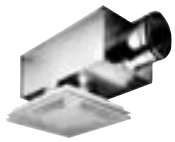
PMTd

Square perforated ceiling terminal for supply and exhaust air



FUNCTION

The PMT is a square perforated supply and exhaust air diffuser for ceiling installation. It is suitable for constant or variable air flow and can handle large under temperatures.

QUICK FACTS

- Flexible spread pattern, adjustable on-site
- Low installation height
- Short throw length
- Large throttling range
- Simple commissioning, fixed measuring unit
- Cleanable
- No straight duct section necessary before the diffuser
- Used together with plenum box ALS
- Available in alternative colours
- Included in the Magic CAD and Point databases

QUICK GUIDE

AIR FLOW-SOUND LEVEL				
PMTd Size	ALSc Size	l/s 25 dB(A)	30 dB(A)	35 dB(A)
100	100-160	32	45	53
125	125-200	44	62	80
160	160-250	65	90	115
200	200-315	98	135	170
250	250-315	130	155	190

Data is shown for supply air at a total pressure drop of 50 Pa.

DESIGN

PMT consists of two parts, backing box and perforated face. The backing box has a spigot with rubber seal ring and a perforated measurement plate. The perforated front plate is equipped with a flexible device for screening off the air stream.

MATERIALS AND SURFACE TREATMENT

The backing box is manufactured in galvanised sheet steel. The diffuser face is manufactured in sheet steel. The backing box and diffuser face is painted on both the interior and exterior using Stifab Farex white interior paint, RAL 9010.

SPECIAL

PMT is available in other standard colours, dark grey RAL 7037, light metallic grey RAL 9006 and black RAL 9005. Please conctact 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 measuring device and acoustic lining with a reinforced surface layer.

N.B! It is unaffected by straight duct sections on connection.

FRAME:

SAR K. For the aesthetic installation exposed diffuser.

CASSETTE PANEL:

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

PLANNING (See figur 1)

By removing the diffuser face from the attachment springs, the radial baffle device becomes accessible. This consists of a number of thin plates mounted in a fan-shaped construction. It is possible to set the desired spread pattern by rotating the plates around the centre point.

INSTALLATION (See Figure 2)

The ALS plenum box is secured to the building framework using drop rod or perforated band.

The diffuser section is placed in the spigot of the plenum box and fixed using blind rivets. The backing box may also be fixed to the ceiling through its sides or uppen surface using screws. When mounted in a suspended ceiling with module dimensions of 600 x 600, the backing box can be mounted in the KAS cassette plate. This completely replaces the usual suspended ceiling tile and can be mounted onto the T-bar framework. The size 250 can also be mounted onto T-bar framework provided 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 having to extend the measuring tube or damper cords tube or the damper regulator.

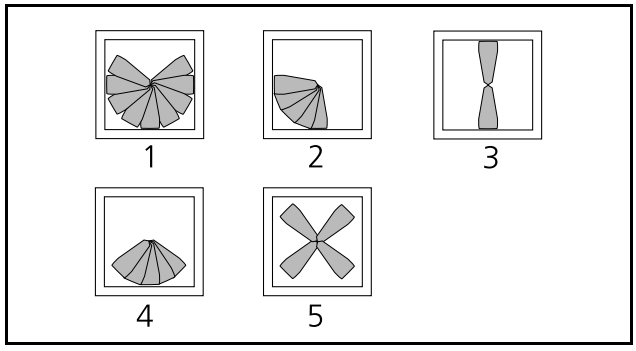


Figure 1. *Adjustment for screening off the air stream.*
1 = 1-way
2 = 2H-way
3 = 2M-way
4 = 3-way
5 = 4-way

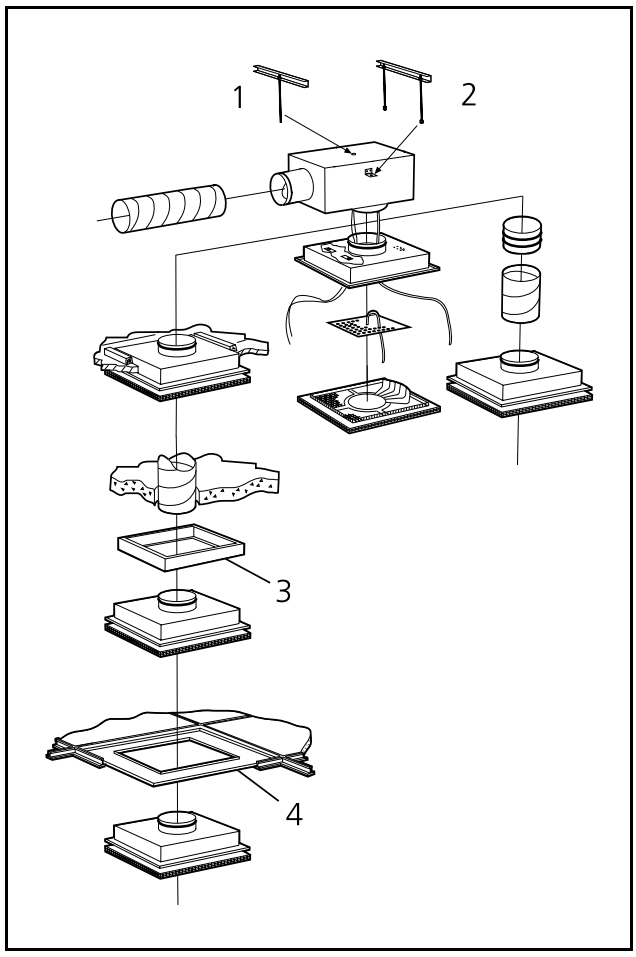


Figure 2. *Installation PMT.*
1 = Alternative 1
2 = Alternative 2
3 = Frame SAR K
4 = Cassette plate KAS

COMMISSIONING (See Figure 2)

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 through our website.

MAINTENANCE (See Figure 2)

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 out of the lateral grooves. The measurement plate is removed by rotating through a ¼ revolution. When the ALS plenum box is used, the distribution plate is pulled 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

- Sound level dB(A) applies to rooms of 10 m^2 equivalent absorption area.
- Throw $l_{0.2}$ is measured under isothermal conditions.
- Recommended maximum under temperature is 12°C.
- For calculating the width of the airstream, air velocities in the zone of occupation or sound levels in rooms with other dimensions, please refer to our selection software ProAir and ProAc, which are both available on our webiste.

Sound data - PMT + ALS - Supply air

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

Size PMTd + ALSc	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
100	10	10	7	0	-5	-7	-15	-19
125	13	10	7	0	-5	-8	-17	-19
160	14	11	5	-1	-3	-7	-17	-19
200	14	11	5	-1	-3	-8	-17	-19
250	12	8	4	2	0	-10	-22	-23
Tol. ±	2	2	2	2	2	2	2	2

Sound attenuation ΔL (dB)
Table ΔL

Size PMTd + ALSc	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
100	19	14	11	17	24	15	13	15
125	18	14	10	16	23	15	14	15
160	15	9	9	20	19	15	16	14
200	13	8	10	19	16	13	16	16
250	12	5	9	20	13	13	14	17
Tol. ±	2	2	2	2	2	2	2	2

Sound data - PMT + ALS - Exhaust air

Sound power level L_w(dB)
Tabble K_{OK}

Size PMTd + ALSc	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
100	11	11	8	-2	-8	-7	-13	-23
125	13	12	8	-3	-6	-5	-15	-23
160	15	14	7	-6	-6	-7	-20	-26
200	18	13	5	-4	-4	-7	-18	-25
250	13	10	3	-1	0	-5	-18	-25
Tol. ±	2	2	2	2	2	2	2	2

Sound attenuation ΔL (dB)
Table ΔL

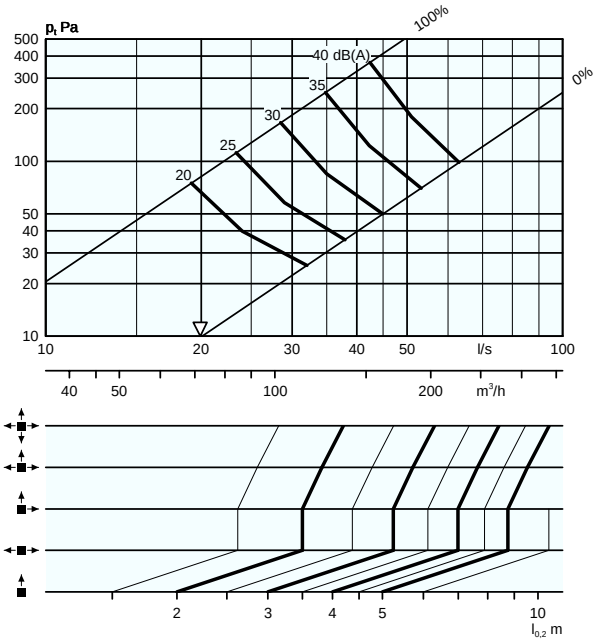
Size PMTd + ALSc	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
100	19	14	11	17	24	15	13	15
125	18	14	10	16	23	15	14	15
160	15	9	9	20	19	15	16	14
200	13	8	10	19	16	13	16	16
250	12	5	9	20	13	13	14	17
Tol. ±	2	2	2	2	2	2	2	2

Engineering graphs - PMT + ALS - Supply air

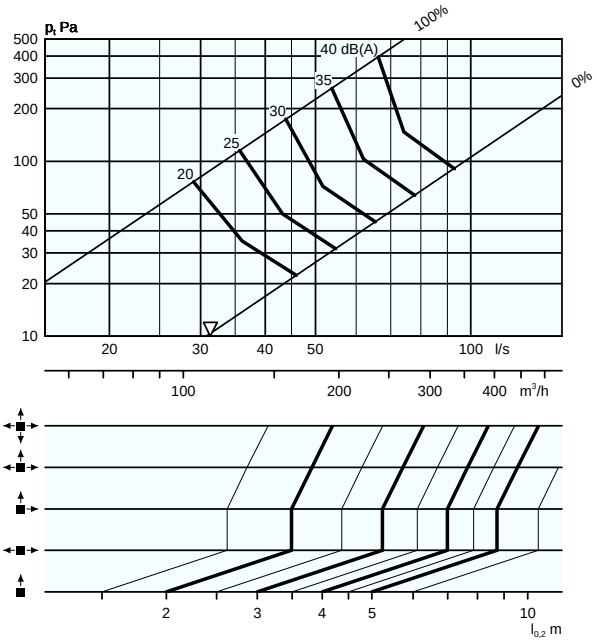
Air flow - Pressure drop - Sound level - Throw

- The graphs illustrate data for a ceiling-mounted diffuser.
- The graphs must not be used for commissioning.
- ∇ = min. airflow to obtain sufficient commissioning pressure.
- The dB(A) values are for rooms with normal acoustic absorption of 4 dB and a volume of 30 m^3.
- 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.

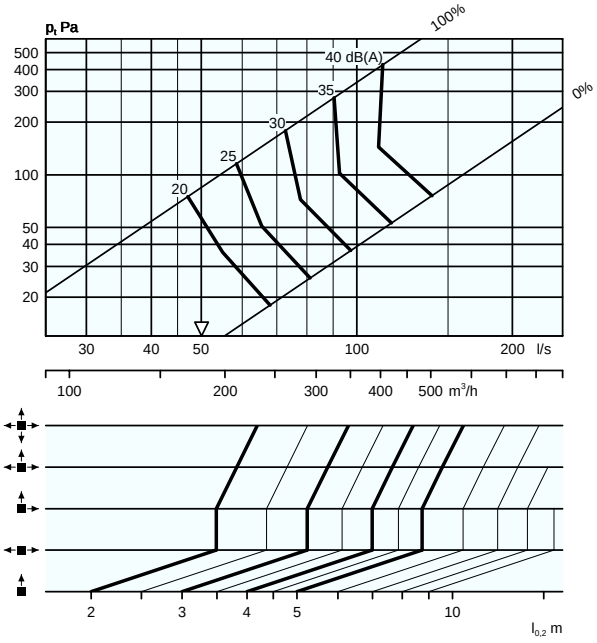
PMTd 100 + ALSc 100-160, Supply air



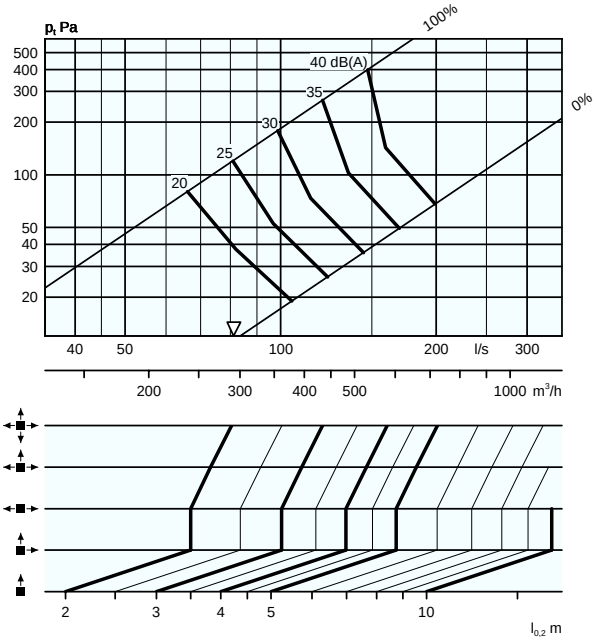
PMTd 125 + ALSc 125-200, Supply air



PMTd 160 + ALSc160-250, Supply air



PMTd 200 + ALSc 200-315, Supply air

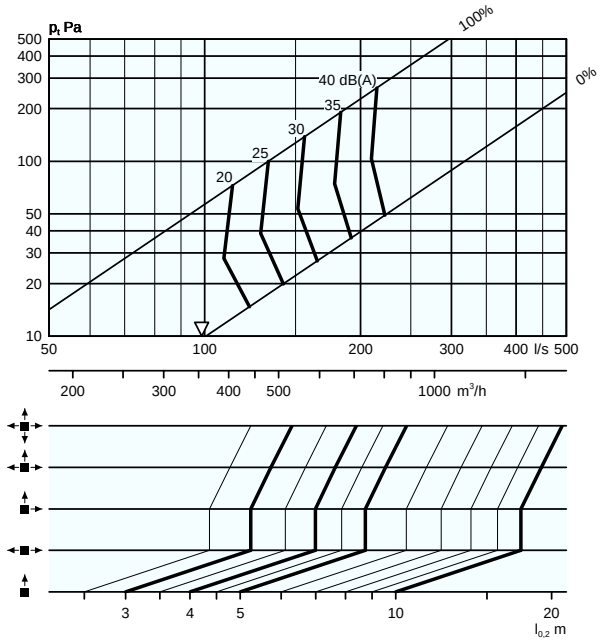


Engineering graphs - PMT + ALS - Supply air

Air flow - Pressure drop - Sound level - Throw

- The graphs illustrate data for a ceiling-mounted diffuser.
- The graphs must not be used for commissioning.
- ∇ = min. airflow to obtain sufficient commissioning pressure.
- The dB(A) values are for rooms with normal acoustic absorption of 4 dB and a volume of 30 m^3.
- 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.

PMTd 250 + ALSc 250-315, Supply air

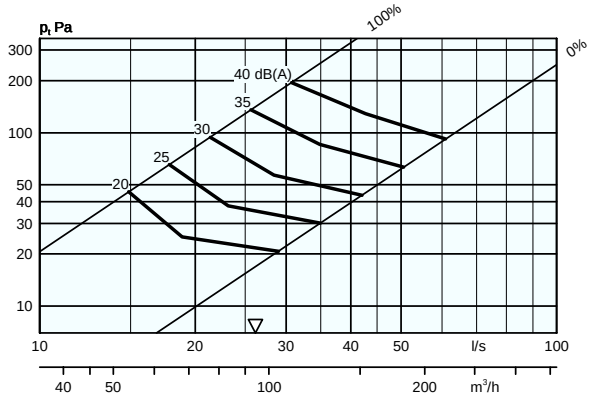


Engineering graphs - PMT + ALS - Exhaust air

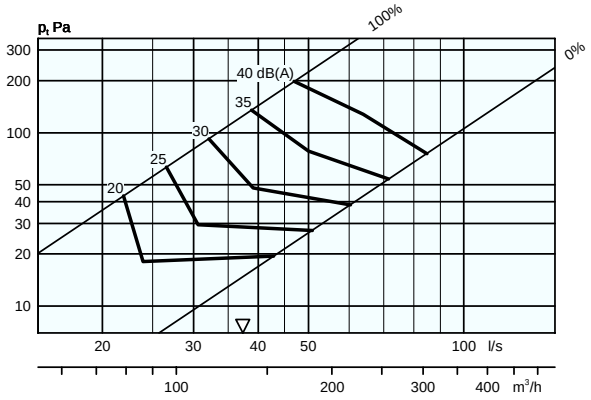
Air flow - Pressure drop - Sound level - Throw

- The graphs illustrate data for a ceiling-mounted diffuser.
- The graphs must not be used for commissioning.
- ∇ = min. airflow to obtain sufficient commissioning pressure.
- The dB(A) values are for rooms with normal acoustic absorption of 4 dB and a volume of 30 m^3.
- 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.

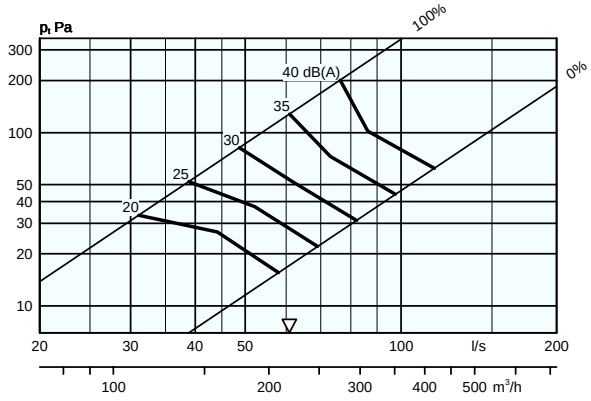
PMTd 100 + ALSc 100-160, Exhaust air



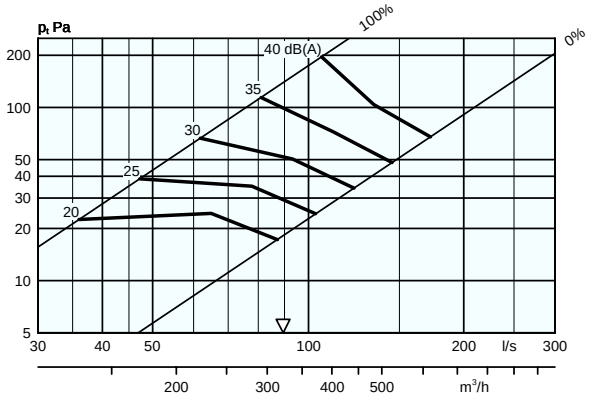
PMTd 125 + ALSc 125-200, Exhaust air



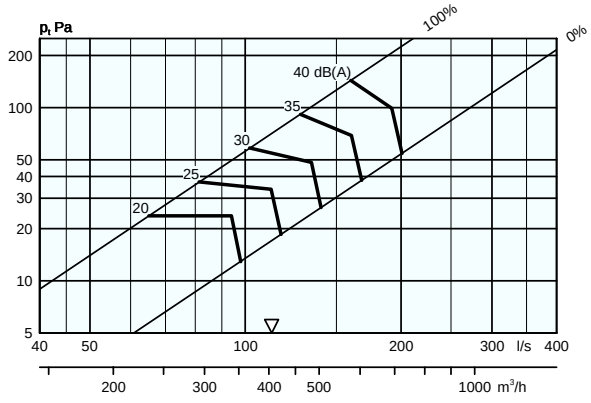
PMTd 160 + ALSc 160-250, Exhaust air



PMTd 200 + ALSc 200-315, Exhaust air



PMTd 250 + ALSc 250-315, Exhaust air



DIMENSIONS AND WEIGHT

PMTd + ALSc

Size	A	B	C	ØD	Ød	E
100	300	342	252	99	160	218-248
125	400	404	288	124	200	242-272
160	400	504	332	159	250	277-307
200	500	622	388	199	315	317-347
250	600	622	388	249	315	378-408

Size	F	G	H	I	K	Weight,kg
100	180	156	320	255	80	4,5
125	204	168	360	355	80	6,5
160	239	186	455	355	100	7,5
200	279	206	560	455	120	11,0
250	340	231	587	555	145	14,0

Hole-making size = I x I

Frame SARa K

Size	L	Weight,jkg
100	295	1
125	395	1
160	395	1
200	495	1
250	595	1

Cassette panel KASa

Size	N
100	255
125	355
160	355
200	455

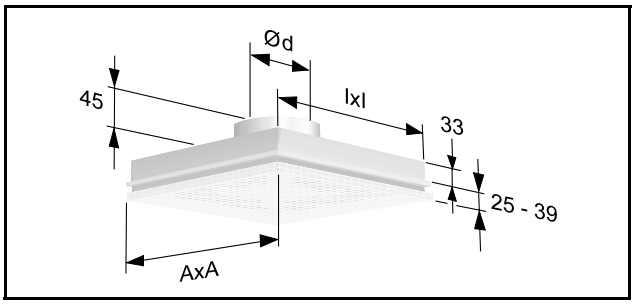


Figure 3. *PMT.*

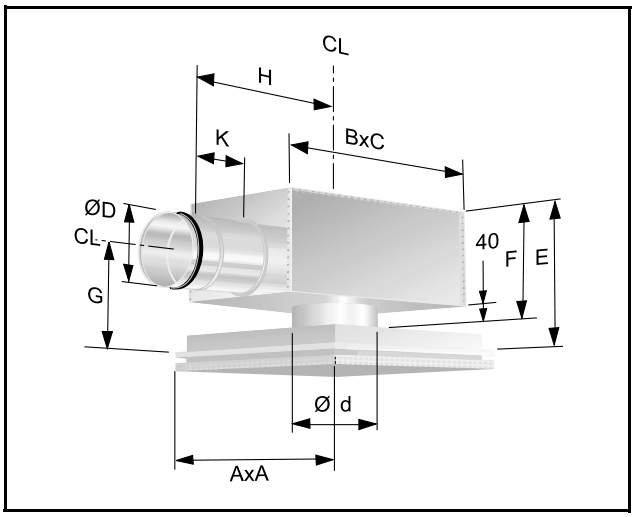


Figure 4. *PMT + ALS.*

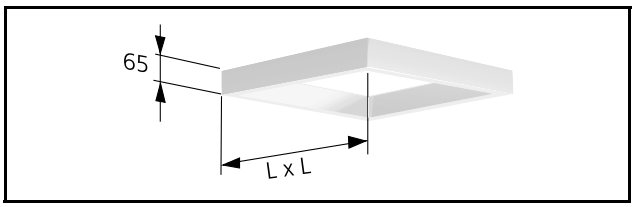


Figure 5. *Frame SAR K.*

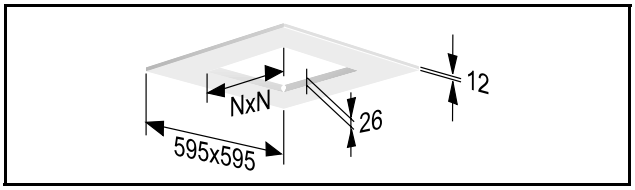


Figure 6. *Cassette panel KAS.*

ORDER KEY

Product designation

Square perforated ceiling terminal for supply and exhaust air	PMTd	-aaa
Size: 100, 125, 160, 200, 250		

Accessories

Plenum box			ALSc	-aaa - bbb
For PMTd	100:	ALSc	100-160	
	125		125-160	
	160		160-200	
	200		200-315	
	250		250-315	

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

Cassette panel			KASa	-aaa-bbb-ccc
For size:	100:	595-595-255		
	125	595-595-355		
	160:	595-595-385		
	200:	595-595-485		

SPECIFICATION EXAMPLE

SD XX

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

- Flexible spread pattern, adjustable on-site
- Removable commissioning damper with lockable adjuster
- Measurement function with low method error
- Internal acoustic lining with reinforced surface layer
- Cleanable
- Powder-coated in white

Accessories:

Frame:	SARa K aaa	xx items
Cassette panel:	KASa aaa - bbb - ccc	xx items
ize:	PMTd aaa with ALSc aaa-bbb	xx items