

## Information

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## Preface

Air conditioning is not always uncontested but it is certain that it cannot be waived in modern living.

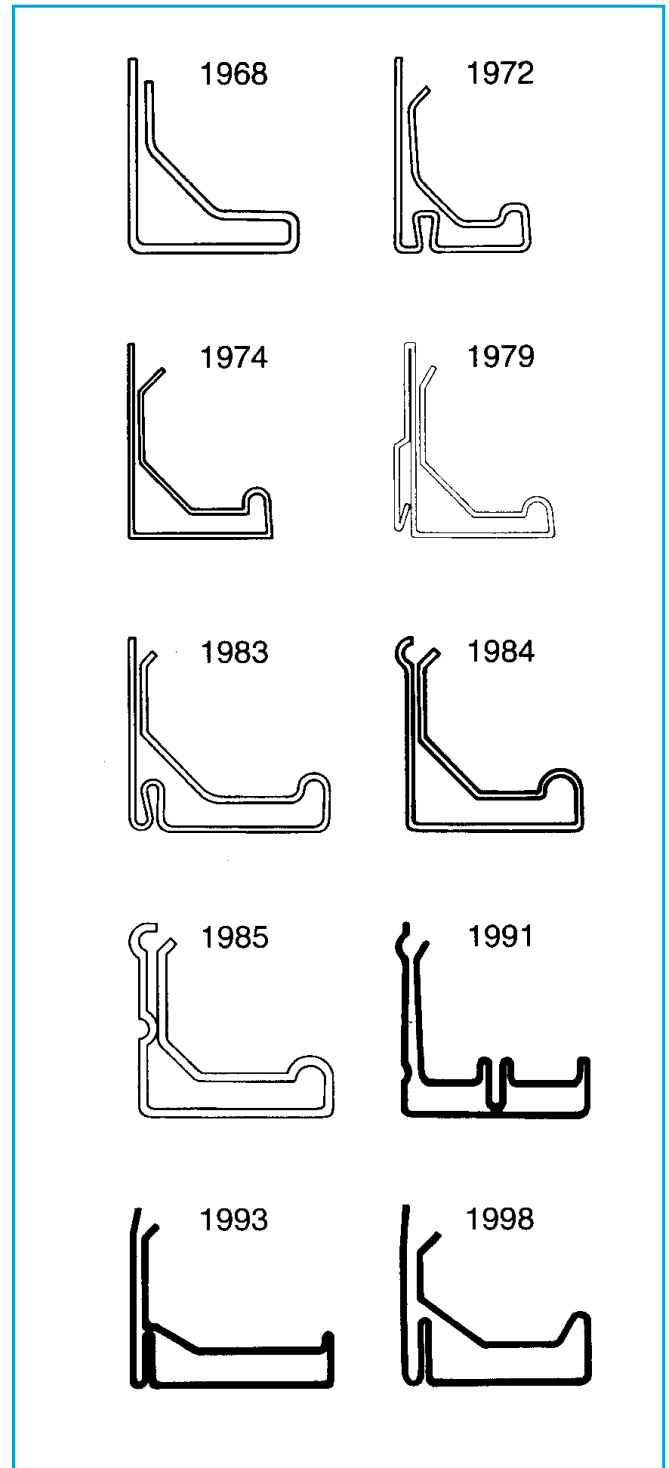
This is especially true for many industrial enterprises where the production would not be possible without ventilation systems.

### Evolution

Rectangular and circular duct systems play a substantial part in ventilation systems for buildings. The connection of rectangular and circular ducts has always been a major topic. The connection must be tight and stable, the assembly must be timesaving.

These requirements persuaded Georg Mez to reconsider the conventional duct connections (flat and angle steel, air-duct slide and clamp strips) which have been used in many buildings since 1968.

A system of profiles to connect ducts has been developed according to the latest knowledge of fixedness and tightness. This system offers an economically and technically ambitious MEZ-FLANGE®-solution for every type of use.



## Who we are

No matter if you are talking about evolution, application technology, organisation or logistics: Our working style is concentrated on the task, co-operative and supporting.

We count on the creativity of each employee and the increase within the group. The top priority at MEZ-TECHNIK is the mutual pursuit of the best solution for the customer.

### Our guide lines

As a modern, world-wide operating company our actions are based on firmly anchored principles. Two of them are:

#### **Best service possible for our customers**

We engage ourselves in the rationalisation of duct work construction. Therefore we offer methods and services. We consider everyone constructing or installing air duct systems a potential counterparts as we can help them with our services to fulfil their tasks economically and with a high quality level. Thus we offer our customers permanently a high gain.

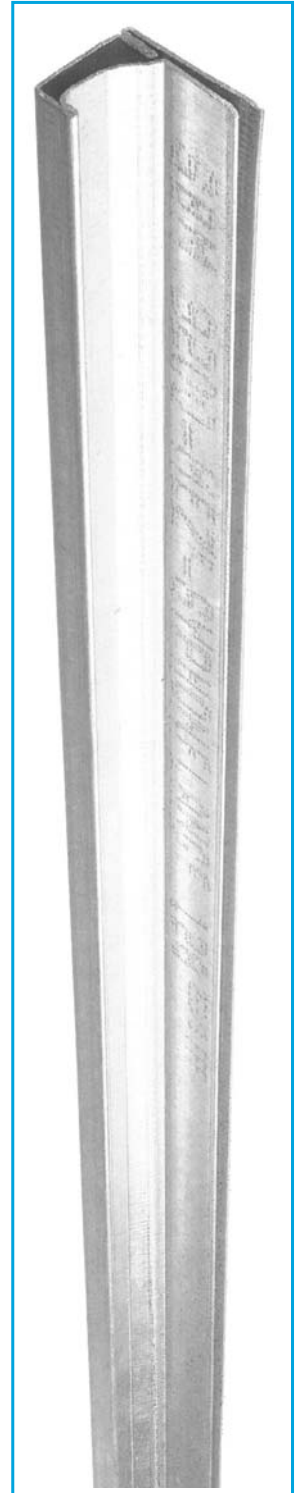
#### **Pursuit of outstanding performance**

We are working continuously on improvements and technical progress to increase the grade of rationalisation for our customers. This is effective for our products and the application technology similarly.

According to our experience the best solution for the customer is a plain one. Therefore all our developments have to fulfil the following terms:

- **Plain** Handling in next to no time
- **Fast** To reduce labour costs
- **Secure** Concerning occupational safety and performance quality
- **Economical** Universality - applicable with system

With this permanent pursuit of outstanding performance in areas of our company we want to be always one step ahead of the competition and a long-term valuable partner for our customers.



## Four screw connection

The advantage of this invention is the fact that the duct needs to be bolted together in the four corners only. The MEZ-FLANGE® profile is stressed so as to provide uniform pressure over the entire length of the joint. This already ensures a good mechanical tightness.

The rational and economical processing of the MEZ-FLANGE® is not only guaranteed during duct production but also during installation of the complete system. Ducts which are produced with the MEZ-FLANGE® can be assembled timesaving and plain through the four bolt connection.

### State-of-the-art technology

One of the main topics at MEZ-TECHNIK is to supply products for the world market which fulfil a high pretension of quality and to stand up to the more and more central problem of saving material, energy and time.

### Choosing the correct MEZ-FLANGE®

All MEZ-FLANGE® systems are manufactured in three sizes:

#### MEZ-FLANGE® SYSTEM 20

For small duct cross-sections and low operational pressure

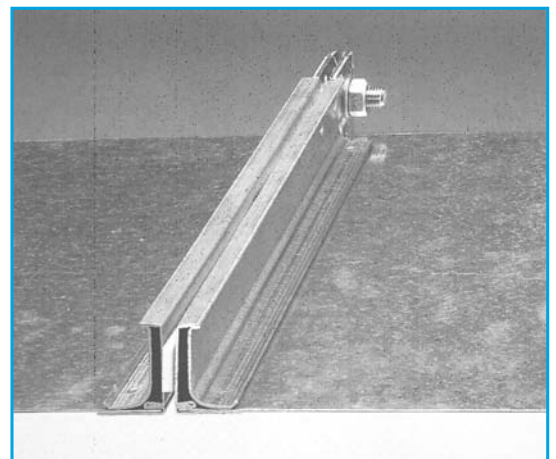
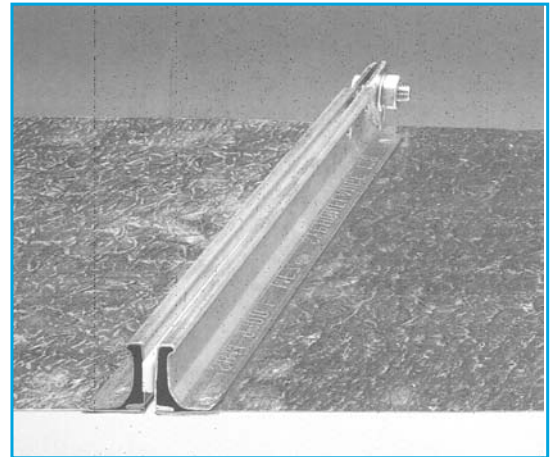
#### MEZ-FLANGE® SYSTEM 30

For all duct cross-sections with low and middle operational pressure

#### MEZ-FLANGE® SYSTEM 40

For big duct cross-sections and high operational pressure

The manufacturer recommends certain standards to install the correct MEZ-FLANGE® system.



## Stability in comparison

The solidness of the MEZ-FLANGE® profiles compared to angle steel.

SYSTEM 20 - 0,80 mm / Angle steel 20x20x3 mm

SYSTEM 20 - 1,00 mm / Angle steel 20x20x4 mm

SYSTEM 30 - 1,00 mm / Angle steel 30x30x3 mm

SYSTEM 30 - 1,25 mm / Angle steel 30x30x4 mm

SYSTEM 40 - 1,25 mm / Angle steel 40x40x4 mm

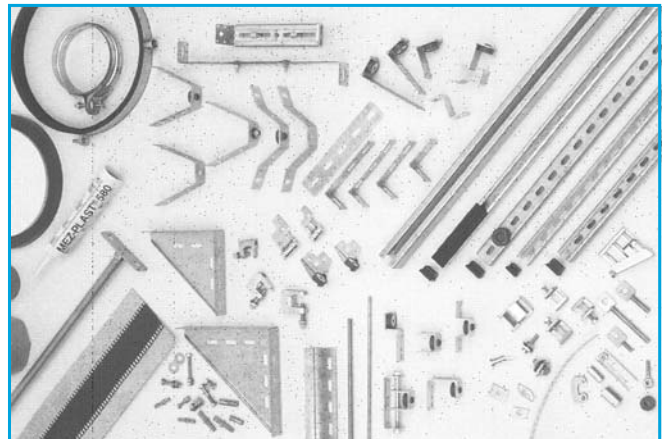
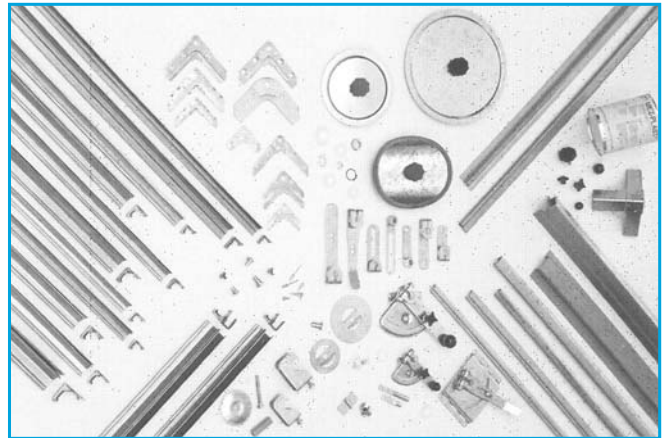
### Production programme

Thanks to the experience of many years we were able to build up much know-how for the benefit of our customers. Knowing well the problems of the branch we developed under permanent improvement a broad delivery programme for the economical production of rectangular ducts that fulfils almost every requirement.

### Assembly programme

The MEZ-TECHNIK assembly programme is the subsequent supplement to the MEZ-FLANGE® system. This means practical relevant solutions for the safe and easy use in different appliances. We can offer you an economical solution for almost every task in the field of duct assembly.

maximum length of edge in mm	Pressure (Pa)					
	200	400	600	800	1000	1200
< 500				System 20		
500 to 1.000			System 20			System 30
1.000 to 1.600			System 30			
1.600 to 2.500			System 30			System 40
> 2.500			System 40			



## Wall density of ducts

Most companies use sheet steel as material. It is easy to treat and the coefficient of friction is low. Generally the used sheet steel is between 0,50 and 2,00 mm thick, for special requirements up to 3 respectively 4 mm are used.

The ducts of row 0 and 1 are predominantly used for aeration, row 2 for sucking off and to free from dust, the rows 3 and 4 are determined for gas-proof and dust-proof duct systems.

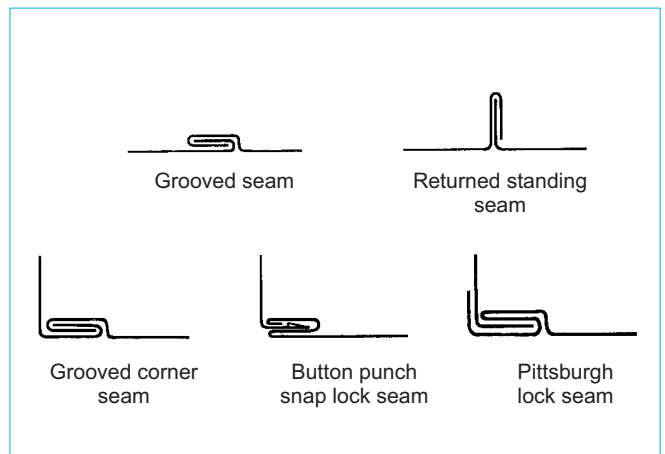
The operational pressure mentioned for the different rows are in principle recommended for pollution-free air. If other, i.e. aggressive or wearing dust containing, materials appear under identical pressure thicker duct walls are necessary.

### Seam connections

The common seam connections for rectangular ducts are button punch snap lock seam, Pittsburgh lock seam, grooved corner seam and returned standing seam.

If the sheet steel is thicker than 1,5 mm a seam connection can no longer be accomplished. The longitudinal seams are then autogenous or electrical welded or rived with returned standing seam.

Nominal width	Sheet metal ducts				
	lengthwise bend accord. DIN 24 157 sheet			lengthw. bend acc. DIN 24 156 sheet	
	1	2	3	3	4
	For operating pressure mm WS				
up to 63	up to 160	up to 250	up to 400	up to 1.000	
	series			series	
	0	1	2	3	4
100 to 250	0,50	0,63	0,75	1,25	2,00
280 to 500	0,63	0,75	0,88	1,50	2,50
560 to 1.000	0,75	0,88	1,00	2,00	3,00
1.120 to 1.400	0,88	1,00	1,13	2,50	4,00
1.600 to 2.000	-	1,00	1,13	2,50	4,00
2.240 to 2.500	-	1,3	-	-	-



### Leakage of duct systems

The optimum tightness of duct systems is a must nowadays. Leak rates can lead to high energy losses. The MEZ-FLANGE® system helps you to save valuable energy.

### On the test stand

The MEZ-FLANGE® system has proved its tightness and deflection in different test of the following institutes

- Germany     DIN 24194
- Great Britain   DW 142 / Tm1
- USA           SMACNA



## Tightness classes

At the moment four tightness classes are applicable for the construction of rectangular ducts which can be differentiated as follows:

### Tightness class I

for duct systems with normal requirements. Seamed ducts for garages, workshops and gymnasiums (for plain inlet and exhaust air systems). These ducts are manufactured without additional sealing.

### Tightness class II

for ducts with elevated requirements. Seamed ducts for conference rooms, auditories, offices, standard areas in hospitals, laboratory inlet air, conveyor ducts for rooms of room class I and II. These ducts have to be sealed particularly. This results in a higher effort compared to tightness class I.

### Tightness class III

for ducts with extraordinary elevated requirements. Seamed ducts i.e. for pollution-free zones or hospitals (room class I and II). Sealing is necessary for seamed ducts in any case. Hereby the effort is increased compared to tightness class III.

### Tightness class IV

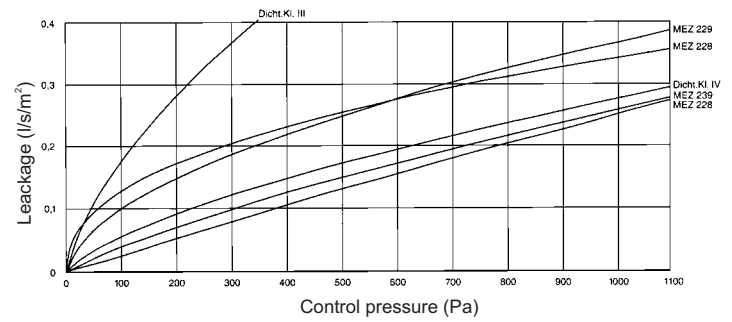
for ducts with highest requirements. Ducts for nuclear facilities, isotope and radiation areas. The effort for the sealing is higher compared to tightness class III. Leakage can be reduced by additional cementing of longitudinal seams and profiles.

Tightness class	Duct system	Allowable leakage in $\frac{\text{m}^3}{\text{s} \cdot \text{m}^2}$ at a control pressure of <sup>Ⓢ</sup>			Remarks
		200 Pa	400 Pa	1.000 Pa	
I	with normal requirements	-	-	-	for ducts form F
II	with elevated requirements	$0,84 \cdot 10^{-3}$	$1,32 \cdot 10^{-3}$	$2,4 \cdot 10^{-3}$	for ducts form F
III	with extraordinary elevated requirements	$0,28 \cdot 10^{-3}$	$0,44 \cdot 10^{-3}$	$0,8 \cdot 10^{-3}$	for ducts form F and form S
IV	with highest requirements	$0,093 \cdot 10^{-3}$	$0,15 \cdot 10^{-3}$	$0,27 \cdot 10^{-3}$	mainly for ducts form S

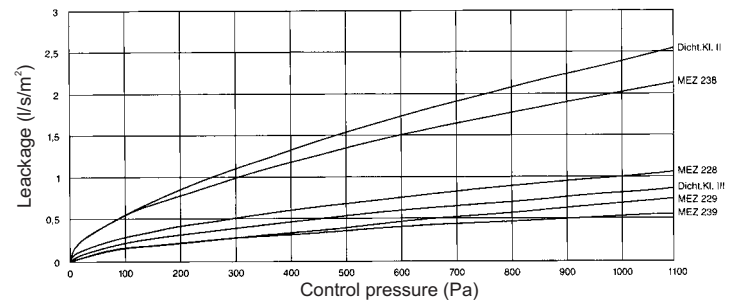
<sup>Ⓢ</sup> Static pressure difference between inside and outside pressure (excess or negative pressure)

## MEZ-SYPHONFLANGE® on the test stand

### Tightness test of ducts according to DIN 24 194 "Sealed" ducts



### Tightness test of ducts according to DIN 24 194 "unsealed" ducts



## MEZ-SYPHONFLANGE®

The all-round talent  
for the duct industry



## Information around the clock

- At **www.mez-technik.com** you can find the latest information concerning MEZ-TECHNIK and the products.
- Besides information there is also the possibility to send an inquiry or order products online.
- Recurrent orders can be handled easily: Based on the last orders you only have to adjust the quantities to send the new order.
- Security was very important when building the shop. All data is sent by encoded mail and during the visit of the shop the connection between the customer's browser and the MEZ-TECHNIK online shop is secured by so called SSL encryption.
- To be able to order through our online shop and use all of its functions you have to register one time. Enter **www.mez-technik.com** and click on shop and follow the link Login / registration. After filling the form you will receive - for security reasons by fax - your personal login and password.
- In the shop you will find the complete catalogue and a short manual.

