---
065	15.3	16.7	18.8	21.3	22.3	25.2	---

PLAY WALL MOUNTED MODEL WITH DBE

H	T	11	16	21
035	16.6	20.5	23.7	---
050	18.9	23.0	26.5	---
065	17.8	22.4	26.3	---

INSTALLATION INTO A WALL RECESS

H	T	10	11	15	16	20	21
020	3.9	---	5.1	---	6.2	---	---
030	4.9	6.5	6.1	8.7	7.3	10.3	---
040	5.9	7.5	7.2	9.7	8.5	11.4	---
050	6.9	8.5	8.2	10.8	9.6	12.6	---

TEMPO FREESTANDING MODEL

H	T	10	11	15	16	20	21
020	8.2	---	9.7	---	11.2	---	---
030	10.2	11.9	11.8	14.7	13.5	17.1	---
040	12.2	13.9	14.0	16.9	15.7	19.4	---
050	14.2	15.9	16.1	19.0	18.0	21.7	---

KNOCKONWOOD FREESTANDING DBE

H	L	110	130	170	210
021	18.0	21.0	24.0	27.0	---

MINI WALL MOUNTED & FREESTANDING MODEL

H	T	05	06	09	10	11	14	15	16	19	20	21
008	---	---	5.2	---	---	6.1	---	---	7.0	---	---	---
013	5.6	---	---	7.1	---	---	8.43	---	---	9.7	---	---
023	---	8.5	---	---	10.2	---	---	12.8	---	---	16.1	---
028	---	10.8	---	---	13.6	---	16.8	---	---	---	19.5	---

MINI FREESTANDING DBE

H	T	11	16
028	21.0	25.0	---

MINI CANAL

H	B	14	18	26	34	42
009	4.60	5.01	5.80	7.05	8.29	---
011	5.00	5.42	6.24	7.52	8.80	---
014	5.70	---	7.77	9.51	11.28	---
019	---	---	9.25	11.06	12.89	---

MINI CANAL DBE

H	B	26	34	42
014	12.65	15.30	18.05	---

Average weight in kg/metre for Mini duct, including frame and heat exchanger.

GRILLES MINI CANAL & MINI CANAL DBE

Finish	Width					
	12.8	16.8	24.8	32.8	40.8	---
- Roll-up Designo merbau/merbau varnished	2.18	3.00	3.52	3.98	4.67	---
- Roll-up Designo oak/oak varnished	1.59	2.03	2.69	3.34	3.90	---
- Roll-up Designo beech/beech varnished	1.50	1.90	2.50	3.10	3.60	---
- Roll-up merbau/merbau varnished	2.15	2.70	3.03	3.35	4.05	---
- Roll-up oak/oak varnished	1.48	1.71	2.15	2.61	3.12	---
- Roll-up beech/beech varnished	1.40	1.60	2.00	2.42	2.88	---
- Roll-up alu natural/black/brown/brass	1.21	1.38	2.07	2.76	3.45	---
- Roll-up grille natural Accordion	2.80	3.45	4.85	5.50	7.55	---
- Roll-up stainless steel	2.18	2.86	4.22	5.58	6.94	---
- Rigid Designo alu natural/black/brown/brass/lacquered	1.60	2.10	3.20	4.10	5.00	---
- Rigid alu natural/black/brown/brass/lacquered	1.55	2.20	2.50	3.15	3.75	---
- Rigid Pebbles	2.20	2.70	3.65	4.60	5.60	---

CANAL COMPACT

R 1.5			R 4.0		
B	H	Kg/m	B	H	Kg/m
36	36	16.50	47	52	20.50

CANAL COMPACT DBE

R 1.5			R 4.0		
B	H	Kg/m	B	H	Kg/m
36	36	18.00	47	52	22.00

Average weight in kg/metre for the complete unit, including frame and grille.

CANAL PLUS

R 2.5			R 3.0			R 4.0		
B	H	Kg/m	B	H	Kg/m	B	H	Kg/m
34	68	22.54	36	69	22.58	42	72	23.63
38	68	25.61	40	69	25.80	46	72	25.97
49	68	30.53	51	69	30.44	57	72	31.44

Average weight in kg/metre for the complete unit, including frame and grille.



Weight and water content without packaging or options

WATER CONTENT IN LITRES - ENERGY SAVERS

WATER CONTENT HEAT EXCHANGER (IN LITRES/METRE)

Type	L/metre
04 D	- 0.16
05	- 0.32
06	- 0.64
07	- 0.51
08	- 0.63
09	- 0.32
09 D	- 0.31
10	- 0.65
11	- 1.33
14	- 0.48
14 D	- 0.47
15	- 0.98
16	- 1.98
19	- 0.63
19 D	- 0.66
20	- 1.32
21	- 2.66

07 = Strada type 06, height 20
 08 = Knockonwood and Strada type 06, all other heights
 D = Opposite end connection

MINI CANAL WATER CONTENT (IN LITRES/METRE)

H	B 14	18	26	34	42
009	0.16	0.32	0.32	0.48	0.66
011	0.16	0.32	0.32	0.48	0.66
014	0.32	---	0.65	0.98	1.32
019	---	---	0.65	0.98	1.32

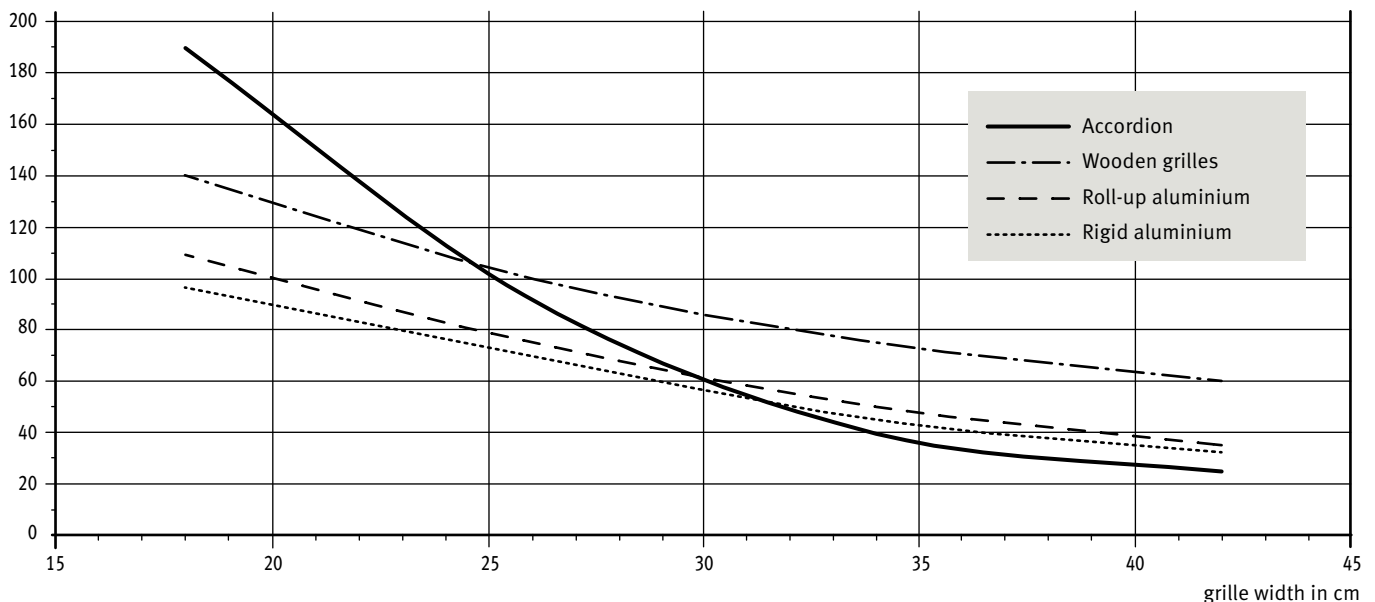
MINI CANAL DBE WATER CONTENT IN LITRES

L	B 26	34	42
110	0.63	0.95	1.27
130	0.76	1.14	1.52
150	0.89	1.34	1.78
170	1.02	1.53	2.04
190	1.15	1.72	2.29
210	1.28	1.92	2.56
230	1.4	2.11	2.81
250	1.53	2.3	3.06
270	1.66	2.5	3.33
290	1.79	2.69	3.58
310	1.92	2.88	3.84

MAXIMUM GRILLE LOADINGS

- Roll-up wood and aluminium grille: concentrated load in kg in the centre of the grille up to 2 mm deflection.
- Rigid grilles: concentrated load in the centre of the transverse section up to 2 mm deflection.
- Pebbles: max. 100 kg per tile

Concentrated load in kg



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