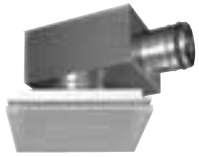
PMLc

Square perforated ceiling terminal for supply and exhaust air



FUNCTION

The PML is a square, perforated supply and exhaust air diffuser for ceiling mounting. Suitable for constant or variable flow. Suitable for large undertemperatures.

QUICK FACTS

- Spread pattern can be adjusted
- Short throw
- Can be used with plenum box ALS
- Cleanable
- Wide throttled area
- Available in alterantive colours
- Included in the Magi CAD and Point databases

QUICK GUIDE

AIR FLOW - SOUND LEVEL				
PMLc		l/s		
Size		25 dB(A)	30 dB(A)	35 dB(A)
100		32	37	43
125		46	54	63
160		65	75	89
200		90	110	125
250		120	140	160
315		170	195	225
400		250	290	340
PMLc	ALSc	l/s		
Size	Size	25 dB(A)	30 dB(A)	35 dB(A)
100	80-100	15	20	25
125	100-125	24	31	38
160	125-160	37	50	65
200	160-200	54	70	90
250	200-250	83	100	150
315	250-315	125	140	165
400	315-400	190	220	270

Applies to supply air with an open damper and a 4-way spread pattern. Data for PML + ALS plenum box is shown for a total pressure drop of 50 Pa.

DESIGN

Consists of two sections: backing box and diffuser face. The backing box has a duct connection with a rubber seal and a perforated measurement plate. The perforated face is equipped with a fixed spread pattern baffle.

MATERIALS AND SURFACE TREATMENT

The backing box is manufactured in galvanised sheet steel. The face is manufactured in sheet steel. The complete unit is painted in Stifab Farex white interior paint RAL 9010.

SPECIAL

PML is available in other standard colurs: dark grey RAL 7037, light metallic grey RAL 9006 and black RAL 9005. Please contact your nearest Stifab Farex office for further information.

ACCESSORIES

PLENUM BOX:

ALS is manufactured in galvanised sheet steel. It includes a removable commissioning damper, fixed measurement outlet and acoustic attenuation material with a reinforced surface layer. **N.B! It is unaffected by straight duct sections on connection.**

FRAME:

SAR. For the aesthetic installation of exposed difusers.

CASSETTE PANEL:

KAS, which replaces the suspended ceiling tile used with visible T-section framework. Standard size: 595 x 595 mm. Available in other dimensions.

PLANNING

When the diffuser is used **without** the ALS plenum box, the measurement plate which is mounted in the inlet spigot must not be used and therefore removed. This information is also marked on the diffuser. PML must be ordered with the correct spread pattern code: see under Specifications.

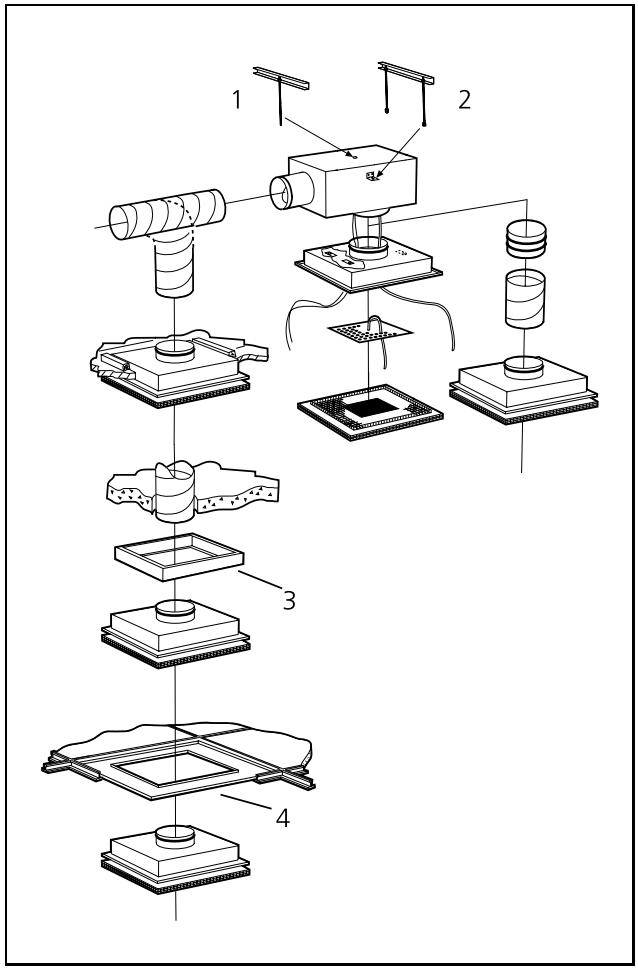


Figure 1. *Installation PML.*
1. Alt. 1
2. Alt. 2
3. Frame SAR K
4. Cassette panel KAS

INSTALLATION (See figure 1)

The ALS plenum box is mounted onto the building framework using drop rod or perforated band.
The backing box is placed in the spigot of the plenum box and fixed using blind rivets. The backing box may also be screwed into place through its sides or top. When mounted in a suspended ceiling with module dimensions of 600 x 600, the backing box can be mounted in the KASa cassette plate. This completely replaces the usual suspended ceiling tile and can be mounted onto the T-profile framework. The size 250 and bigger can also be mounted onto T-profile framework provided that the diffuser face is removed first.
The distance between the diffuser and the plenum box can be extended using ordinary circular duct up to 500 mm long without necessitating the extension of either the measuring tube or the damper regulator.

COMMISSIONING WITH ALS (See Figure 1)

Commissioning must be carried out with the diffuser in place. The measuring tubes and damper cords are pulled out of the diffuser through the perforations. The damper setting can be locked. The k-factor is shown on the product label and is also indicated in the relevant k-factor guide which can be accessed downloaded from our website.

MAINTENANCE (See Figure 1)

The diffuser can be cleaned when necessary using lukewarm water and detergent. The duct system can be accessed without the use of tools. The front face is removed by pressing the four spring clips into the lateral grooves. The measurement plate is removed by rotating through a ¼ revolution. If the ALS plenum box is used, the distribution plate is hinged aside and the damper unit twisted from its mounting with a simple hand movement.

ENVIRONMENT

The declaration of construction materials is available on our website or may be ordered from one of our sales offices.

TECHNICAL DATA

- The sound level dB(A) applies to rooms of 10 m^2 equivalent absorption area.
- The throw $l_{0.2}$ is measured under isothermal flow conditions.
- The maximum recommended under-temperature is 12°C.
- The sound data shown for the PLM + ALS are with the measuring plate in the PML.
- For calculating the width of the airstream, air velocities in the occupied zone or sound levels in rooms with other dimensions, please refer to our selection software ProAir and ProAc, which are both available from our website.

Sound data - PML - Supply air

Sound power level L_W(dB)
Table K_{OK}

Size	Mid-frequency (octave band) Hz							
PMLc	63	125	250	500	1000	2000	4000	8000
100	4	4	-3	2	1	-7	-24	-28
125	4	3	-2	5	0	-10	-30	-26
160	5	3	1	6	-2	-13	-33	-27
200	4	2	1	6	-2	-14	-35	-25
250	6	3	5	6	-3	-14	-35	-22
315	7	4	2	4	-1	-11	-30	-26
400	3	0	-1	2	1	-11	-31	-32
Size	Mid-frequency (octave band) Hz							
PMLc + ALSc	63	125	250	500	1000	2000	4000	8000
100	11	11	6	1	-2	-10	-17	-20
125	10	8	6	0	-2	-7	-17	-21
160	13	10	8	2	-2	-10	-19	-22
200	12	8	7	2	-2	-8	-17	-22
250	13	9	4	1	-2	-7	-17	-19
315	12	8	4	2	0	-9	-20	-23
400	10	7	1	3	0	-10	-24	-25
Tol. ±	2	2	2	2	2	2	2	2

Sound attenuation ΔL (dB)
Table ΔL

Size	Mid-frequency (octave band) Hz							
PMLc	63	125	250	500	1000	2000	4000	8000
100	22	16	11	6	4	3	2	0
125	20	14	9	5	3	2	1	0
160	20	13	8	4	3	1	1	0
200	18	11	6	3	2	1	0	0
250	16	10	5	2	1	1	0	0
315	14	8	4	1	1	0	0	0
400	13	8	4	1	0	0	0	0
Size	Mid-frequency (octave band) Hz							
PMLc + ALSc	63	125	250	500	1000	2000	4000	8000
100	22	14	13	16	26	16	10	11
125	24	16	9	17	23	16	11	13
160	22	14	10	17	19	12	10	12
200	19	11	8	16	18	12	11	11
250	16	8	8	16	17	12	12	13
315	14	6	7	19	14	10	10	13
400	14	5	8	14	11	10	11	12
Tol. ±	2	2	2	2	2	2	2	2

Sound data - PML - Exhaust air

Sound power level L_W(dB)
Table K_{OK}

Size	Mid-frequency (octave band) Hz							
PMLc	63	125	250	500	1000	2000	4000	8000
100	11	9	4	0	0	-8	-22	-31
125	7	2	4	1	0	-4	-21	-28
160	19	13	5	0	0	-12	-27	-31
200	19	13	6	0	-2	-10	-22	-29
250	14	8	4	0	0	-5	-19	-26
315	16	9	3	0	0	-5	-15	-24
400	16	9	7	0	0	-6	-19	-27
Size	Mid-frequency (octave band) Hz							
PMLc + ALSc	63	125	250	500	1000	2000	4000	8000
100	12	12	8	0	-7	-8	-13	-22
125	11	11	7	-3	-4	-7	-14	-22
160	13	11	6	-3	-3	-5	-15	-23
200	13	11	4	-5	-4	-3	-15	-25
250	18	14	4	-3	-2	-4	-16	-24
315	15	11	3	-1	-1	-5	-18	-25
400	14	9	2	-1	0	-4	-19	-27
Tol. ±	2	2	2	2	2	2	2	2

Sound attenuation ΔL (dB)
Table ΔL

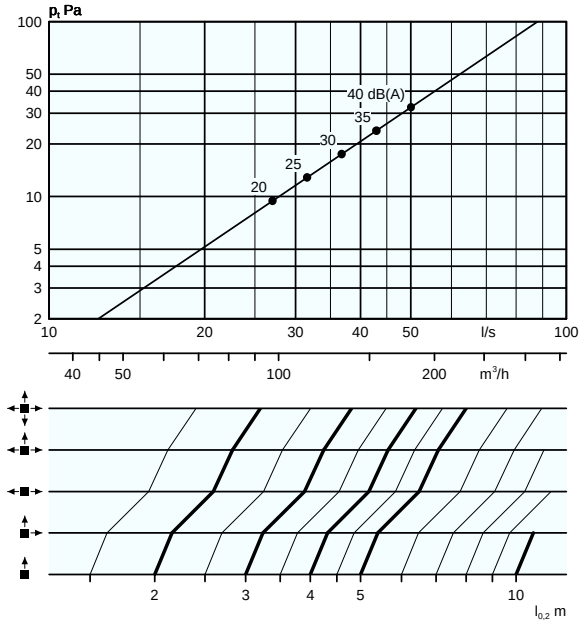
Size	Mid-frequency (octave band) Hz							
PMLc	63	125	250	500	1000	2000	4000	8000
100	22	16	11	6	4	3	2	0
125	20	14	9	5	3	2	1	0
160	20	13	8	4	3	1	1	0
200	18	11	6	3	2	1	0	0
250	16	10	5	2	1	1	0	0
315	14	8	4	1	1	0	0	0
400	13	8	4	1	0	0	0	0
Size	Mid-frequency (octave band) Hz							
PMLc + ALSc	63	125	250	500	1000	2000	4000	8000
100	22	14	13	16	26	16	10	11
125	24	16	9	17	23	16	11	13
160	22	14	10	17	19	12	10	12
200	19	11	8	16	18	12	11	11
250	16	8	8	16	17	12	12	13
315	14	6	7	19	14	10	10	13
400	14	5	8	14	11	10	11	12
Tol. ±	2	2	2	2	2	2	2	2

Engineering graphs - PML - Supply air

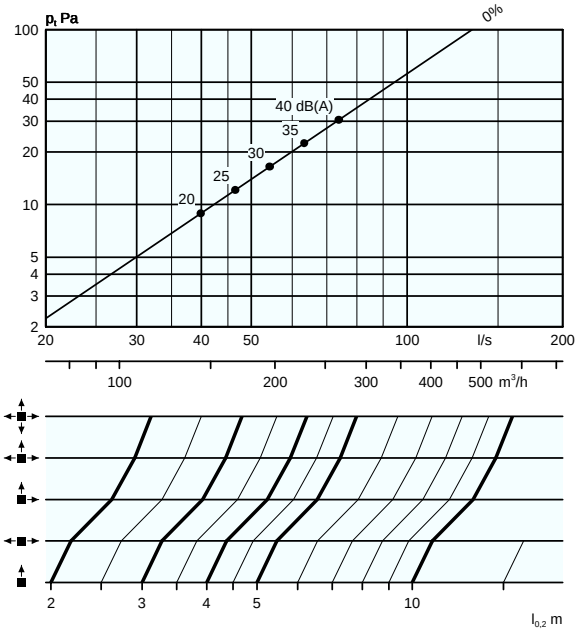
Air flow - Pressure drop - Sound level - Throw

- The graphs illustrate data for a ceiling-mounted diffuser.
- The graphs must not be used for commissioning.
- The dB(A) values are for rooms with normal acoustic absorption of 4 dB.
- The dB(C) value is normally 6-9 dB's higher than the dB(A) value. For more accurate calculations, see the calculation template in the chapter on Acoustics in the Technical Information section of this catalogue.
- The graphs illustrate data for a PML without the measurement plate in the inlet.

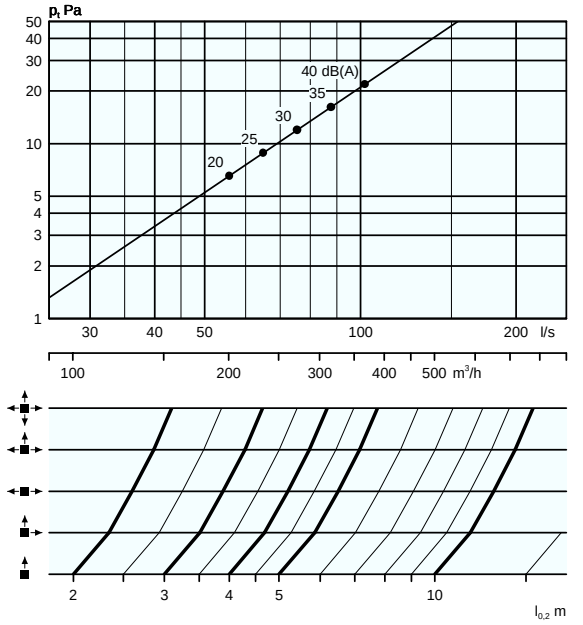
PMLc 100



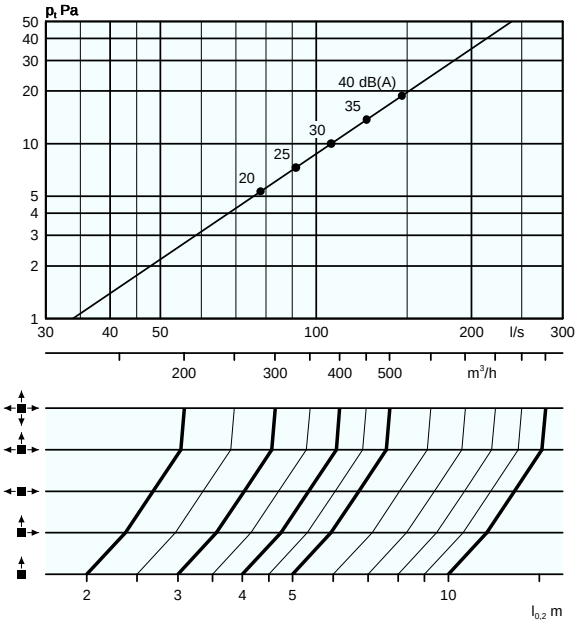
PMLc 125



PMLc 160



PMLc 200

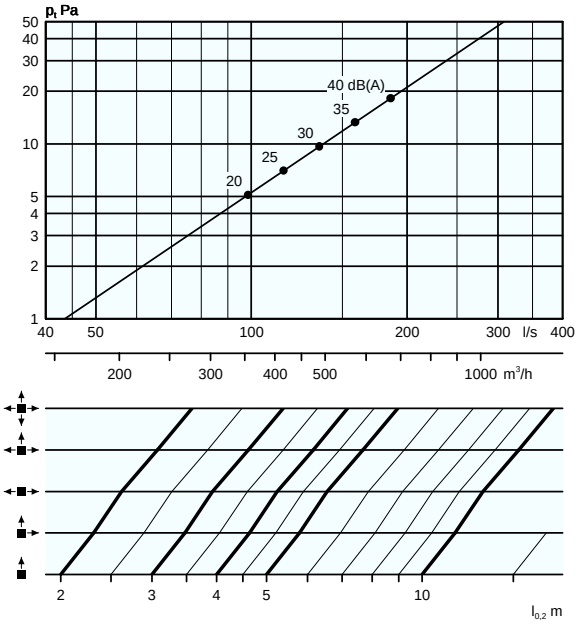


Engineering graphs - PML - Supply air

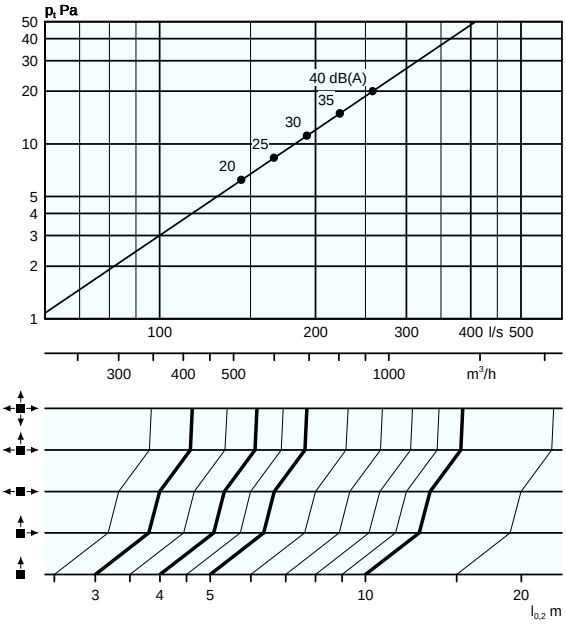
Air flow - Pressure drop - Sound level - Throw

- The graphs illustrate data for a ceiling-mounted diffuser.
- The graphs must not be used for commissioning.
- The dB(A) values are for rooms with normal acoustic absorption of 4 dB.
- The dB(C) value is normally 6-9 dB's higher than the dB(A) value. For more accurate calculations, see the calculation template in the chapter on Acoustics in the Technical Information section of this catalogue.
- The graphs illustrate data for a PML without the measurement plate in the inlet.

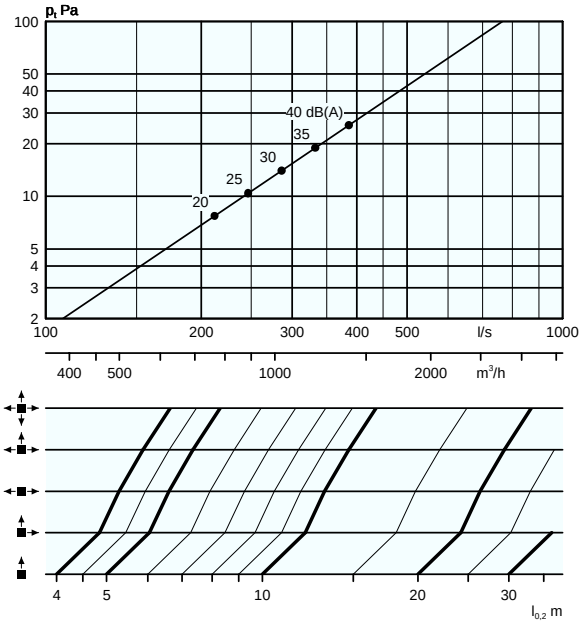
PMLc 250



PMLc 315



PMLc 400

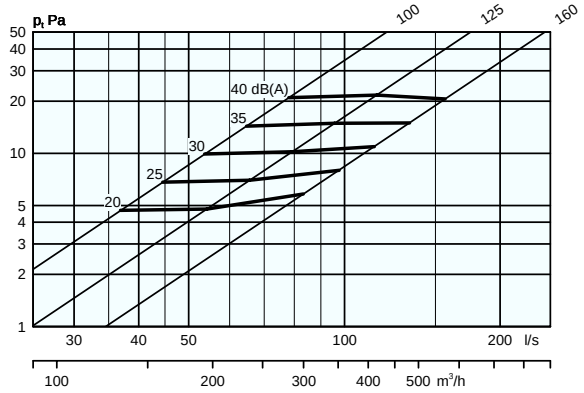


Engineering graphs - PML - Exhaust air

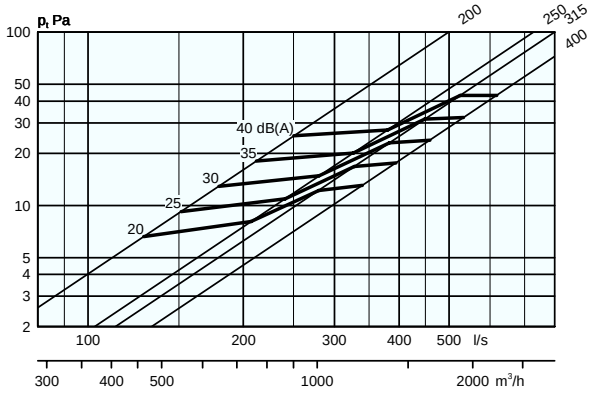
Air flow - Pressure drop - Sound level

- The graphs illustrate data for a ceiling-mounted diffuser.
- The graphs must not be used for commissioning.
- The dB(A) values are for rooms with normal acoustic absorption of 4 dB.
- The dB(C) value is normally 6-9 dB's higher than the dB(A) value. For more accurate calculations, see the calculation template in the chapter on Acoustics in the Technical Information section of this catalogue.
- The graphs illustrate data for a PML without the measurement plate in the inlet.

PMLc 100, 125, 160, Exhaust air



PMLc 200, 250, 315, 400, Exhaust air

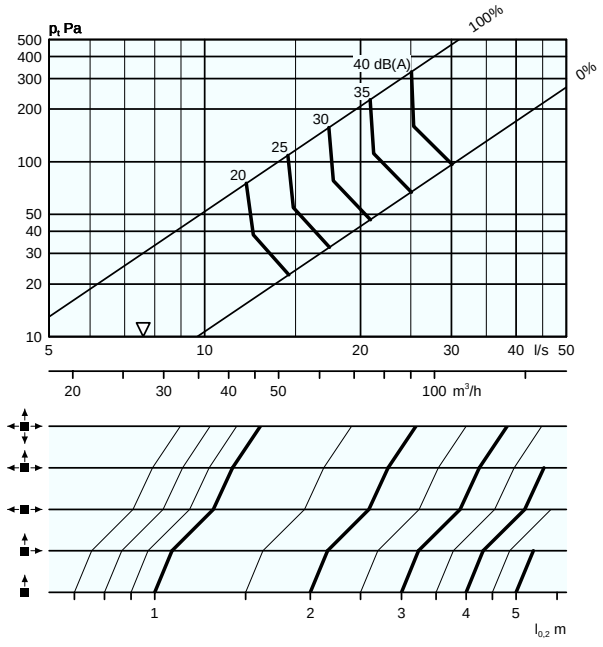


Engineering graphs - PML + ALS - Supply air

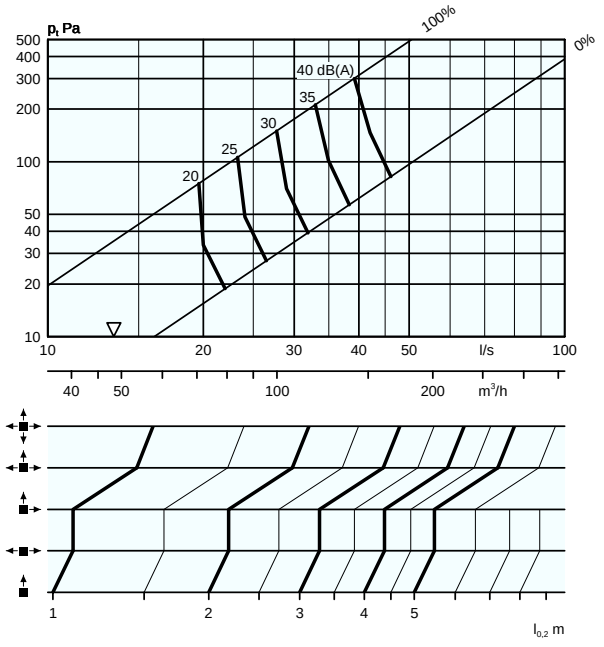
Air flow - Pressure drop - Sound level - Throw

- The graphs illustrate data for a ceiling-mounted diffuser.
- The graphs must not be used for commissioning.
- ∇ = minimum airflow to obtain sufficient commissioning pressure.
- The dB(A) values are for rooms with normal acoustic absorption of 4 dB.
- The dB(C) value is normally 6-9 dB's higher than the dB(A) value. For more accurate calculations, see the calculation template in the chapter on Acoustics in the Technical Information section of this catalogue.

PMLc 100 + ALSc 80-100



PMLc 125 + ALSc 100-125

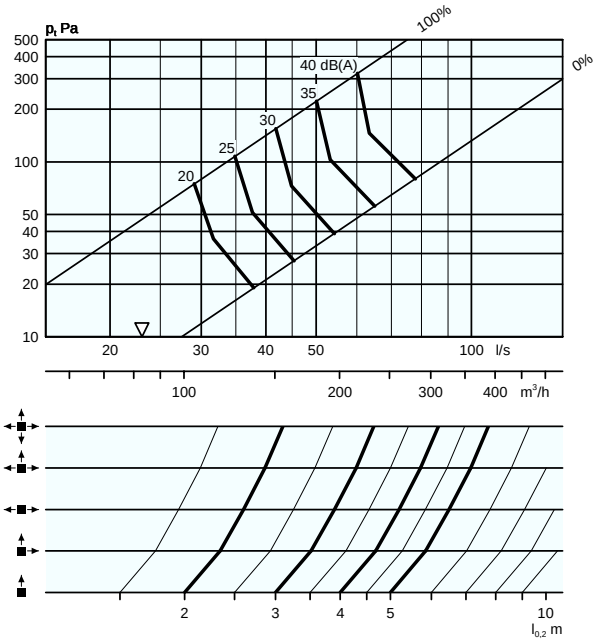


Engineering graphs - PML + ALS - Supply air

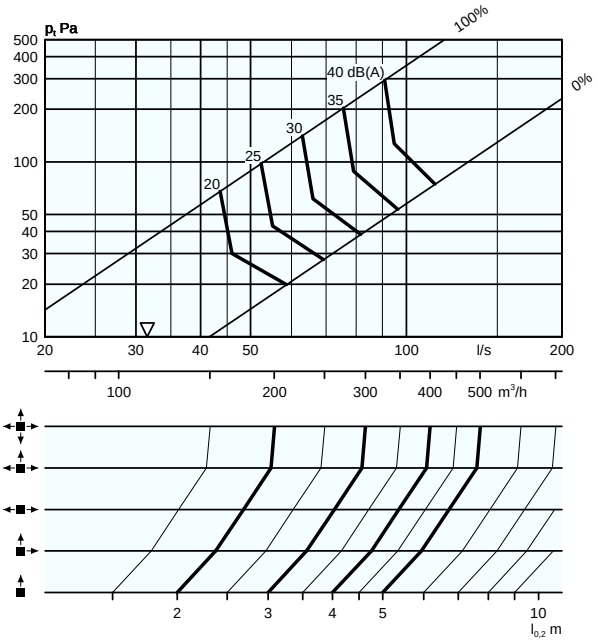
Air flow - Pressure drop - Sound level - Throw

- The graphs illustrate data for a ceiling-mounted diffuser.
- The graphs must not be used for commissioning.
- ∇ = minimum airflow to obtain sufficient commissioning pressure.
- The dB(A) values are for rooms with normal acoustic absorption of 4 dB.
- The dB(C) value is normally 6-9 dB's higher than the dB(A) value. For more accurate calculations, see the calculation template in the chapter on Acoustics in the Technical Information section of this catalogue.

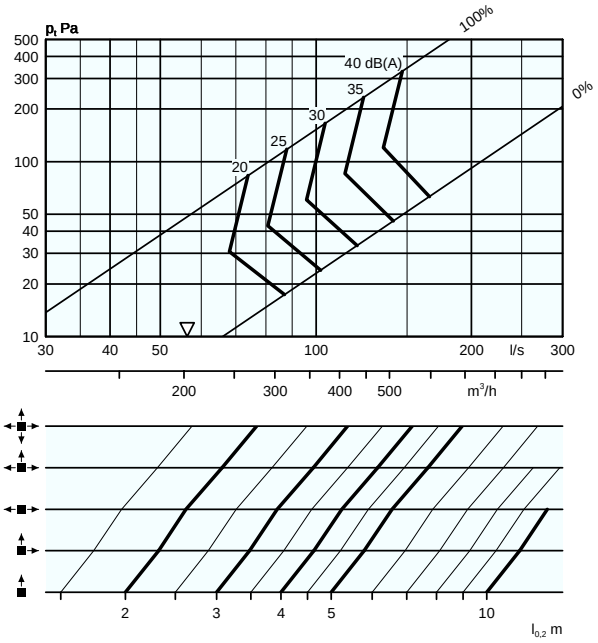
PMLc 160 + ALSc 125-160, Supply air



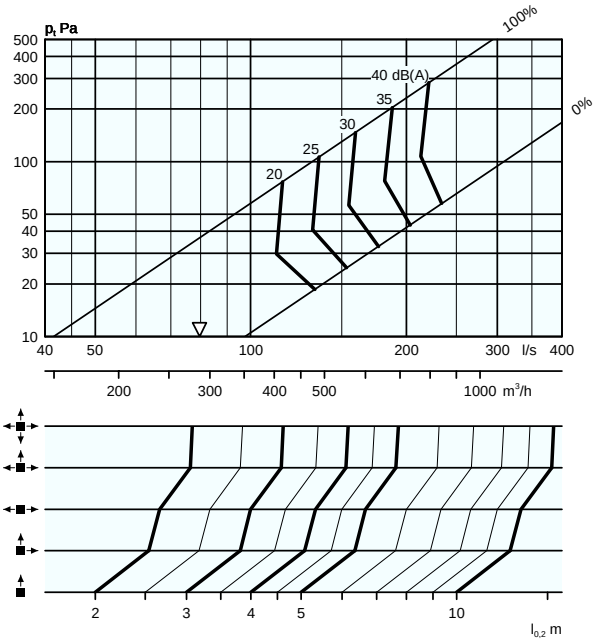
PMLc 200 + ALSc 160-200, Supply air



PMLc 250 + ALSc 200-250, Supply air



PMLc 315 + ALSc 250-315, Supply air

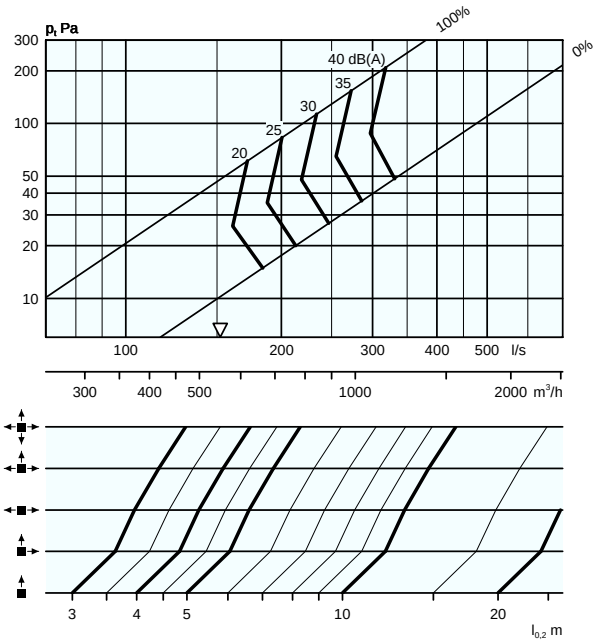


Engineering graphs - PML + ALS - Supply air

Air flow - Pressure drop - Sound level - Throw

- The graphs illustrate data for a ceiling-mounted diffuser.
- The graphs must not be used for commissioning.
- ∇= minimum airflow to obtain sufficient commissioning pressure.
- The dB(A) values are for rooms with normal acoustic absorption of 4 dB.
- The dB(C) value is normally 6-9 dB's higher than the dB(A) value. For more accurate calculations, see the calculation template in the chapter on Acoustics in the Technical Information section of this catalogue.

PMLc 400 + ALSc 315-400, Supply air

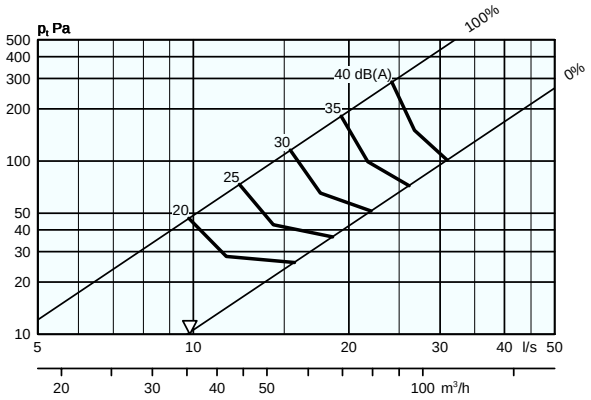


Engineering graphs - PML + ALS - Exhaust air

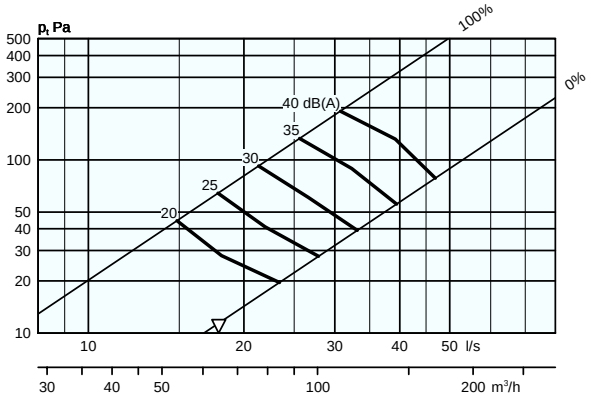
Air flow - Pressure drop - Sound level

- The graphs illustrate data for a ceiling-mounted diffuser.
- The graphs must not be used for commissioning.
- ∇ = minimum airflow to obtain sufficient commissioning pressure.
- The dB(A) values are for rooms with normal acoustic absorption of 4 dB.
- The dB(C) value is normally 6-9 dB's higher than the dB(A) value. For more accurate calculations, see the calculation template in the chapter on Acoustics in the Technical Information section of this catalogue.

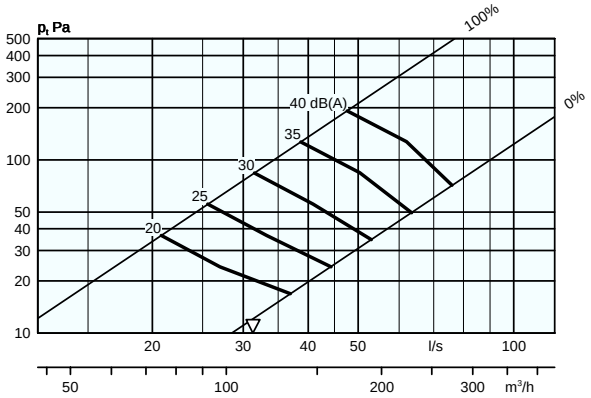
PMLc 100 + ALSc 80-100, Exhaust air



PMLc 125 + ALSc 100-125, Exhaust air



PMLc 160 + ALSc 125-160, Exhaust air

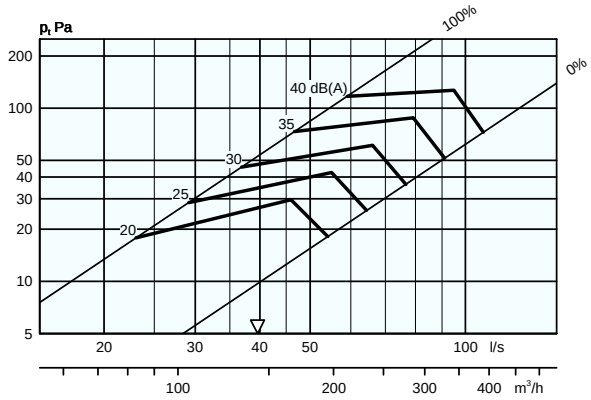


Engineering graphs - PML + ALS - Exhaust air

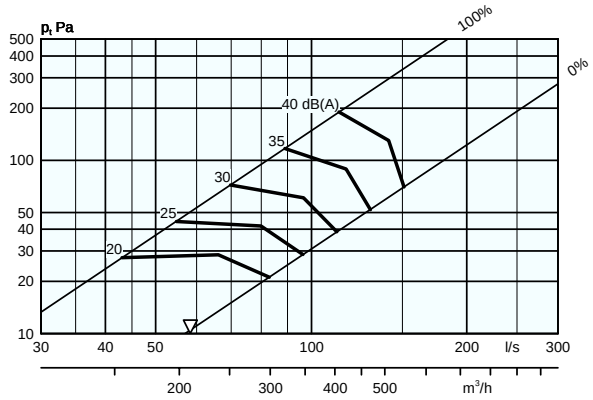
Air flow - Pressure drop - Sound level

- The graphs illustrate data for a ceiling-mounted diffuser.
- The graphs must not be used for commissioning.
- ∇= minimum airflow to obtain sufficient commissioning pressure.
- The dB(A) values are for rooms with normal acoustic absorption of 4 dB.
- The dB(C) value is normally 6-9 dB's higher than the dB(A) value. For more accurate calculations, see the calculation template in the chapter on Acoustics in the Technical Information section of this catalogue.

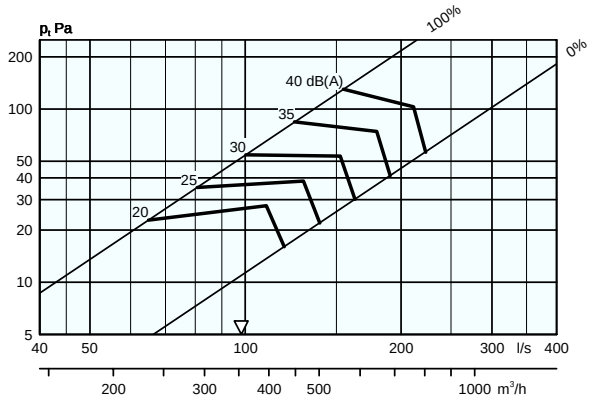
PMLc 200 + ALSc 160-200, Exhaust air



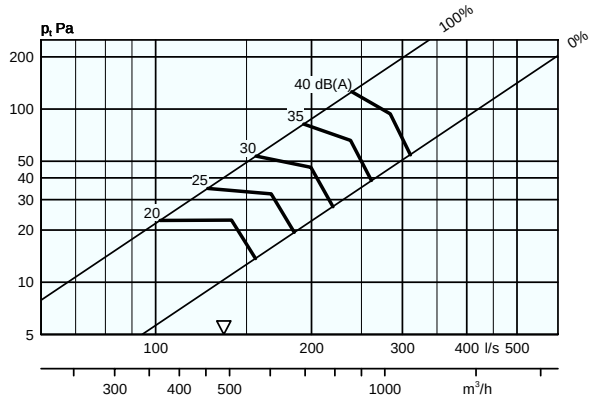
PMLc 250 + ALSc 200-250, Exhaust air



PMLc 315 + ALSc 250-315, Exhaust air



PMLc 400 + ALSc 315-400, Exhaust air



DIMENSIONS AND WEIGHT

PMLc + ALSc

Size	A	B	C	ØD	Ød	E
100	250	227	192	79	100	198
125	300	282	217	99	125	218
160	400	342	252	124	160	242
200	500	404	288	159	200	277
250	600	504	332	199	250	317
315	600	622	388	249	315	378
400	600	767	488	314	400	440

Size	F	G	H	K	I	Weight,kg
100	160	146	200	45	205	1.8
125	180	156	277	80	255	2.7
160	204	168	320	80	355	3.5
200	239	186	382	100	455	4.5
250	279	206	477	120	555	6.3
315	340	231	587	145	555	9.3
400	400	252	722	180	555	12.8

Hole making size = I x I

Frame SARa K

Size	L	Weight,kg
100	245	1
125	295	1
160	395	1
200	495	1
250	595	1
315	595	1
400	595	1

Cassette panel KASa

Size	N
100	205
125	255
160	355
200	455

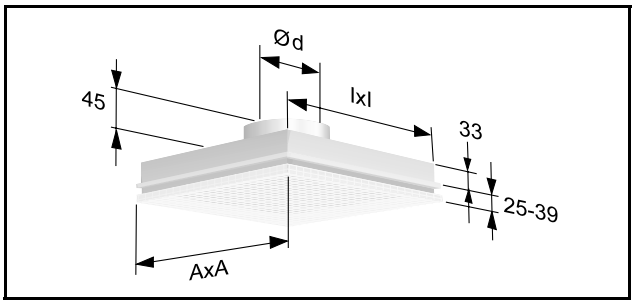


Figure 2. *PML.*

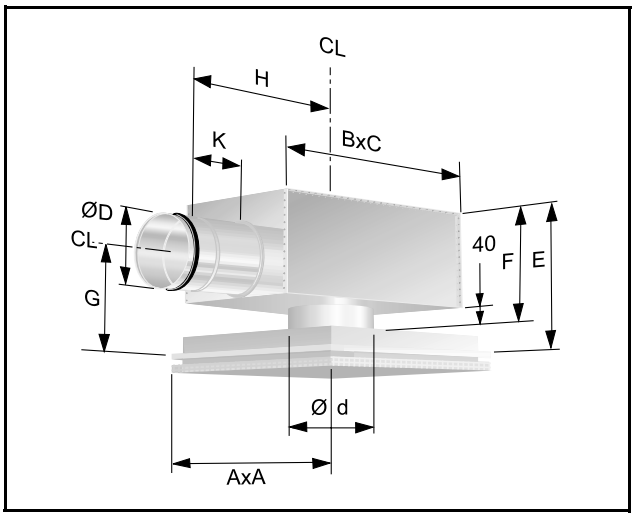


Figure 3. *PML + ALS.*

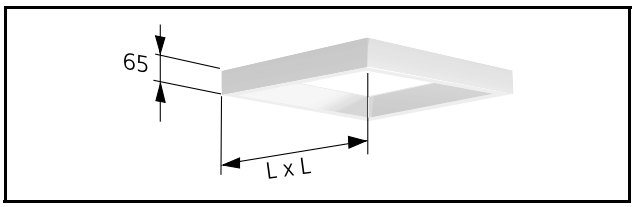


Figure 4. *SAR K.*

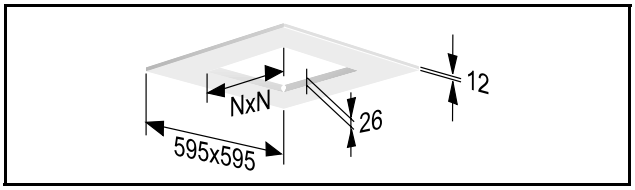


Figure 5. *Cassette panel KAS.*

ORDER KEY

Product designation

Square perforated ceiling terminal for supply or exhaust air	PMLc	-aaa	-b
Size: 100, 125, 160, 200 250, 315, 400			
Spread pattern:	1 (1-way) 2M (2M-way) 2H (2H-way) 3 (3-way) 4 (4-way and exhaust air)		

Accessories

Plenum box			ALSc	-aaa - bbb
For PMLc	100:	ALSc	80-100	
	125		100-125	
	160		125-160	
	200		160-200	
	250		200-250	
	315		250-315	
	400		315-400	

Frame		SARa K	-aaa
For size:	100:	245	
	125:	295	
	160:	395	
	200:	495	
	250, 315, 400:	595	

Cassette panel		KASa	-aaa-bbb-ccc
For size:	100:	595-595-205	
	125:	595-595-255	
	160:	595-595-355	
	200:	595-595-455	

SPECIFICATION EXAMPLE

SD XX

Stifab Farex square perforated ceiling diffuser of type PMLc with plenum box ALSc having the following functions:

- Spread pattern can be shielded
- Cleanable
- Powder-coated in white
- Cleanable plenum box ALS with removable commissioning damper including a lockable adjustment, measurement function with low method error and internal acoustic attenuation with reinforced surface layer.

Accessories:

Frame:	SARa K aaa	xx items
Cassette panel 600 X 600	KASa aaa - bbb - ccc	xx items
Size:	PMLc aaa - b with ALSc aaa-bbb	xx items