



**AIR TECHNOLOGIES CO.**

**شركة تقنيات الهواء لصناعية**

**1**

**Company Profile**

# airtech

EXPERTISE IN HANDLING AIR  
شركة تقنيات الهواء للصناعة

+966 11 277 0770

[www.airtechgulf.com](http://www.airtechgulf.com)

105167, Riyadh, 11646, ksa



Expertise in Handling Air



## GREETINGS LETTER

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Greetings to all of you .

Thank you to all our customer who visit Airtech Duct Factory

Manufacturing should not be misleading. Airtech that always pursues fast, accurate, and safe construction to a high degree will take the lead in the duct industry of Saudi Arabia and Region with solid technology and corporate culture which are faithful to the basics .

In a rapid changing economic environment, all employees including CEO with combined efforts can contribute to the development of your precious business through best in class technology and quality. In addition, all of our employees promise to provide the best possible service by taking the responsibility to the end with full commitment .

CEO





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# INTRODUCTION

**AIRTECH** SPECIALIZES IN THE MANUFACTURING AND PRODUCTION OF ALL THE ELEMENTS OF THE AIR DISTRIBUTION INSTALLATION ALONG WITH ALL OF THE ASSOCIATED ENGINEERING SERVICES AND TECHNICAL SUPPORT. WITH FACTORIES IN BOTH THE GULF AND CENTRAL REGIONS OF SAUDI ARABIA AND WITH OVER 250 STAFF AND FABRICATORS, **AIRTECH** CAN SUPPLY OVER 6,000 TONS OF DUCTING AND ACCESSORIES PER ANNUM EQUIPPED WITH STATE OF ART MACHINERY MOSTLY OUT OF THE USA AND TURKEY.

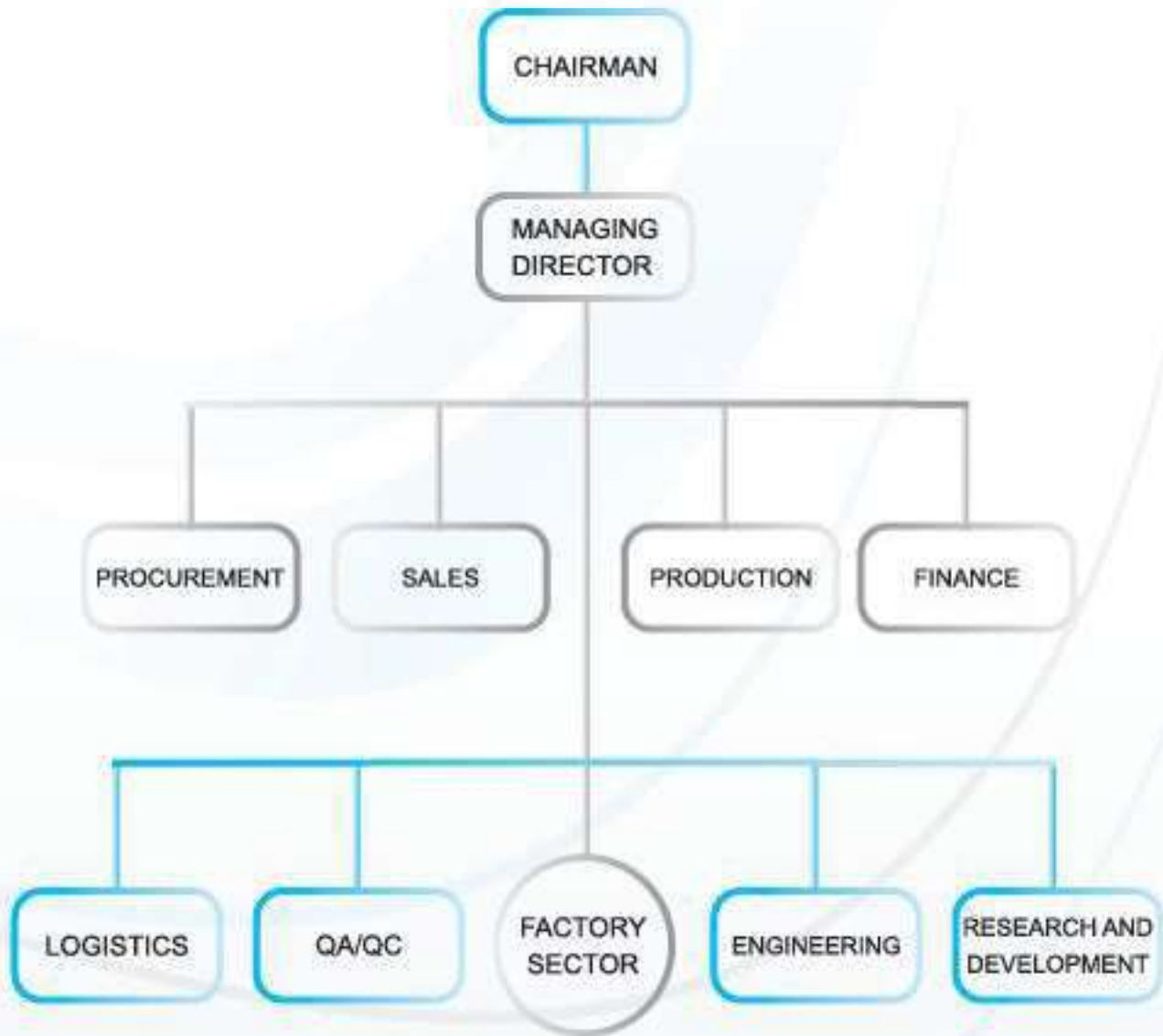
## HISTORY

AIRTECH COMPANY WAS FORMED IN JULY 2010 BY THE CURRENT OWNER OSAMA ALBARRAK. IN THIS TIME THE BUSINESS HAS SEEN A STEADY GROWTH AND IS NOW ONE OF THE WELL-KNOWN SPECIALIST FACTORIES IN GULF AND THE REGION.

## SECTORS

- COMMERCIAL
- RESIDENTIAL
- HEALTHCARE
- RETAIL
- EDUCATION
- HOTELS & THE LEISURE INDUSTRY
- TRANSPORT



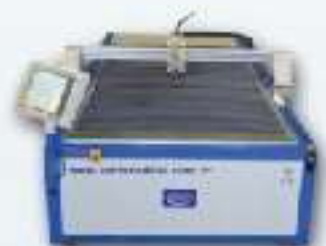


# MANUFACTURING

WE HAVE OVER 5,000 SQM. OF MANUFACTURING SPACE AT INDUSTRIAL ISTANBUL AREA. OUR INVESTMENT IN THE LATEST TECHNOLOGIES AND OUR ACCREDITATION TO ISO ENSURES OUR COMMITMENT TO QUALITY CONTROL AND CONSTANT IMPROVEMENT. THIS ALSO GUARANTEES THAT THE MOST EFFECTIVE SOLUTION MEETS OUR CLIENT ASPIRATIONS.

ALL PROJECTS ARE TRACKED THROUGHOUT THE MANUFACTURING PROCESS, SO AN ASSURANCE OF QUALITY IS ACHIEVED AND DELIVERED RIGHT UP TO COMPLETION.

AT AIRTECH CO. WE PRIDE OURSELVES ON OUR QUICK TURNAROUND GUARANTEE ENSURING DUCTWORK ITEMS ARE DELIVERED TO WITHIN THE AGREED TIME SCHEDULE PROVIDED TO OUR VALUED CLIENTS







RECTANGULAR  
DUCTWORKS



ROUND AND FITTINGS



GRILLES AND DIFFUSERS



COMBINATION FIRE  
SMOKE DAMPER



MANUAL VOLUME  
DAMPER



MOTORIZED VOLUME  
DAMPER



FIRE DAMPERS



SOUND ATTENUATORS



PLENUM BOXES



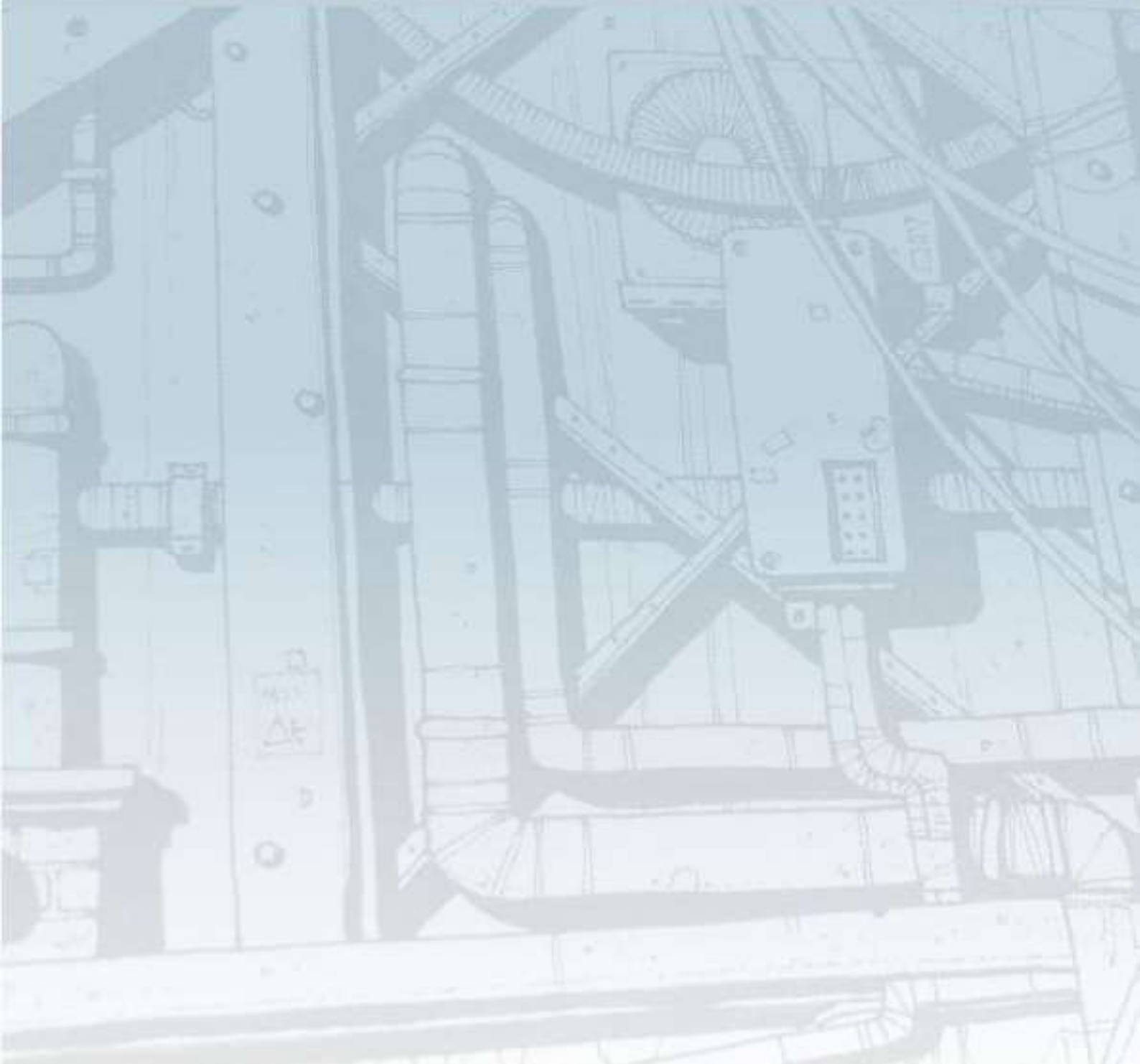
FLEXIBLE DUCT



PRESSURE RELIEF  
DAMPER

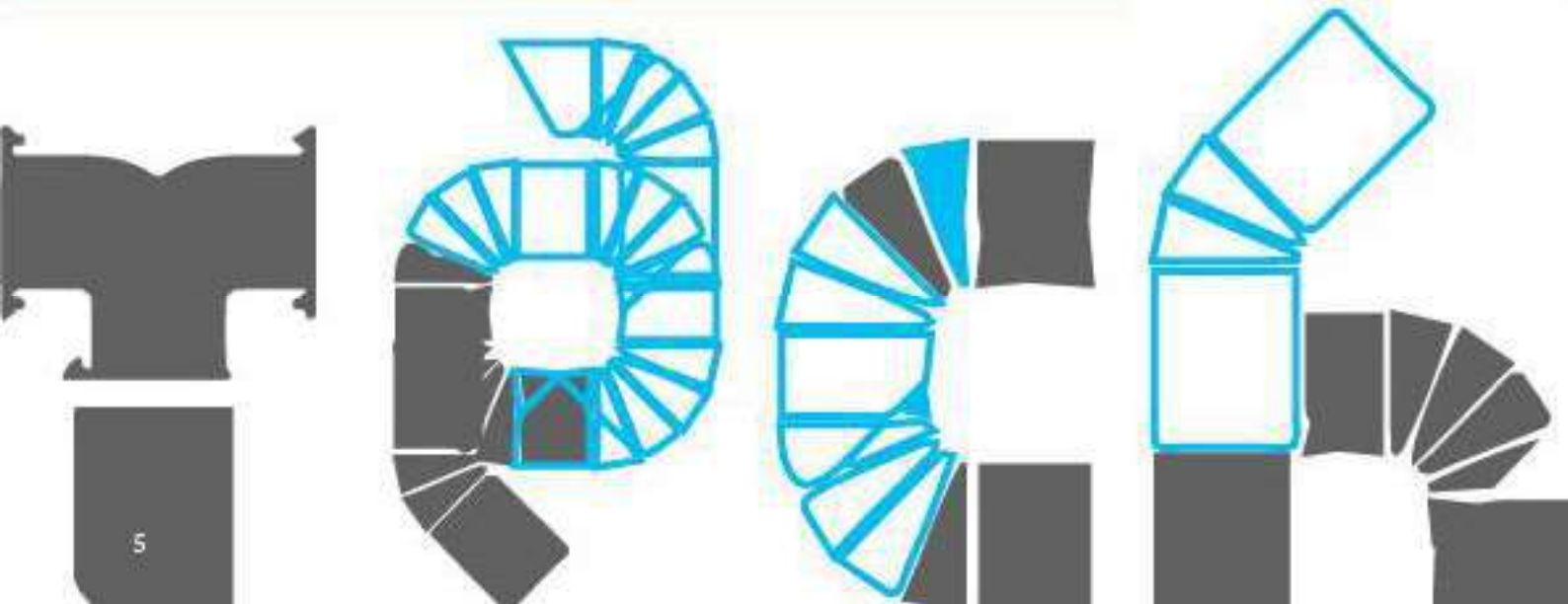


ROUND VOLUME  
DAMPER.



# PROJECTS ACHIEVED

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## Projects Achieved - Strip Malls

Project Name : Jood Center – Exit21- – Riyadh .  
Client/Owner Name : Al Saedan Co-Affordable House .



Project Name : Al Ghadeer Square – Exit5- - Riyadh  
Client/Owner Name : Unified Real Estate Co.

## Projects Achieved - Strip Malls

Project Name : Danat Plaza – Hafr Albatin  
Client/Owner Name : DANAT Realty Co.



Project Name : Rakaa Plaza .  
Client/Owner Name : Rakaa Holding .

Project Name : Al Amana Hospital.  
Client/Owner Name : Atkom for Contracting .



Project Name : Medical City Jeddah  
Client/Owner Name : Latifya Group

## Projects Achieved - Universtiy & Hotel

Project Name : Imam University  
Client/Owner Name & Tel : Student Lobby- Fozan



Project Name : Radisson Blu  
Client/Owner Name : RAK Contracting

## Projects Achieved - Compound

Project Name : Onayza Residential Compound  
Client/Owner Name : KPR International Co.



Project Name : Manazel Qurtoba2- Batch-1- Riyadh  
Client/Owner Name : Al Argan Homes

## Projects Achieved - Sec Head & Apartment

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Project Name : SEC HEAD QUARTER  
Client/Owner Name : CLEVEN CONTRACTING CO



Project Name : Intour Jizan Apartments  
Client/Owner Name : Energy Contracting Co



**Project Name : Housing Project Riyadh**  
**Client/Owner Name : Al Amaan Co**



**Project Name : Sono Villa - Riyadh**  
**Client/Owner Name : Naser Al Qodaiby**

## Projects Achieved - Apartment

Project Name : Executive five stars Apartments  
Client/Owner Name : Al Hossami Contracting Co.



Project Name : Jeddah Lamar Towers  
Client/Owner Name : Atkans Construction Co.



# Resource & Development

AIRTECH HAS BECOME SYNONYMOUS WITH QUALITY, TECHNICAL EXPERTISE AND INNOVATION IN THE DESIGN OF MECHANICAL ENGINEERING AND AIR CONDITIONING.

WITH EXPERIENCE SPANNING MULTIPLE SECTORS, WE HAVE THE ABILITY TO PROVIDE THE NO HOW TECHNICAL-  
LY TO THE ENVIRONMENTAL AND GEOGRAPHICAL COMPLEX PROJECTS.

IN HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION (HVAC&R) OUR BEST PRACTICE PROCESSES, OUR EXPERIENCED PROFESSIONAL TEAM AND OUR DEVELOPMENT AND ADOPTION OF THE LATEST TECHNOLOGICAL INNOVATIONS ENSURE THAT WE DELIVER A FIRST-RATE SERVICE OR PRODUCT TO OUR CUSTOMERS, ON TIME, EVERY TIME.

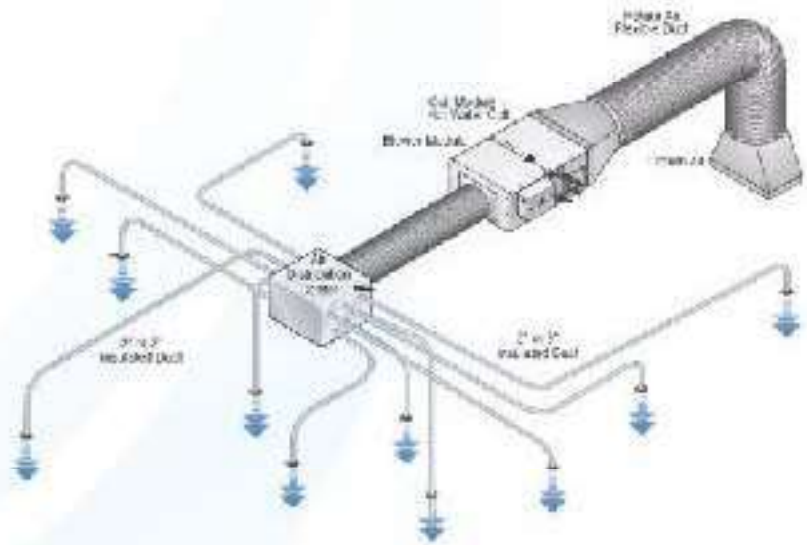
WE AIM TO BE AT THE FOREFRONT OF THE DESIGN AND DELIVERY OF SUSTAINABLE, COST EFFECTIVE AND ENERGY EFFICIENT SOLUTIONS. WE ACTIVELY SEEK OUT ALLIANCES WITH ORGANIZATIONS AND PROJECTS THAT ARE COMMITTED TO REDUCING THE IMPACT OF HVAC&R SYSTEMS ON THE ENVIRONMENT, WHICH IN TURN ALLOWS US TO EXPAND OUR KNOWLEDGE AND EXPERIENCE IN INNOVATIVE TECHNOLOGY.

SPECIALIZING IN THE DESIGN, CONSTRUCTION AND MAINTENANCE OF HVAC SYSTEMS ALLOWS HADEN TO TAKE A 'WHOLE OF LIFE VALUE' APPROACH TO THE RETROFIT AND REFURBISHMENT OF RELIABLE, ENERGY EFFICIENT SYSTEMS USING THE LATEST TECHNOLOGY AND DELIVERY METHODOLOGIES.



DURING A PROJECT TO EVALUATE THE MERITS OF THE SHOP STANDARDS VERIFICATION PROGRAM, THE HVAC INDUSTRY REQUIRES TO DESIGN THEIR DUCT SYSTEM ACCORDING TO INTERNATIONAL STANDARDS SUCH AS SMACNA AND DW STANDARDS.

MOREOVER, THE DUCT SYSTEMS MUST COMPLY WITH PROJECT SPECIFICATION TO ENSURE THAT THE DESIGN TESTED AND WITNESSED WITH 3RD PARTY INSPECTION COMPANIES SUCH AS ISO, UL, AMCA ETC



International Organization for Standardization

bsi.

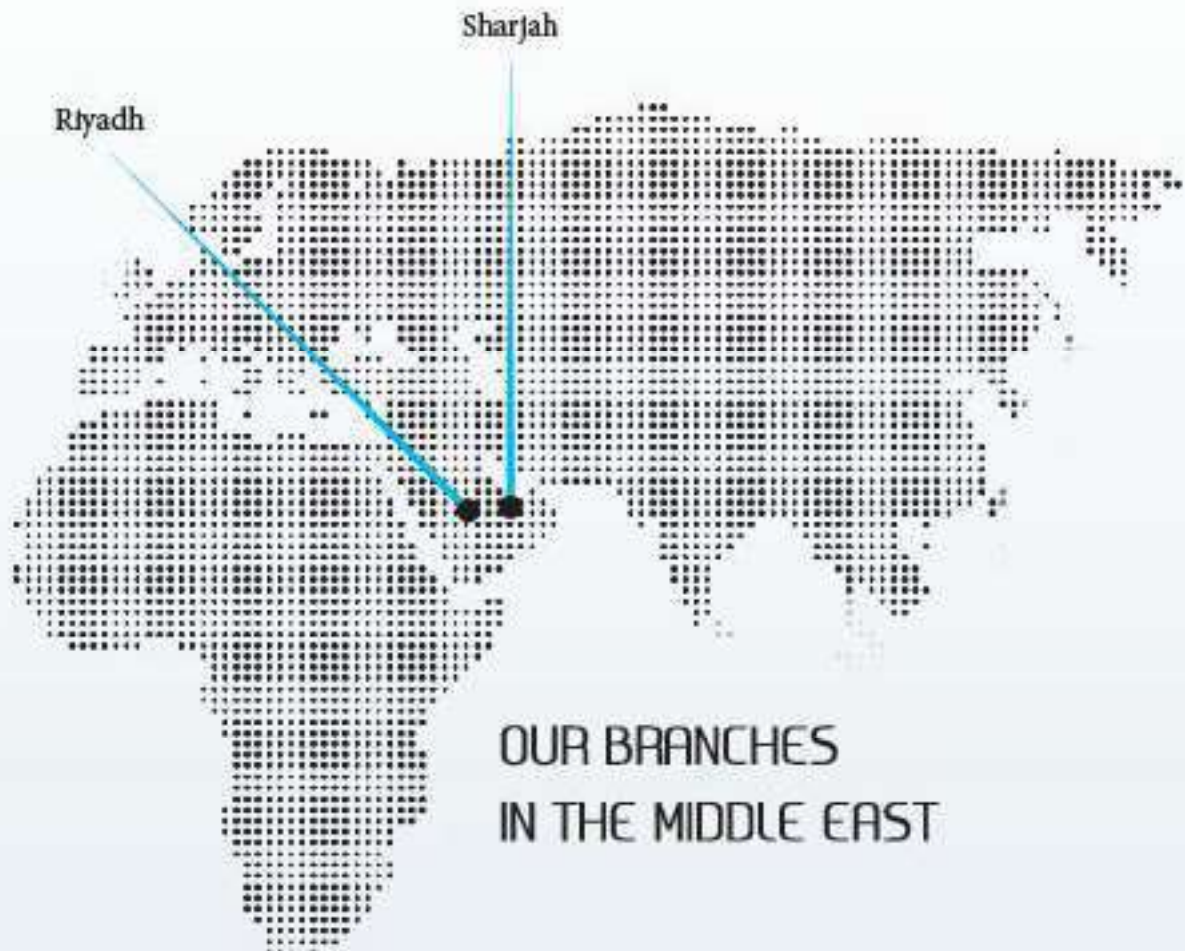


# LOCATION

## Our Head Factory Map



KINGDOM OF SAUDI ARABIA - INDUSTRIAL AREA - ISTANBUL STREET - AGILITY COMPANY - AL MASHAEL AREA



**2**

**Pre-qualifications**



# Pre-Qualification

## A. Certificates

a. COMMERCIAL REGISTRATION

b. CHAMBER OF COMMERCE

c. INDUSTRIAL LICENSE

d. SAUDIZATION CERTIFICATE

## B. Reference list

## C. Factory Equipment

## D. Product Range

## E. Manpower List





# **Certificates**

- a. Commercial Registration**
- b. Chamber of Commerce**
- c. Industrial License**
- d. Saudization Certificate**

## **Reference list**

# COMMERCIAL REGISTRATION



وزارة التجارة والاستثمار  
Ministry of Commerce and Investment

شهادة تسجيل فرع شركة

رؤية  
2030  
المملكة العربية السعودية  
KINGDOM OF SAUDI ARABIA

الرقم: ١٠١٠٥٢٦١٢٤  
التاريخ: ١٤٣٦/٠٦/٢٨ هـ

اسم الشركة: شركة الجلول الهندسية الذكية للمقاولات شركة شخص واحد  
نوعها: ذات مسؤولية محدودة  
رأس مالها: ٥٠٠٠٠ ريال سعودي  
مركزها الرئيسي: الرياض / حي الحمراء / شارع عبدالله بن رشيدان  
ص ب: ١٠٥١٦ الرمز البريدي: ١٣٢١٧ هاتف: فاكس:  
رقم سجل المركز الرئيسي: ١٠١٠٣٠٩٦٥٠ تاريخه: ١٤٣٢/٠٦/٢٥ هـ مصدره: الرياض

الاسم التجاري: شركة تقنيات الهواء للصناعة  
العنوان: الرياض السلي اسطنبول  
ص ب: ١٠٥١٦ الرمز البريدي: ١١٦٤٦ هاتف: ٢٧٧٠٧٧٠ فاكس:

النشاط: تركيب وتمديد انابيب تكيف الهواء وصيانتها واصلاحها

اسم المدير (رباعيا): دلال وبدان براك الظفيري  
الجنسية: سعودي  
تاريخ الميلاد: ١٣٨٧ هـ مكان الميلاد: العربية السعودي  
رقم السجل المدني: ١٠٤٣٤١٤٢٣٢  
سلطات المدير: حسب ما نص عليه عقد الشركة  
يشهد مكتب السجل التجاري بمدينة: الرياض بأنه تم تسجيل فرع الشركة المذكورة أعلاه بمدينة: الرياض  
وتنتهي صلاحية الشهادة في: ١٤٤١/٠١/٢٢ هـ بموجب الإيصال رقم: ١٤٠٣٥٧٥١ وتاريخ: ١٤٤٠/٠٤/٢٠ هـ

الذم  
مدير السجل التجاري للشركات: عم المحسن بن ابراهيم الجباد  
التوقيع:



# CHAMBER OF COMMERCE

## بيانات الإشتراك في الغرفة التجارية

380304	رقم إشتراك الغرفة
19/03/1440	تاريخ بداية الاشتراك الحالي
22/01/1441	تاريخ إنتهاء الإشتراك

## بيانات السجل التجاري

1010526124	رقم السجل التجاري
شركة تقنيات الهواء للصناعة	الاسم التجاري
فرعي	نوع السجل
195 يوم/أيام	المدة المتبقية في صلاح...
50000 ريال سعودي	راس المال
28/06/1436	تاريخ الاصدار
22/01/1441	تاريخ الانتهاء
قائم	حالة السجل

# INDUSTRIAL LICENSE



رؤية  
2030  
الجمهورية العربية السعودية  
KINGDOM OF SAUDI ARABIA



وزارة الطاقة والصناعة والثروة المعدنية  
المملكة العربية السعودية

مدة الترخيص سنة قابلة للتجديد

رقم الترخيص ٤٠٦٠٠١٠٤١٣ تاريخه ١٤٤٠-٠٤-٢٤ تاريخ الإنتهاء ١٤٤١-٠٤-٢٣

## بيانات المنشأة الصناعية

اسم المنشأة الصناعية شركة تفنيات الهواء للصناعة  
موقع المنشأة الصناعية الرياض  
المدينة: الرياض  
الكيان القانوني ذات مسؤولية محدودة  
البريد الإلكتروني: oalbarrak@iesest.com

## المنتجات

صنع الالات الاخرى متعددة الغراض

٨٤١٨٩٩٩٠٠٦	مجاري تكييف ومستلزماتها
٨٤١٥٩٠٠٠٠٨	مجاري ومدائن التكييف المركزي

صنع منتجات المعادن المشكلة الاخرى غير المصنفة في موضع اخر

٧٦١٦٩٩٣٠٠٧	كواتم حريق خاصة بنظام التهوية والتكييف
٧٦١٦٩٩٣٠٠١٠	فتحات ومجاري تكييف الهواء
٧٦١٦٩٩٣٠٠١	فتحات هواء لاجهزة التكييف من الالمنيوم
٧٣٢٦٩٠٣٠١٣	اكسسوارات مجاري الهواء
٧٦١٦٩٩٣٠٠٢	مجاري هواء لشبكات التكييف المركزي من الالمنيوم
٧٣٢٦٩٠٣٠٠٢	مجاري هواء لاجهزة التكييف المركزي

صنع اجزاء وتوابع ومحركات المركبات ذات المحركات

٨٧٠٨٩٢٠٠٠١	خاتمات صوت لمجاري تكييف الهواء وحوايات معزولة
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وكالة الوزارة لشؤون الصناعة



# SAUDIZATION CERTIFICATE

## شهادة سعودة

تاريخ الإصدار : ١٤٤٠/٧/٦

تاريخ صلاحية الشهادة : ١٤٤٠/١/١

رقم الشهادة : ٣٠٠١٩٠٣٠١٤٦٨١

اسم المنشأة: شركة تقنيات الهواء للصناعة

رقم الملف: ١٩٠٩٠٧٥-١

سجل تجاري: ١٠١٠٥٦٦١٢٤

الصادر من: الرياض

تشهد وزارة العمل والتنمية الاجتماعية بأن المنشأة المذكورة أعلاه حققت نسب التوطين المطلوبة منها..  
ونم منحها هذه الشهادة حسب طلبها

(الشهادة معتمدة من صاحب الصلاحية ولا تحتاج إلى توقيع أو ختم)

تنبيهات:

١ - يمكن التحقق من صحة وصلاحية الشهادة عبر زيارة الرابط: <http://mol.gov.sa/CERT>

٢ - في حال اكتشاف أي عملية تزوير في الشهادة المقدمة تزدو التبليغ عن ذلك بخطاب رسمي لأقرب مكتب عمل.

## **I. PLASMA CUTTING MACHINES**

1. Coil slitting and sheet cutting lines
2. Computerized sheet cutting line
3. Sheet cutter guillotine
4. Circular cutter
5. Dolly shape cutter
6. Shape cutter
7. Computerized plasma cutting & layout



## **II. DUCT FORMING MACHINES**

1. Computerized rectangular duct line
2. Heavy duty spiral duct machine
3. Spiral duct machine
4. Mobile spiral duct machine
5. Spiral Flat oval duct machine
6. Double wall spiral duct line for thermal and acoustic insulation
7. Flexible duct machine
8. Computerized spiral duct machine



### III. BENDING MACHINES

1. Electric bender
2. Press brake
3. Cleat bender
4. Manual bender
5. CNC Press brake



### IV. WELDING MACHINES

1. Spot welding machine
2. Seam welding machine
3. Flange spot welding machine
4. MIG welding machine
5. TIG welding machine
6. Arch welding machine
7. Plasma cutter
8. Stitch welding machine





## V. PUNCHING / DRILLING MACHINES

1. Automatic perforation line
2. Multi-purpose punching machine
3. Bench type drilling machine



## VI. LOCK FORMING MACHINES

1. Pittsburgh-Acme lock machine
2. Radial bend machine
3. Fire damper blade machine
4. Duct flange machine
5. S & drive slip machine



## VII. ROLLING / FOLDING MACHINES

1. Rounding machine
2. Folding machine
3. Beading machine
4. Automatic folding machine
5. Angle flange rounding machine
6. Elbow making machine (Gore locker)



## VIII. PRESSING MACHINES

1. 15 Tons
2. 10 Tons
3. 20 Tons



**I. RECTANGULAR DUCTWORK**



**II. ROUND AND FITTINGS**



**III. GRILLES AND DIFFUSERS**



**IV. COMBINATION FIRE SMOKE DAMPER**



**V. SOUND ATTENUATORS**



**VI. PLENUM BOXES**



**VII. FLEXIBLE DUCT**



**III. PRESSURE RELIEF DAMPER**



**IX. ROUND VOLUME DAMPER**



**X. MANUAL VOLUME DAMPER**



**XI. MOTORIZED VOLUME DAMPER**



**XII. FIRE DAMPERS**





## Manpower List

Employees Data						بيانات الموظفين	
	Employee Name	Profession	Identity	Shifts/اوقات الدوام	المهنة	اسم الموظف	
1	Mohamad Shamen	Supervisor	2431994322	D	مشرف تصنيع	محمد شامين	
5	Mohamad Amer Nasser	Supervisor	2439157740		N	مشرف تصنيع	محمد امير ناصر
2	Omar Yehya Saleh	Duct Fabricator	4124736351	D	مصنع دكت	عمر يحيى صالح	
3	Mohamad Heyouman	Duct Fabricator	2246822510	D	مصنع دكت	محمد هيومان محمد	
4	Mohamad Farouj	Duct Fabricator	412365461	D	مصنع دكت	محمد فاروج	
6	Diyaa Ziya Ataa	Duct Fabricator	2231289267	D	مصنع دكت	ضياء الرحمن زيا عطاء	
7	Mohamad Mula	Duct Fabricator	2259731574	D	مصنع دكت	محمد حفيظ رحمن مولا	
8	Mohamad Makoum	Duct Fabricator	2244486276	D	مصنع دكت	محمد اسلم حسين ماکوم	
9	Mohamad Khoushi	Duct Fabricator	2214161867		N	مصنع دكت	محمد علي خوشي
10	Mohamad Miyah	Duct Fabricator	2468857566		N	مصنع دكت	محمد مياہ
11	Mubarak Rain	Duct Fabricator	2399963699		N	مصنع دكت	مبارك رين
12	Mohamad Ansari	Duct Fabricator	2403536135		N	مصنع دكت	محمد سليم انصاري
13	Akhtar Ansari	Duct Fabricator	2403535038		N	مصنع دكت	اختر انصاري
14	Habibi Manzour	Duct Fabricator	2209434188		N	مصنع دكت	حبيب يول رحمن منظور
15	Dinesh Sah Meghu Sah	Duct Fabricator	2444856641	D	مصنع دكت	دينيش صح معو صح	
16	Shabous	Duct Fabricator	2265412355	D	حداد	شالبوس	
17	Sulaiman Ali	Welder	2356475364	D	حداد	سليمان علي سلامات علي	
18	Mohamad Sabouj	Welder	4155654866		N	حداد	محمد هزروت سابوج
19	Nseer Ali	Welder	2269352734		N	حداد	نصير عمر علي
20	Ramaji Notada	Welder	2335984007	D	حداد	رمجي ياداف نوتادا	
21	Mohamad Ibrahim	Duct Fabricator	2299008330	D	مصنع دكت	محمد احمد امين ابراهيم	
22	Madd Hussein	Duct Fabricator	2446833655	D	مصنع دكت	مد انوار حسين	



## Manpower List

Employees Data						بيانات الموظفين	
	Employee Name	Profession	Identity	Shifts/اوقات الدوام	المهنة	إسم الموظف	
23	Housam Al Sayed	Duct Fabricator	2392394272	D	مصنع دكت	حسام علي محمد السيد	
24	Mohamad Azam Alam	Duct Fabricator	2280207149		N	مصنع دكت	محمد اعظم محمد عالم
25	Kamal Nleef	Duct Fabricator	4148903093	D	مصنع دكت	كمال جبران سلمان نليف	

**Note:**

-All Residential Identification can be provided upon request.

-Rental manpower is available if required



شركة تقنية الهواء الصناعية  
AIR TECHNOLOGIES COMPANY

5

**Product Catalogues- Rectangular  
Ductworks**



# **Rectangular ducts and Fittings**

## **SECTION 3**

We reserve the right to make changes in the dimensions and technical data products due to their continuous improvement

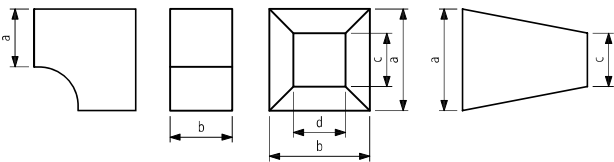
# TECHNICAL INFORMATION

## About the System

We present you a production range of rectangular ducts and fittings.  
 The catalogue includes rectangular ducts and fittings with dimensions as required by the standard: PN-EN 1505:2001 (Straight Rectangular Sheet metal Ventilation Ducts and Fittings), and all standards referenced therein. The area of ventilation ducts and fittings is measured in accordance with DIN 18379 (German Construction Contract Procedures. Part C: General Technical Specifications For Building Works – Room Ventilation Systems). They are used in low and medium pressure building ventilation and air-conditioning systems. Stainless steel or aluminium ducts and fittings can be fabricated on request where better protection against corrosion is needed. We also offer unusual fittings, not included in the catalogue, based on your drawing.

## Dimensions

The nominal dimension, which is conventionally used to identify and calculate straight ducts and fittings, corresponds to the internal dimensions of sides a and b, where a stands for the visible side (see figure 1). The side lengths of the minor end of the transition fitting are identified as c and d, where c stands for the visible side.  
 Dimension L represents the useful length of the straight duct, i.e. a dimension that affects the total length of duct system. Dimension I represents the useful length of the fitting, i.e. a dimension that affects the total length of duct system.



Dimensions of rectangular ducts and fittings are treated as standard from 130 mm to 2500 mm size of any side. Ducts and fittings with a smaller or larger size in relation to the stated subject to a special order. Imposition of the entire surface, and the term of the contract shall be determined on an individual basis.

## Air Tightness

The ventilation ducts are manufactured in two tightness classes as defined in the standards: PN-B-76001 (Ventilation Ducts – Air Tightness, Requirements and Testing) and PN-EN 1507 (Building Ventilation – Straight Rectangular Ventilation Ducts and Fittings – Duct Strength and Air Tightness Requirements): tightness class A: for normal designs – typically; tightness class B: for designs with enhanced air tightness

Air tightness of ducts	Leakage limit ( $f_{max}$ ) $m^2s^{-1}m^2$	Static pressure limits ( $p_s$ ) Pa			
		Negative pressure for all classes	Overpressure for the classes		
			1	2	3
A	$0,027 \times p_{test}^{0,65} \times 10^{-3}$	200	400		
B	$0,009 \times p_{test}^{0,65} \times 10^{-3}$	500	400	1000	2000
C	$0,003 \times p_{test}^{0,65} \times 10^{-3}$	750	400	1000	2000
D*	$0,001 \times p_{test}^{0,65} \times 10^{-3}$	750	400	1000	2000

\*Special purpose ducts

## Design

The rectangular ducts and fittings are designed with slip-fit connections, either welded or button punched. The ducts and fittings are available in low and medium pressure versions (minimum negative pressure/maximum overpressure):

- design class N (low pressure design): it is a standard design ranging from -400Pa to +1000Pa
- design class S (medium pressure design): from -1000Pa to 2500Pa

Deviations and sheet metal thickness are selected based on:

- length of the longer side of the straight duct
- length of the longest side of the connection cross-section of the fitting

The table below shows allowable deviations and minimum sheet metal thicknesses for individual dimensions .

length of the longer side [mm]	allowable deviations of the duct side [mm]	class N	class S
		minimum sheet metal thickness [mm]	minimum sheet metal thickness [mm]
100–500	0–4	0,6	0,7
501–1000	0–4	0,8	0,9
1001–2000	0–4	1	1,1
2001–4000	0–5	1,1	1,2

The rectangular components can be made of other materials, such as acid-proof or aluminium sheet

length of the longer side [mm]	acid-proof sheet	aluminium sheet
	100 - 500	0,6
501 - 1000	0,6	0,8
1001 - 2000	0,8	1,0

# TECHNICAL INFORMATION

## Tolerances and Deviations

For straight ducts, the tolerance of length L is  $\pm 0.005L$   
 Angle tolerance is  $\pm 2^\circ$ .  
 Deviations from values a, b, c, d, e and f range from 0mm to -4mm

Duct dimensions, which include matching cross-section fields  $A_c$ , hydraulic diameter  $d_h$ , equivalent diameter  $d_e$  and duct area per metre A, are shown in table 3.

**Table 3 (below)**  
 Duct dimensions and values as required by the PN-EN 1505 standard (Straight Rectangular Sheet metal Ventilation Ducts and Fittings)..

side length [mm]	100	150	200	250	300	400	500	600	800	1000	1200	
200	0,02	0,03	0,04									$A_c$
	133	171	200									$d_h$
	149	186	218									$d_e$
	0,6	0,7	0,8									$A_l$
250	0,025	0,038	0,05	0,063								$A_c$
	143	188	222	250								$d_h$
	165	206	241	273								$d_e$
	0,7	0,8	0,9	1								$A_l$
300	0,03	0,045	0,06	0,075	0,09							$A_c$
	150	200	240	273	300							$d_h$
	180	224	262	296	327							$d_e$
	0,3	0,9	1	1,1	1,2							$A_l$
400	0,04	0,06	0,08	0,1	0,12	0,16						$A_c$
	160	218	267	308	343	400						$d_h$
	205	255	299	337	373	436						$d_e$
	1	1,1	1,2	1,3	1,4	1,6						$A_l$
500		0,075	0,1	0,13	0,15	0,2	0,25					$A_c$
		231	286	333	375	444	500					$d_h$
		283	331	374	413	483	545					$d_e$
		1,3	1,4	1,5	1,6	1,8	2					$A_l$
600		0,09	0,12	0,15	0,18	0,24	0,3	0,36				$A_c$
		240	300	353	400	480	545	600				$d_h$
		307	359	406	448	524	592	654				$d_e$
		1,5	1,6	1,7	1,8	2	2,2	2,4				$A_l$
800			0,16	0,2	0,24	0,32	0,4	0,48	0,64			$A_c$
			320	381	436	533	615	686	800			$d_h$
			410	463	511	598	675	745	872			$d_e$
			2	2,1	2,2	2,4	2,6	2,8	3,2			$A_l$

## Labelling

Ventech products are furnished with the construction industry's B sign and product codes according to their technical specifications contained in this catalogue.



Rectangular ducts and fittings have the hygiene certificates:  
 a) HK/B/1652/03/2007 for those made of aluminium sheet  
 b) HK/B/1652/01/2007 for those made of galvanised or acid-proof sheet

# TECHNICAL INFORMATION

## Tolerances and Deviations

**Table 3 (cont)**  
Duct Dimensions and Measures

side length [mm]	100	150	200	250	300	400	500	600	800	1000	1200	
1000				0,25	0,3	0,4	0,5	0,6	0,8	1		A <sub>c</sub>
				400	462	571	667	750	889	1000		d <sub>h</sub>
				512	566	662	747	825	965	1090		d <sub>e</sub>
				2,5	2,6	2,8	3	3,2	3,6	4		A <sub>l</sub>
1200				0,36	0,48	0,6	0,72	0,96	1,2	1,44		A <sub>c</sub>
				480	600	706	800	960	1091	1200		d <sub>h</sub>
				614	719	812	896	1049	1184	1308		d <sub>e</sub>
				3	3,2	3,4	3,6	4	4,4	4,8		A <sub>l</sub>
1400				0,56	0,7	0,84	1,12	1,4	1,68			A <sub>c</sub>
				622	737	840	1018	1167	1292			d <sub>h</sub>
				771	871	962	1125	1270	1403			d <sub>e</sub>
				3,6	3,8	4	4,4	4,8	5,2			A <sub>l</sub>
1600				0,64	0,8	0,96	1,28	1,6	1,92			A <sub>c</sub>
				640	762	873	1067	1231	1371			d <sub>h</sub>
				819	925	1022	1195	1350	1491			d <sub>e</sub>
				4	4,2	4,4	4,8	5,2	5,6			A <sub>l</sub>
1800				0,9	1,08	1,44	1,8	2,16				A <sub>c</sub>
				783	900	1108	1286	1440				d <sub>h</sub>
				976	1078	1261	1424	1573				d <sub>e</sub>
				4,6	4,8	5,2	5,6	6				A <sub>l</sub>
2000				1	1,2	1,6	2	2,4				A <sub>c</sub>
				800	923	1143	1333	1500				d <sub>h</sub>
				1024	1131	1323	1494	1650				d <sub>e</sub>
				5	5,2	5,6	6	6,4				A <sub>l</sub>

The area of the cross-section is the product of multiplying the lengths of sides a and b.

The area of the duct is the product of multiplying the internal perimeter and the length of the duct.

Hydraulic diameter: in relation to the rectangular duct, it is a diameter of the round duct at which pressure loss is the same for identical air flow rates and friction factors.

Formula  $d_h = 2 \times a \times b / a + b$ .

Equivalent diameter: in relation to the rectangular duct, it is a diameter of the round duct at which pressure loss is the same for identical air flow rates and friction factors.

# TECHNICAL INFORMATION

## Rigidity

The rectangular ducts and fittings are made more rigid through transverse corrugation of sheet metal. In addition, the ducts are stiffened with galvanised stiffening rods as shown in figure 2.

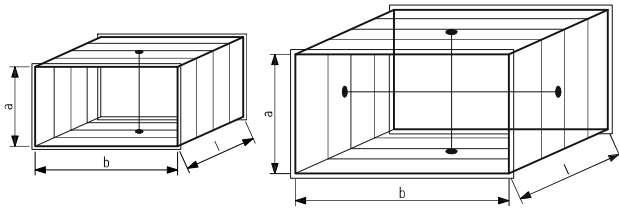


Fig 2

How to increase the rigidity of ventilation ducts is presented in table 4.

**Table 4**

How to increase the rigidity of ventilation ducts with stiffening rods

A (mm)	B (mm)	L (mm)	number of stiffening rods
<1000	<1000	<1000	0
<1000	≥1000	<1000	1
<1000	1000–1500	<1000	2
<1000	1500–2000	1500–2000	4
1000–1500	1000–1500	<1000	one cross
1000–1500	1000–1500	1000–1500	two crosses

The bends and bends are stiffened with turning vanes as required by the PN-EN 1505 standard (Straight Rectangular Sheet metal Ventilation Ducts and Fittings).

Bends are advisable for systems with low flow rates/pressures and smaller side lengths  $a < 400\text{mm}$ . Turning vanes are not required for bends and bends with angles  $< 45^\circ$ .

How to adjust turning vanes is shown in table 5 and figure 3.

## Ventilation Duct Area

The area of rectangular ventilation ducts is measured in accordance with DIN 18379 (German Construction Contract Procedures. Part C: General Technical Specifications For Building Works – Room Ventilation Systems).

The ducts measuring less than 1.0 m<sup>2</sup> in area are classified as fittings with an area of 1.0 m<sup>2</sup>. The fittings measuring less than 1.0 m<sup>2</sup> in area are classified as fittings with an area of 1.0 m<sup>2</sup>.

## Designing



For your ease of designing ventilation systems, an AutoCAD add-on called Wentyle has been developed to support system drawing and calculations. The software is distributed free of charge. Components of the program's database have the same identification codes as in our catalogue.

## Connections

Ventilation ducts are joined together as required by the PN-B-760012 standard (Connections of Sheet metal Ventilation Equipment, Ducts and Fittings). Mounting frames with sheet metal joining profiles and corners are used to connect ventilation ducts with rectangular pieces of duct system. The profile size depends on the length of the side.

How to use mounting frames with rectangular ducts and fittings is shown in table 6.

**Table 5**

How to use mounting frames with ventilation ducts and fittings in standard galvanised sheet metal designs

length of the side [mm]	≤1000	>1000	>2500
profile size	P20	P30	P40

Corners and sealing profiles are sealed with modelling clay.

Acid-proof steel mounting frames and corners are generally used for the acid-proof sheet ducts and fittings, and aluminium mounting frames and corners for the aluminium ducts and fittings.

How to use mounting frames with the ventilation ducts and fittings on standard acid-proof or aluminium sheet designs

length of the side [mm]	≤1000	>1000	>2500
profile size	PQ20	PQ30	PQ30

**Table 6**

Layout of turning vanes as required by the PN-EN 1505 standard (Straight Rectangular Sheet metal Ventilation Ducts and Fittings).

width of duct a [mm]	number of turning vanes	distance between turning vanes [mm]		
		a <sub>1</sub>	a <sub>1</sub>	a <sub>1</sub>
> 400 ≤ 800	1	a/3		
> 800 ≤ 1600	2	a/4	a/2	
> 1600 ≤ 2000	3	a/8	a/3	a/2

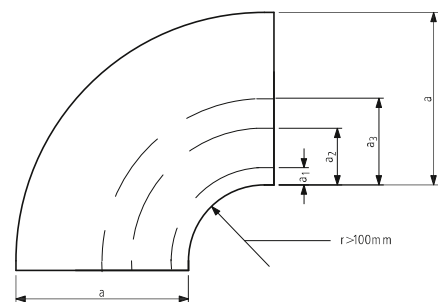
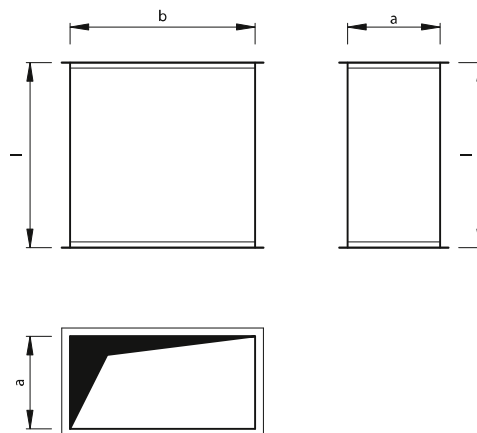


fig 3



## Dimensions



## Description

On its ends the rectangular duct has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. In addition, depending on its size, it is stiffened with galvanised rods. For the purpose of production, transport and installation standardisation, the ducts are fabricated in the following sections:

If  $a$  or  $b < 500$ , then  $L = 1250\text{mm}$

If  $a$  or  $b > 500$ , then  $L = 1500\text{mm}$

## Description

If the duct is to be closed otherwise than with an end cover, please specify the following as your remarks:

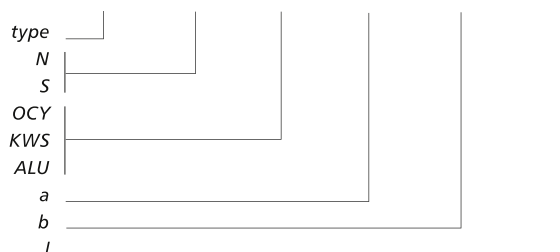
LR – loose end cover

BR – no end cover

Z – end cap

## Example identification

product code **SD - N - OCY - 500 × 300 - 1500**



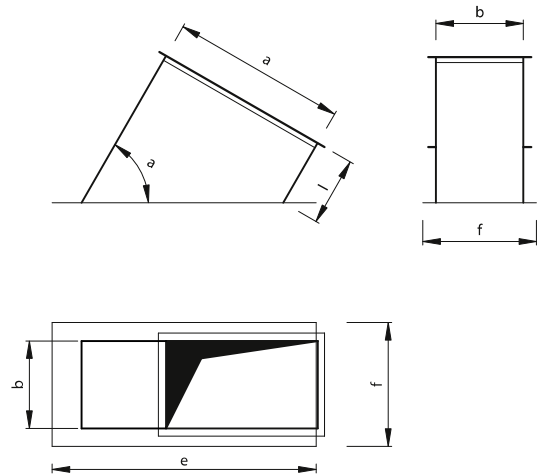
- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a width
- b height
- l length

# Inclined Rectangular Duct

## SD1



### Dimensions



### Description

Inclined rectangular duct of roof hood type, provided on one end with a sheet metal profile. A base of any size can be attached to the other end. The inclination angle of the hood ranges from 90 to 100 degrees, depending on request.

### Example identification

product code SD1 - N - OCY - 500 × 300 - 1500 - 45 - 800 × 500

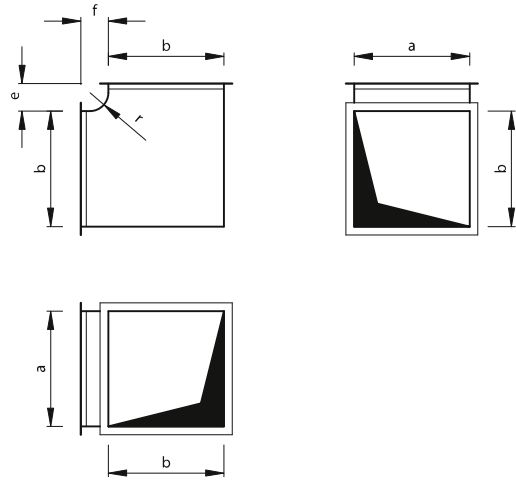


- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a width
- b height
- l length
- a angle
- e dimension of base a
- f dimension of base b

# Bend RD



## Dimensions



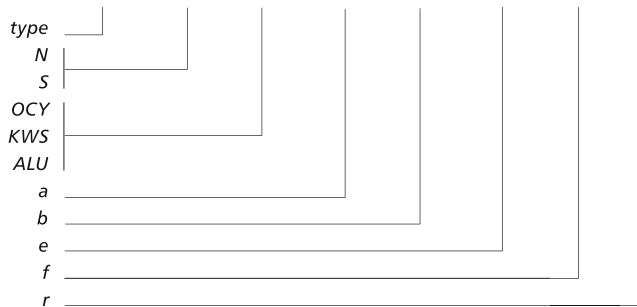
## Description

On its ends the 90° bend has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. Bends are advisable for systems with low flow rates/pressures and smaller side lengths  $b < 400\text{mm}$ . Generally,  $r = 120\text{mm}$ .

An bend is usually used to divert the direction of the duct system by 90 degrees without changing the cross-section of the duct.

## Example identification

product code RD - N - OCY - 500 × 300 - 30 - 30 - 120



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a width
- b height
- e extension (by default,  $e = 150\text{ mm}$ )
- f extension (by default,  $f = 150\text{ mm}$ )
- r radius (by default,  $r = 120\text{ mm}$ )

Only 90° bends are available.  
The components are usually fabricated with standard dimensions, and there is no need to specify them.

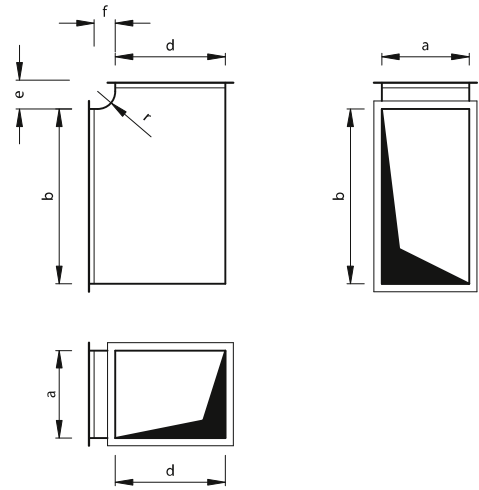


# Variable Cross-Section Bend

## RDC



### Dimensions

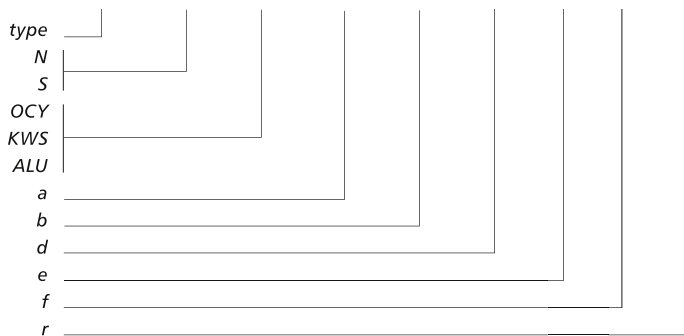


### Description

On its ends the 90° bend has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. Bends are advisable for systems with low flow rates/pressures and smaller side lengths  $b < 400\text{mm}$ . Generally,  $r = 120\text{mm}$ . An bend is usually used to divert the direction of the duct system by 90 degrees while changing the dimensions of the duct.

### Example identification

product code RDC - N - OCY - 500 x 300 - 400 - 30 - 30 - 120



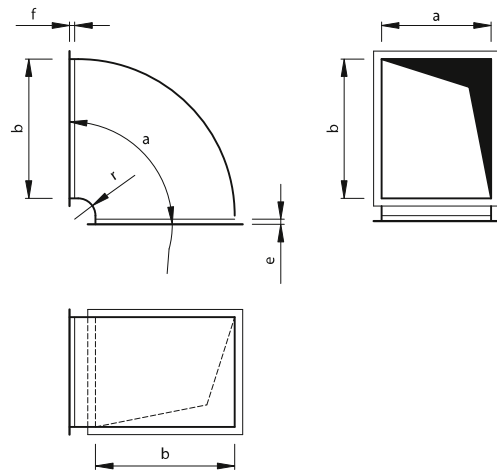
- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a width
- b height
- d extract height
- e extension (by default,  $e = 150\text{ mm}$ )
- f extension (by default,  $f = 150\text{ mm}$ )
- r radius (by default,  $r = 120\text{ mm}$ )

Only 90° bends are available.  
The components are usually fabricated with standard dimensions, and there is no need to specify them.

# Bend RB



## Dimensions



## Description

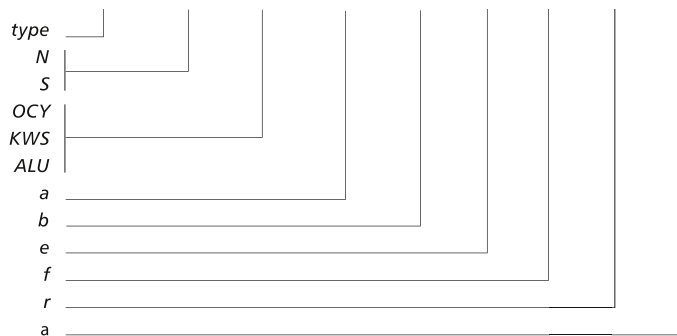
On its ends the standard 90° bend has mounting frames with sheet metal joining profiles, outer and inner corners, and is stiffened with transverse sheet corrugation. Bends are advisable for systems with high flow rates/pressures and greater side lengths  $b > 400\text{mm}$ . Standard radius  $r = 120\text{mm}$ . Standard angle  $a = 90^\circ$ .

## Description

A bend is usually used to divert the direction of the duct system by an angle while maintaining the cross-section of the duct.

## Example identification

product code **RB - N - OCY - 500 × 300 - 30 - 30 - 120 - 90**



- N* low pressure
- S* medium pressure
- OCY* galvanised material
- KWS* acid-proof material
- ALU* aluminium material
- a* width
- b* height
- e* extension (by default,  $e=30\text{ mm}$ )
- f* extension (by default,  $f=30\text{ mm}$ )
- r* radius (by default,  $r = 120\text{ mm}$ )
- a* angle (default angle =  $90^\circ$ )

# Variable Cross-Section Bend

## RBR

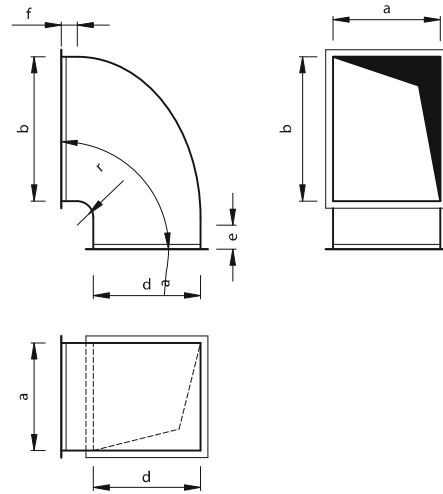


### Description

On its ends the standard 90° bend has mounting frames with sheet metal joining profiles, outer and inner corners, and is stiffened with transverse sheet corrugation. Bends are advisable for systems with high flow rates/pressures and greater side lengths  $b > 400\text{mm}$ .

Standard radius  $r = 120\text{ mm}$ .  
Standard angle  $a = 90^\circ$

### Dimensions

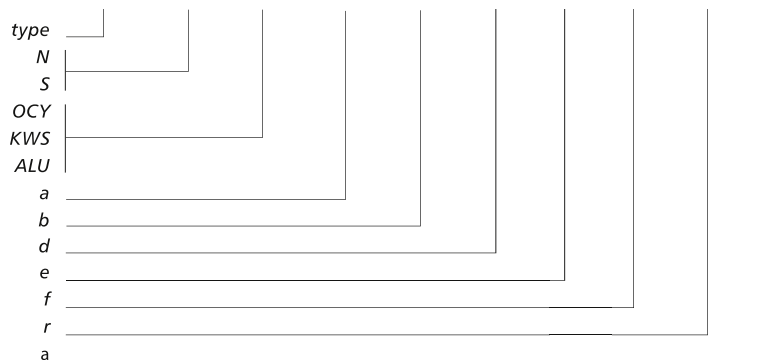


### Description

An Bend is usually used to divert the direction of the duct system by 90 degrees while changing the dimensions of the duct.

### Example identification

product code **RBR - N - OCY - 500 × 300 - 400 - 30 - 30 - 120 - 90**



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a width
- b extract height
- d extract height

- e extension (by default,  $e = 30\text{ mm}$ )
- f extension (by default,  $f = 30\text{ mm}$ )
- r radius (by default,  $r = 120\text{ mm}$ )
- a angle (default angle =  $90^\circ$ )

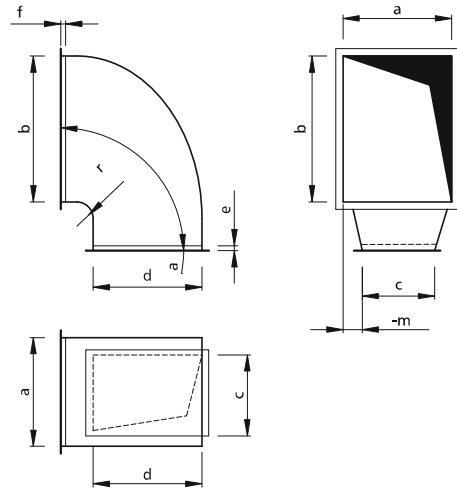
The components are usually fabricated with standard dimensions, and there is no need to specify them.

# Diffuser Bend

## RBR1



### Dimensions



### Description

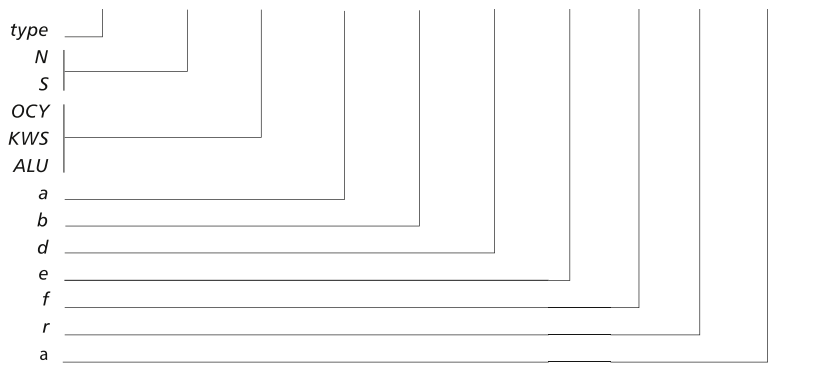
On its ends the standard 90° bend has mounting frames with sheet metal joining profiles, outer and inner corners, and is stiffened with transverse sheet corrugation. Bends are advisable for systems with high flow rates/pressures and greater side lengths  $a > 400\text{mm}$ .  
 Standard radius  $r = 120\text{mm}$   
 Standard angle  $a = 90^\circ$

### Description

An bend is usually used to divert the direction of the duct system by 90 degrees while changing the dimensions of the duct in two planes. No turning vanes are used in diffuser bends. Component reinforcement upon request.

### Example identification

product code **RBR1 - N - OCY - 500 x 300 x 400 - 200 - 30 - 30 - 120 - 90**



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a outlet width
- b extract height
- c outlet width
- d extract height

- e extension (by default,  $e = 30\text{ mm}$ )
- f extension (by default,  $f = 30\text{ mm}$ )
- r radius (by default,  $r = 120\text{ mm}$ )
- a angle (default angle  $= 90^\circ$ )

The components are usually fabricated with standard dimensions, and there is no need to specify them.

# Eccentric Reducer

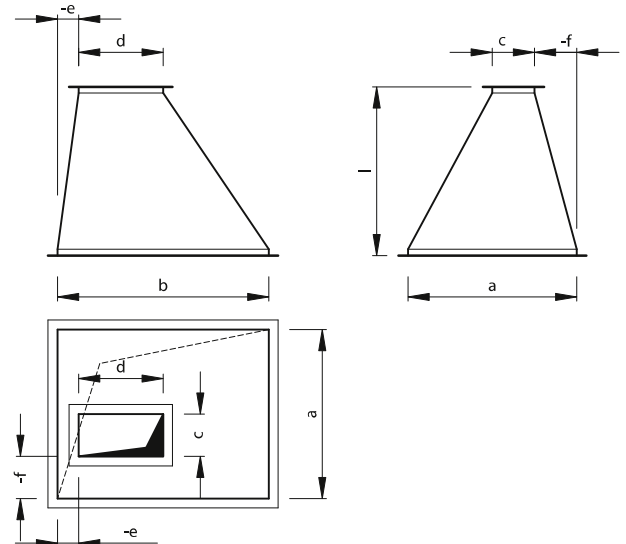
## ER2



### Description

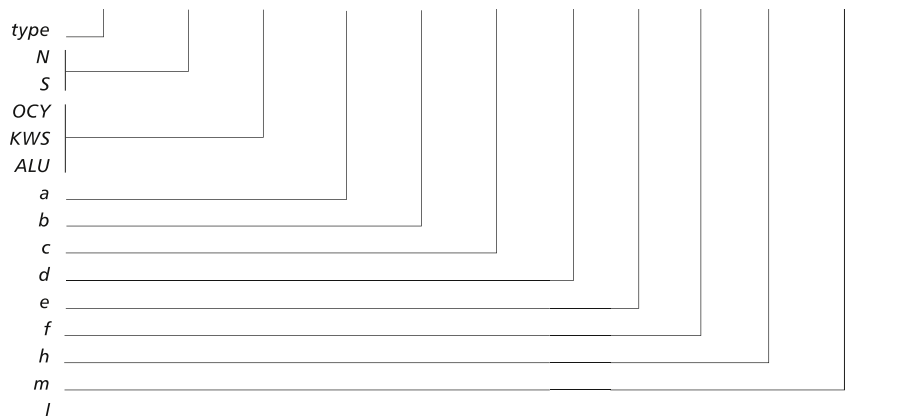
The reducer is used to join two rectangular ducts, each with different rectangular dimensions. On its ends it has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. It enables to design a ventilation system with all dimensions freely changeable and any offset in both directions.

### Dimensions



### Example identification

product code **ER2 - N - OCY - 500 × 300 - 400 × 200 - 30 - 30 - 300 - 300 - 300**



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a inlet width
- b inlet height
- c outlet width
- d extract height

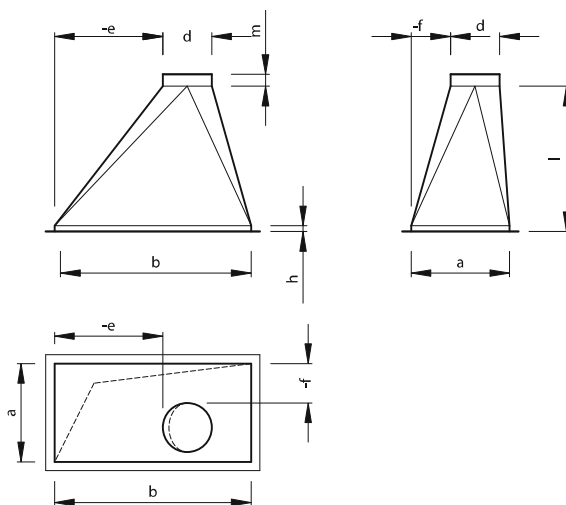
- e vertical shift
- f horizontal shift
- h extension (by default,  $h=30\text{ mm}$ )
- m extension (by default,  $m=30\text{ mm}$ )
- l length

The components are usually fabricated with standard dimensions, and there is no need to specify them.

# TRANS-E



## Dimensions



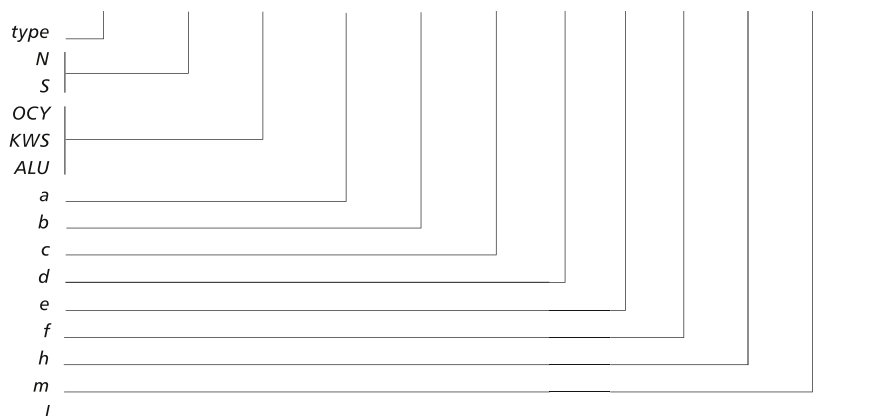
## Description

The conversion is used to change the cross-section of the duct system from rectangular to round. The fitting enables to design a ventilation system with all dimensions freely changeable and any offset in both directions.

The round take-off has usually a male end. The PRL7 fitting comes with a gasketed male end.

## Example identification

product **TRANS-E - N - OCY - 500 × 300 - 250 - 50 - 30 - 30 - 50 - 800 - 300**



- PR7 without gasket
- PRL7 with gasket
- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a width
- b height

- d diameter
- e vertical shift
- f horizontal shift
- h extension (by default, h = 30 mm)
- m extension (by default, m = 50 mm)
- l length

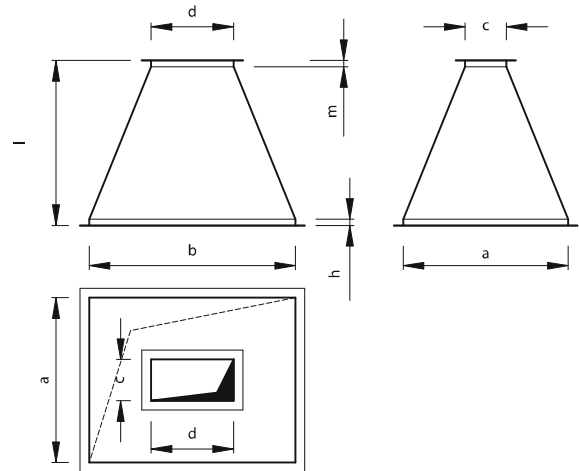
The components are usually fabricated with standard dimensions, and there is no need to specify them.

# Concentric Reducer

## CR6



### Dimensions



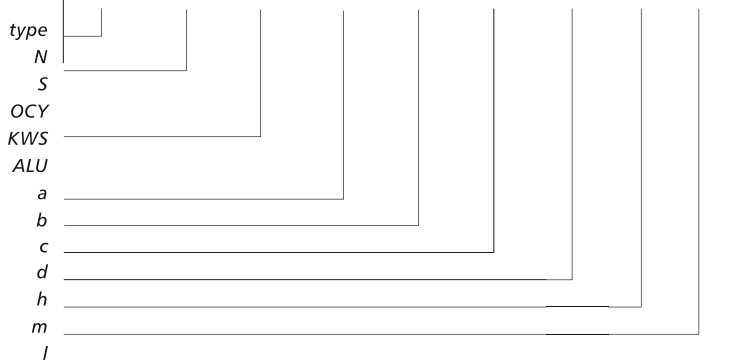
### Description

The reducer is used for joining two rectangular ducts with different dimensions.

On its ends it has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. It enables to design a ventilation system by reducing its cross-section concentrically. The axes of both dimensions match each other.

### Example identification

product code **CR6 - N - OCY - 500 × 300 - 400 × 200 - 30 - 30 - 300**



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a inlet width
- b inlet height
- c inlet passage width

- d inlet height
- h extension (by default, h=30 mm)
- m extension (by default, m=30 mm)
- l length

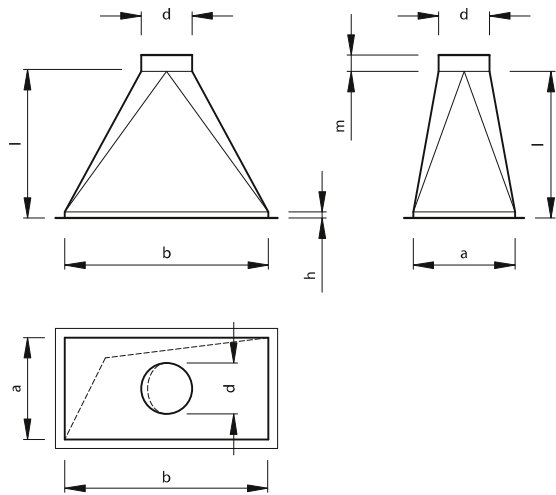
The components are usually fabricated with standard dimensions, and there is no need to specify them.

# Concentric Rectangular-to-Round Reducer

## TRANS-C



### Dimensions

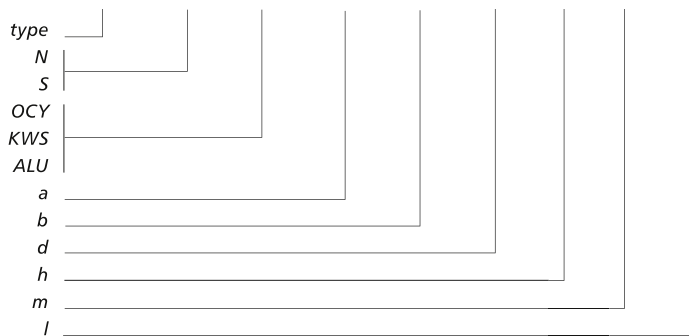


### Description

The conversion is used to change the cross-section of the duct system from rectangular to round. The fitting enables to maintain the concentricity of the duct system, i.e. the axes of the rectangular and the round dimensions match each other. The rectangular take-off is typically provided with an end cover. The round take-off has usually a male end. The PRL1 fitting comes with a gasketed male end.

### Example identification

product **TRANS-C** - N - OCY - 500 × 300 - 250 - 30 - 30 - 800



- PR1 without gasket
- PRL1 with gasket
- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a width
- b height

- d diameter
- h extension (by default,  $h = 30\text{ mm}$ )
- m extension (by default,  $m = 50\text{ mm}$ )
- l length

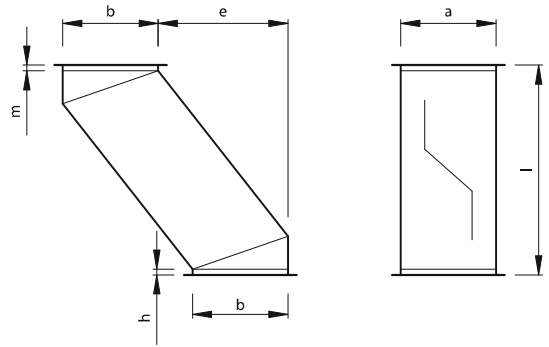
The components are usually fabricated with standard dimensions, and there is no need to specify them.



# Setoff OFFSET



## Dimensions

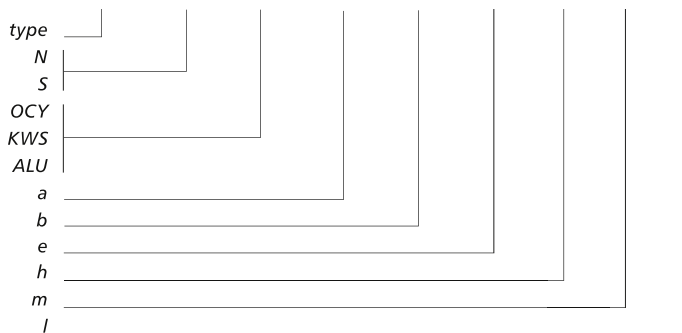


## Description

The variable cross-section offset is used to bypass any obstructions in the ventilation system while changing the height of the duct, e.g. at duct crossings. On its ends it has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. To ensure proper air flow, it is recommended to select appropriate dimensions for length  $L$  and deviation  $e$ .

## Example identification

product **OFFSET - N - OCY - 500 × 300 - 100 - 30 - 30 - 800**



*N* low pressure  
*S* medium pressure  
*OCY* galvanised material  
*KWS* acid-proof material  
*ALU* aluminium material  
*a* width  
*b* height

*e* shift  
*h* extension (by default,  $h = 30\text{ mm}$ )  
*m* extension (by default,  $m = 30\text{ mm}$ )  
*l* length

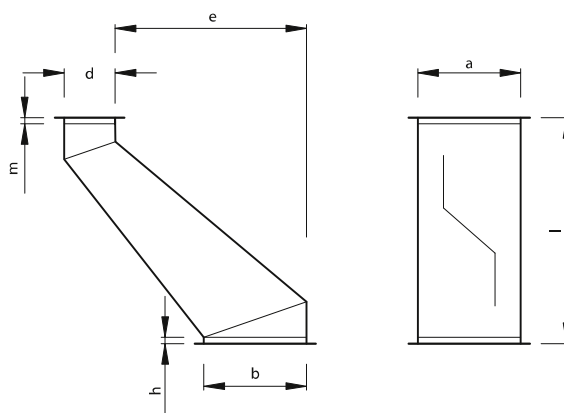
The components are usually fabricated with standard dimensions, and there is no need to specify them.

# Variable Cross-Section Setoff

## OFF-V



### Dimensions

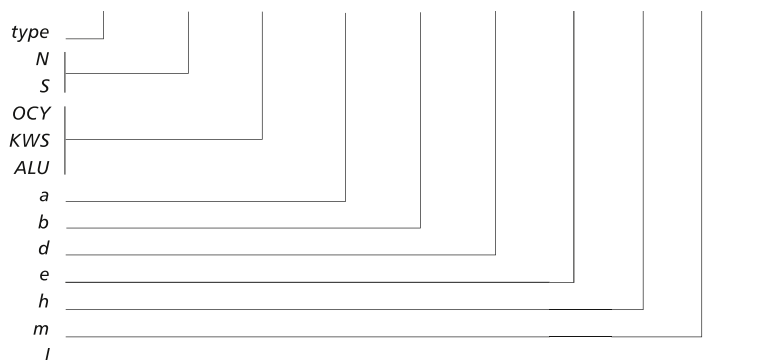


### Description

The variable cross-section offset is used to bypass any obstructions in the ventilation system while changing the height of the duct, e.g. at duct crossings. On its ends it has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. To ensure proper air flow, it is recommended to select appropriate dimensions for length L and deviation e.

### Example identification

product code **OFF-V - N - OCY - 500 × 300 - 200 - 100 - 30 - 30 - 800**



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a width
- b extract height
- d extract height

- e shift
- h extension (by default, h=30 mm)
- m extension (by default, m=30 mm)
- l length

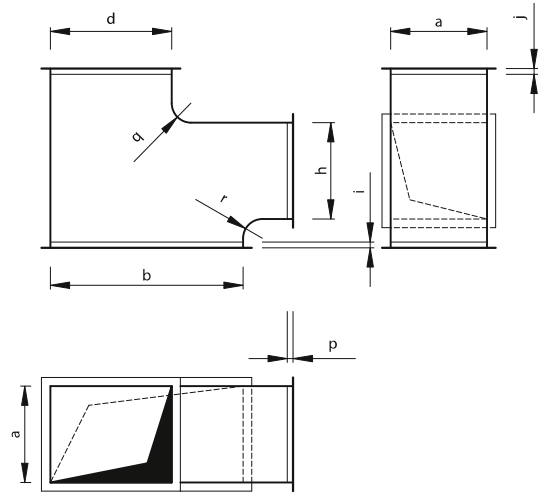
The components are usually fabricated with standard dimensions, and there is no need to specify them.

# Symmetric T-piece

## TR



### Dimensions

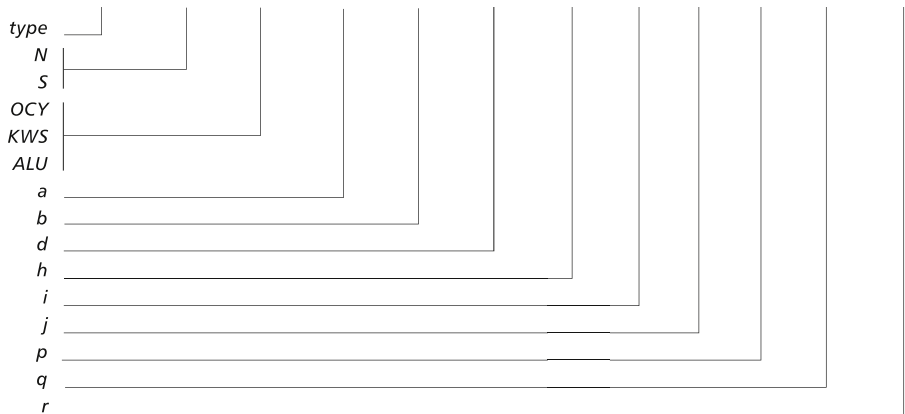


### Description

On its ends the T-piece has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. The fitting enables to design a ventilation system with a 90 degree tap. T-piece height a is fixed.

### Example identification

product code TR - N - OCY - 500 × 300 - 250 - 200 - 30 - 30 - 30 - 120 - 120



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a width
- b inlet height
- d inlet height
- h outlet height

- i extension (by default, i=30 mm)
- j extension (by default, j=30 mm)
- p extension (by default, p=30 mm)
- q radius (by default, q=120)
- r radius (by default, r=120)

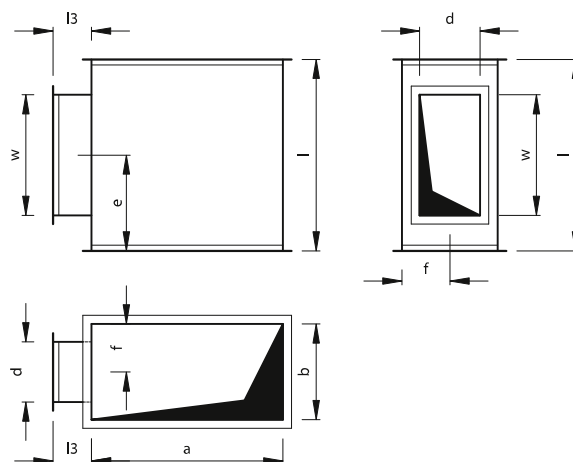
The components are usually fabricated with standard dimensions, and there is no need to specify them.

# T-piece with Rectangular Outlet

## TR1



### Dimensions

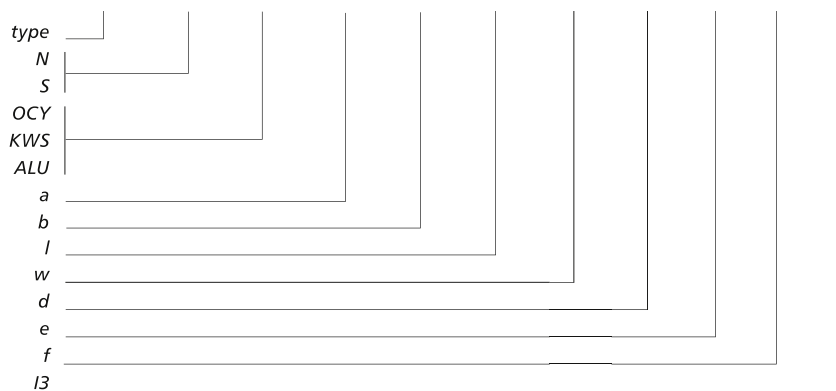


### Description

On its ends the T-piece has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. The T-piece enables to design a ventilation system with a 90 degree tap and an outlet reduction. The inlet and passage are fixed.

### Example identification

product code **TR1 - N - OCY - 500 × 300 - 600 - 450 × 250 - 20 - 20 - 100**



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a height
- b width
- l length
- w outlet length

- d outlet width
- e longitudinal outlet shift
- f transverse outlet shift
- l3 outlet length (by default, l3=100 mm)

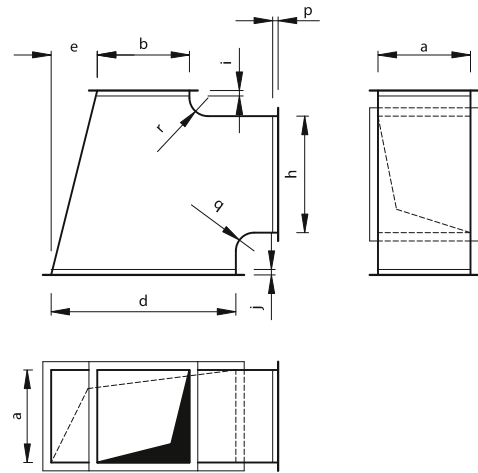
The components are usually fabricated with standard dimensions, and there is no need to specify them.

# Tapered T-piece

## TR7



### Dimensions

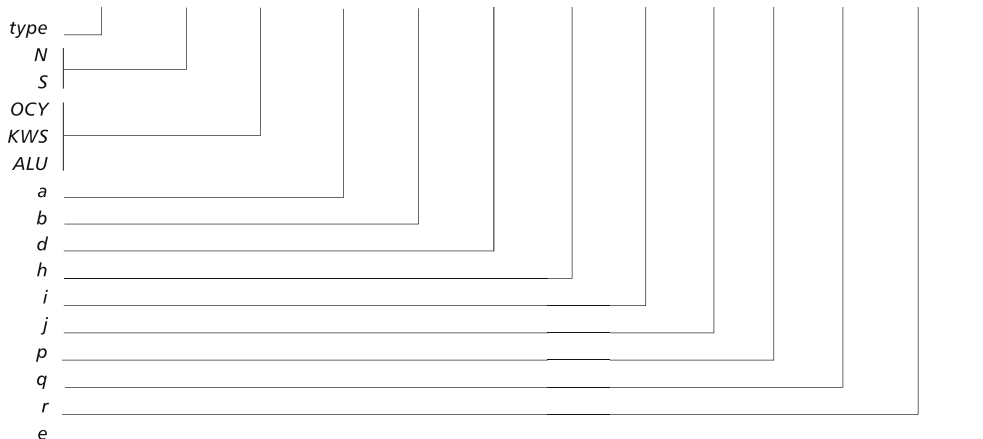


### Description

On its ends the T-piece has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. The T-piece enables to design a ventilation system with a 90 degree tap and an outlet reduction with outlet offset by any value m.

### Example identification

product code **TR7 - N - OCY - 500 × 200 - 300 - 450 - 30 - 30 - 30 - 120 - 120 - 120**



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a width
- b inlet height
- d extract height
- e shift

- h outlet height
- i extension (by default,  $i=30\text{ mm}$ )
- j extension (by default,  $j=30\text{ mm}$ )
- p extension (by default,  $p=30\text{ mm}$ )
- q radius (by default,  $q=120$ )
- r radius (by default,  $r=120$ )

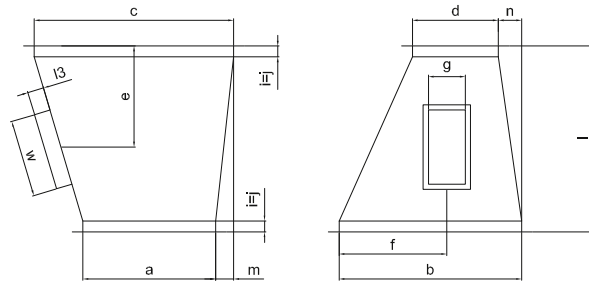
The components are usually fabricated with standard dimensions, and there is no need to specify them.

# Concentric Taper T-piece

## TR8



### Dimensions

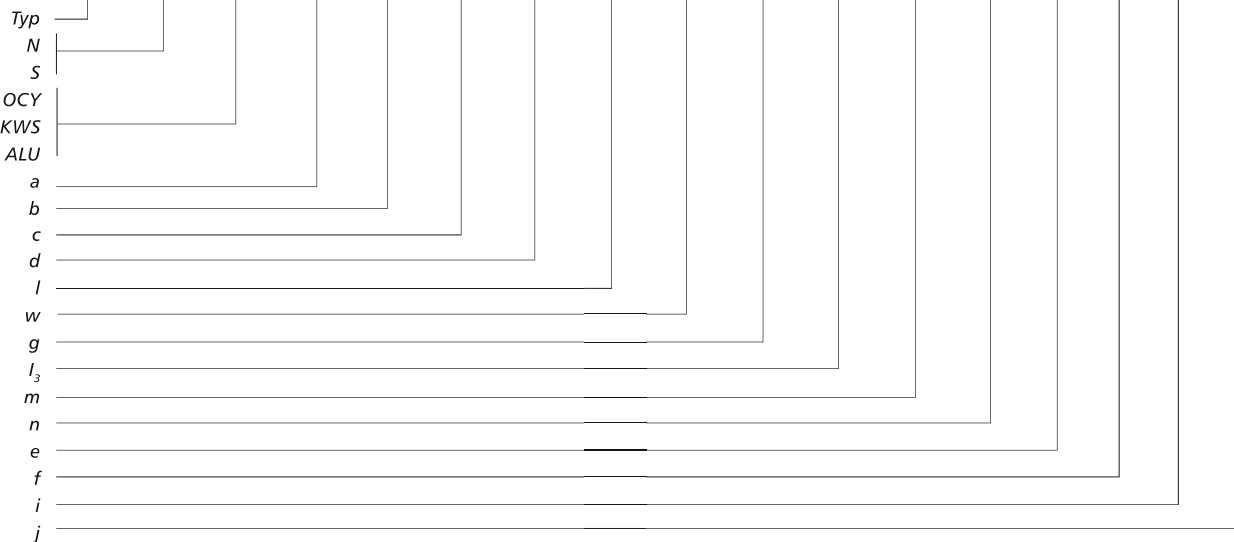


### Description

On its ends the T-piece has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. The T-piece enables to design a ventilation system with a 90 degree tap and an outlet reduction with outlet offset by any value *m*. In addition, the outlet can have a different height than the T-piece.

### Example identification

product code TR8 - N - OCY - 300 × 500 - 400 × 200 - 600 - 400 × 150 - 100 - 50 - 50 - 80 - 90 - 30 - 30



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a width
- b inlet height
- c inlet width
- d extract height
- e shift
- l height
- w outlet length

- h outlet height
- g outlet width
- l<sub>3</sub> outlet length (by default l<sub>3</sub> = 100 mm)
- m vertical shift
- n horizontal shift
- i extension (by default, i = 30 mm)
- j extension (by default, j = 30 mm)
- e longitudinal outlet shift
- f transverse outlet shift

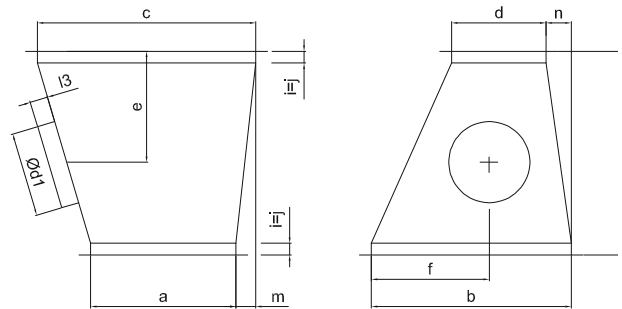
The components are usually fabricated with standard dimensions, and there is no need to specify them.

# Symmetric Taper T-piece

## TR9



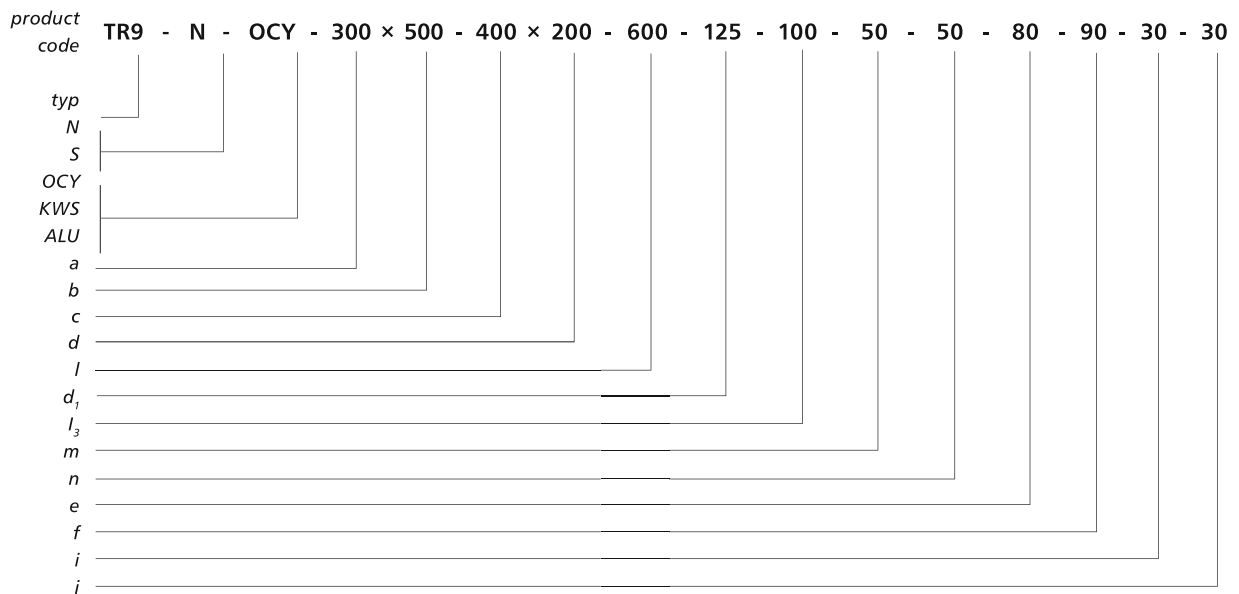
### Dimensions



### Description

On its ends the concentric taper T-piece has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. The round outlet has typically a male end and is concentrically provided on one side. The T-piece enables to design a ventilation system with a round angled branch, but this angle depends on the inclination of the side wall from which the branch projects.

### Example identification



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a width
- b inlet height
- c inlet width
- e shift

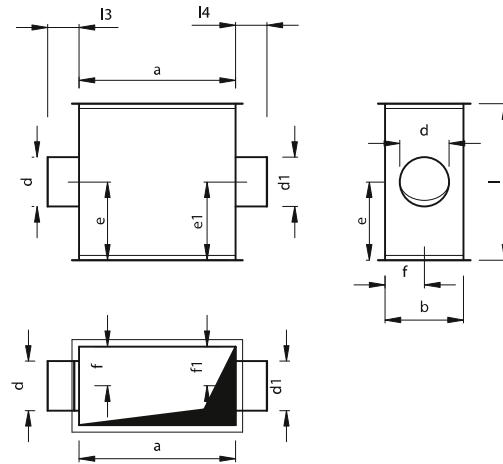
- d<sub>3</sub> outlet width
- l<sub>3</sub> outlet length (by default l<sub>3</sub> = 100 mm)
- m vertical shift
- n horizontal shift
- i extension (by default, i = 30 mm)
- j extension (by default, j = 30 mm)
- e longitudinal outlet shift
- f transverse outlet shift

# X-piece with Round Taps

# CZ2



## Dimensions

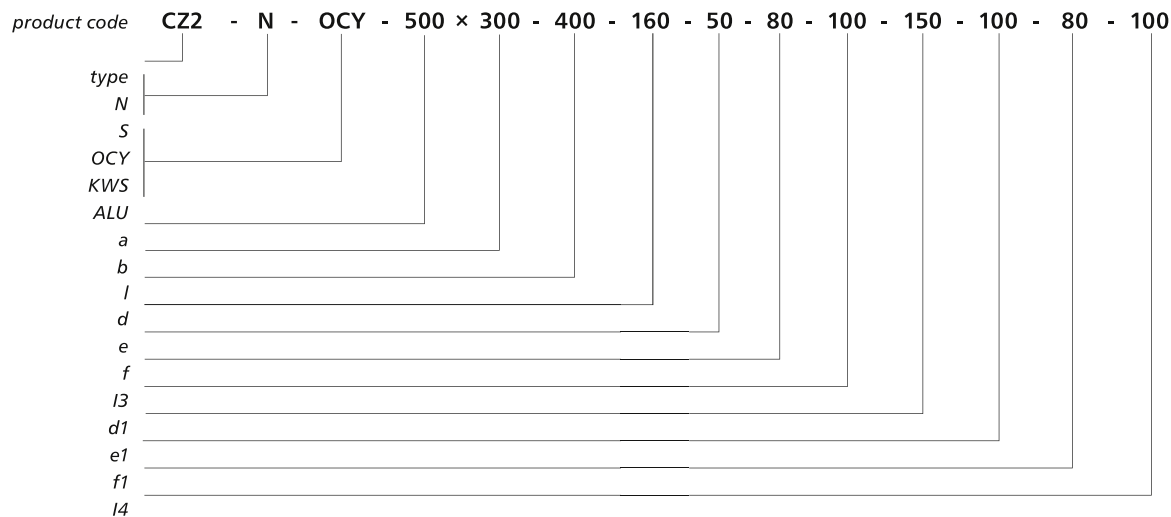


## Description

On its ends the X-piece with round taps has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation.

The round taps are typically provided concentrically. The taps have typically male ends, and upon request they can be supplied as CZL2, where the male end is gasketed.

## Example identification



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a height
- b width
- l length
- d outlet diameter

- e longitudinal outlet shift
- f transverse outlet shift
- l3 outlet height (by default, 13-100mm)
- d1 outlet width
- e1 longitudinal outlet shift
- f1 transverse outlet shift
- l4 outlet height

If all the dimensions of the second outlet are the same as those of the first one, they are set to default

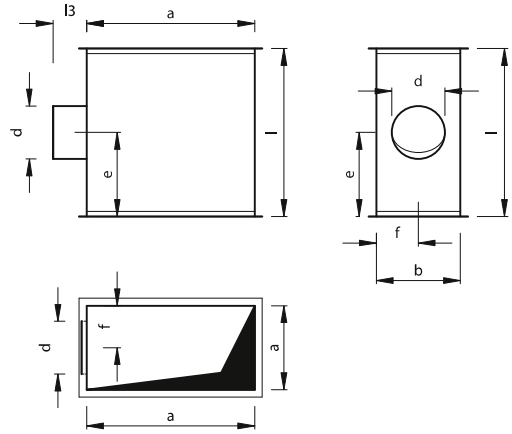


# T-piece with Round Tap

## TR2



### Dimensions



### Description

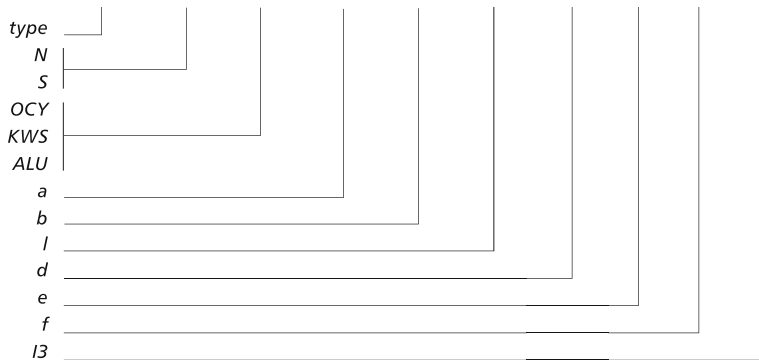
On its ends the T-piece with round tap has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation.

The round tap is typically provided concentrically.

The tap has typically a male end, and upon request it can be supplied as TRL2, where the male end is gasketed.

### Example identification

product code **TR2 - N - OCY - 500 × 300 - 250 - 160 - 30 - 60 - 100**



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a height
- b width
- l length

- d diameter
- e longitudinal shift
- f transverse shift
- l3 length (by default, 13-100mm)

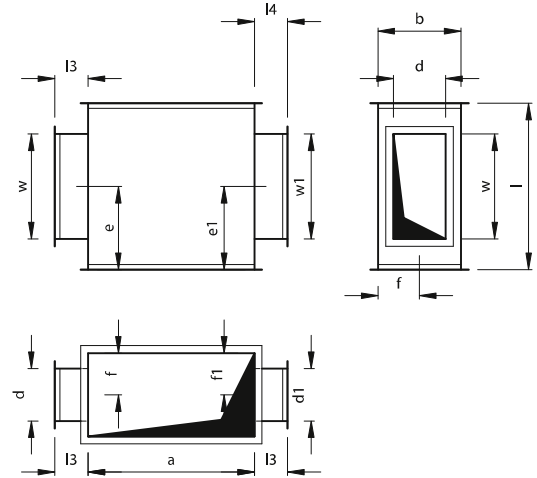
The components are usually fabricated with standard dimensions, and there is no need to specify them.

# X-piece with Rectangular Tap

## CZ1



### Dimensions

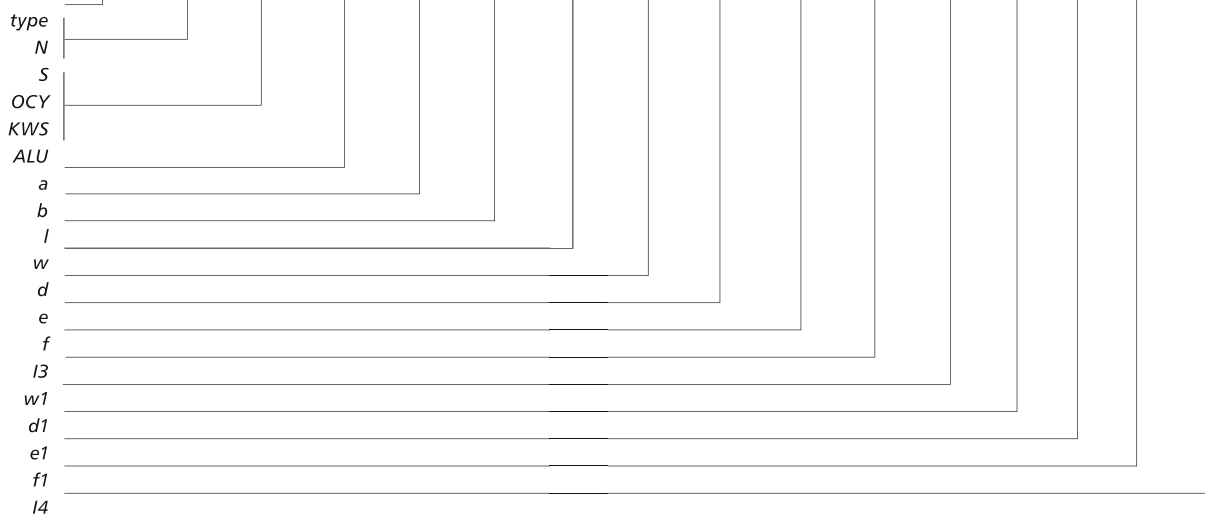


### Description

On its ends the X-piece has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. The X-piece enables to design a ventilation system with 90 degree taps.

### Example identification

product code CZ1 - N - OCY - 500 x 300 - 400 - 200 x 150 - 200 - 150 - 100 - 100 x 80 - 60 - 60 - 100



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a height
- b width
- l length
- w outlet length
- d outlet width

- e longitudinal outlet shift
- f transverse outlet shift
- l3 outlet height (by default, 13-100mm)
- w1 outlet length
- d1 outlet width
- e1 longitudinal outlet shift
- f1 transverse outlet shift
- l4 outlet height (by default, 14-100mm)

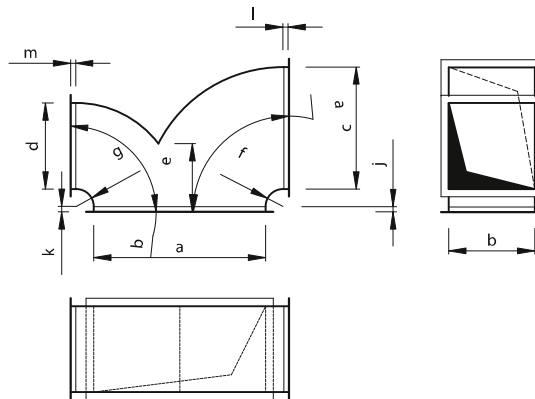
If all the dimensions of the second outlet are the same as those of the first one, they are set to default

# Concentric Y-Branch

## TR3



### Dimensions

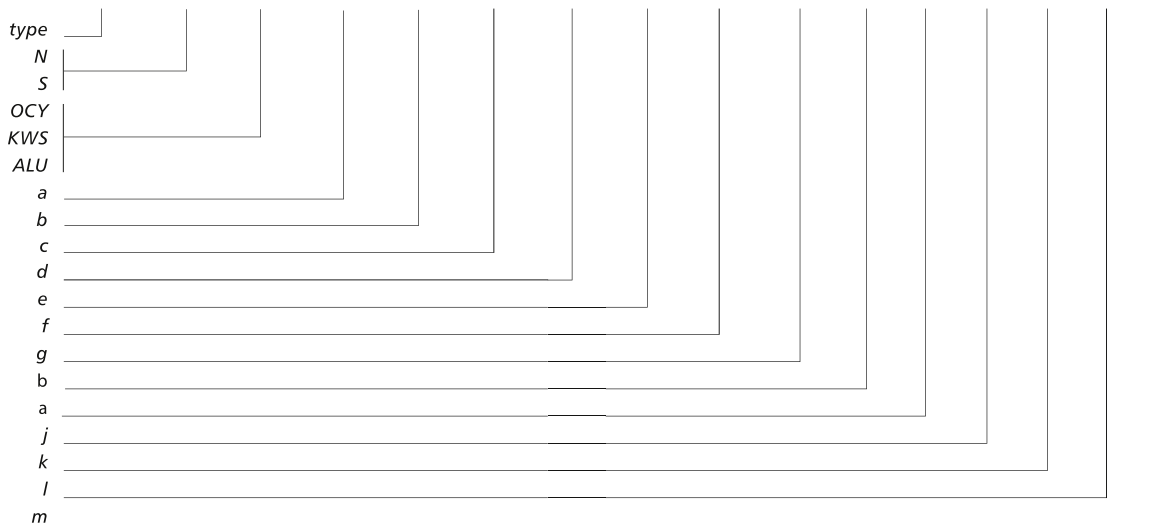


### Description

On its ends the concentric Y-branch has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. It enables to design a ventilation system with two taps directed at any angle. Turning vanes can be used.

### Example identification

product code **TR3 - N - OCY - 500 × 300 - 300 - 200 - 100 - 120 - 120 - 90 - 90 - 30 - 30 - 30 - 30**



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a height
- b width
- c outlet height 1
- d outlet height 2

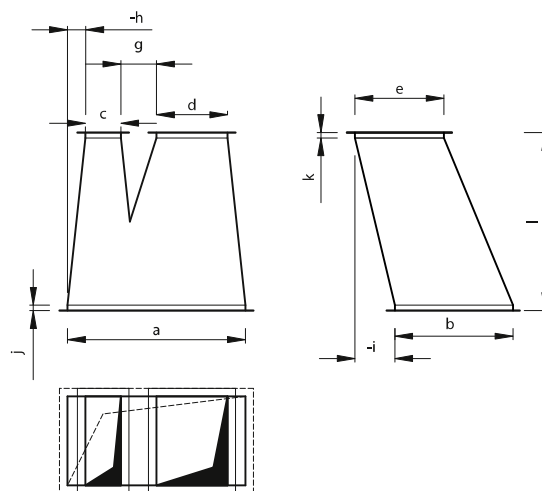
- e base length
- f radius (by default,  $f=120$ )
- g radius (by default,  $g=120$ )
- b angle (default angle =  $90^\circ$ )
- a angle (default angle =  $90^\circ$ )
- j extension (by default,  $j=30$  mm)
- k extension (by default,  $k=30$  mm)
- l extension (by default,  $l=30$  mm)
- m extension (by default,  $m=30$  mm)

# Eccentric Variable Cross-Section Pant T-piece

## TR5



### Dimensions

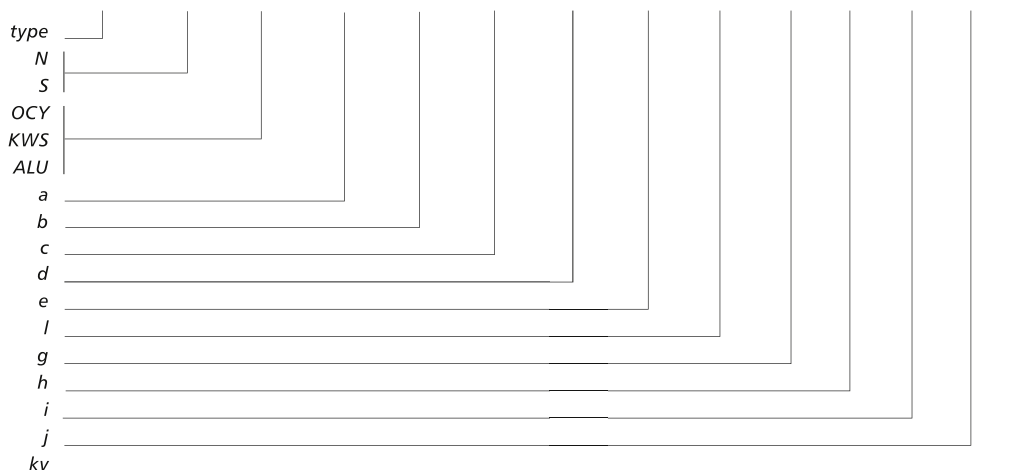


### Description

On its ends the eccentric pant T-piece has mounting frames with sheet metal joining profiles, outer and inner corners, and is stiffened with transverse sheet corrugation. It enables to split the the air flow into two parallel branches.

### Example identification

product code **TR5 - N - OCY - 500 × 300 - 100 - 200 - 200 - 600 - 60 - 40 - 60 - 20 - 20**



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a height
- b inlet width
- c left passage height
- d right passage height

- e outlet width
- l length
- g distance between taps
- h horizontal shift
- i vertical shift
- j extension (by default, j=30 mm)
- k extension (by default, k=30 mm)

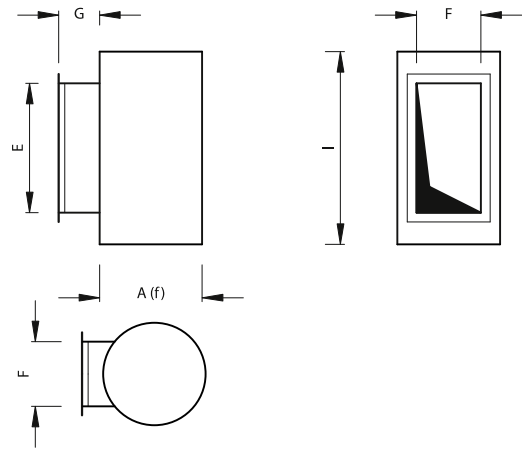


# Round Duct Take-Off

## TR6



### Dimensions

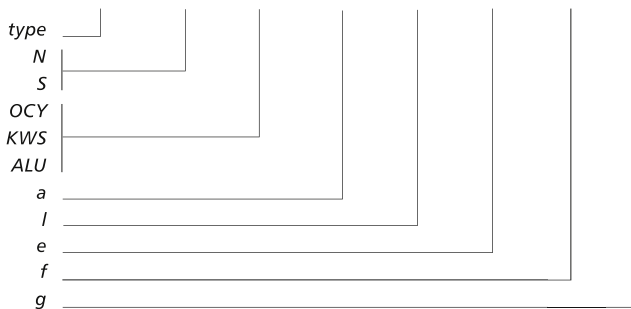


### Description

The take-off is used to join rectangular with round ducts. On its one end it has a cover end with sheet metal joining profiles or a turned-up flange. Turn-ups for sheet screwing are usually provided on the side where the round duct is connected. The complete T-piece can also be ordered with a round duct.

### Example identification

product code **TR6 - N - OCY - 630 - 500 - 250 × 400 - 60**



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a duct diameter
- l round duct length

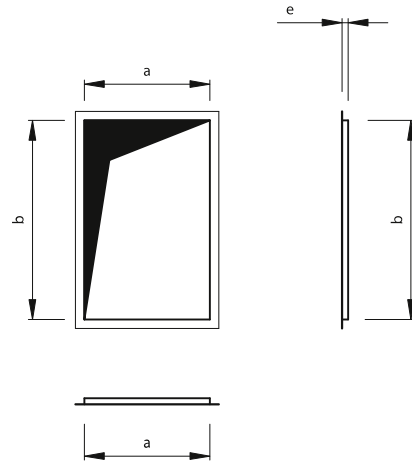
- e outlet length
- f outlet width
- g outlet height

The components are usually fabricated with standard dimensions, and there is no need to specify them.

End Cap  
**QES**



**Dimensions**

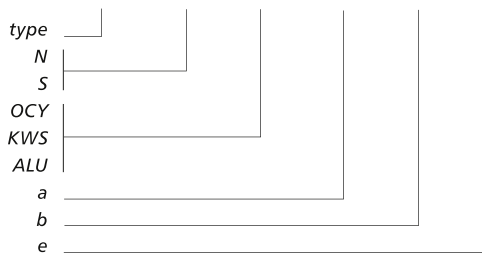


**Description**

The end cap is intended for terminating ducts. It is made of galvanised sheet metal. The flange is made of an end cover with sheet metal joining profiles.

**Example identification**

product code **QES - N - OCY - 500 × 300 - 30**



- N low pressure
- S medium pressure
- OCY galvanised material
- KWS acid-proof material
- ALU aluminium material
- a width
- b height
- e extension (by default, e=30 mm)

The components are usually fabricated with standard dimensions, and there is no need to specify them.

# Net SIA



## Description

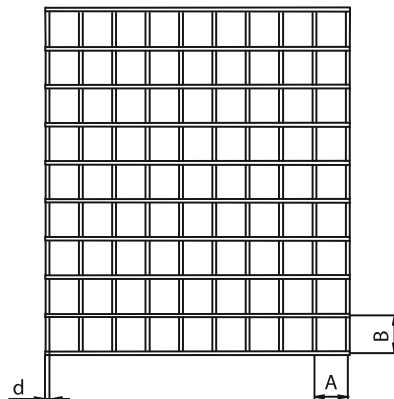
The SIA 12,7-12,7 net is manufactured of 1 mm dia. galvanized steel wire. In ventilation systems the net is used among others in roof and wall intake grills as a protection against external access. The net is offered in a 1000 mm high and 30 running meters long roll.

### Example identification

Product code: **SIA 12,7-12,7**

type \_\_\_\_\_

## Dimensions



type	A [mm]	B [mm]	d [mm]
SIA-1,05-1,05	12,7	12,7	1,05 galvanized steel
SIA-K-1,05-1,05	12,7	12,7	1,05 stainless steel 1.4301
SIA-10-10-316L	10,0	10,0	1,05 stainless steel 1.4404



# G-Clamp KLQ



## Description

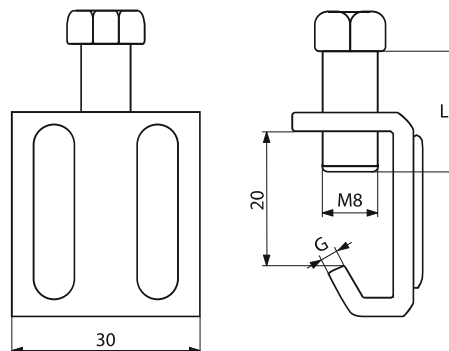
The KLQ clamp is used to protect rectangular duct connections with joining profile end cover.

### Example identification

Product code: **KLQ-20**

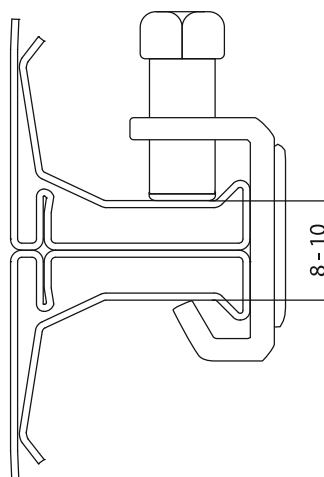
type \_\_\_\_\_

## Dimensions



type	screw [mm]	L [mm]	G [mm]
KLQ-20	M8	25	3,0
KLQ-20-2,5	M8	20	2,5

## Connection method



# Steel nuts

## SRS/SRS-D



### Description

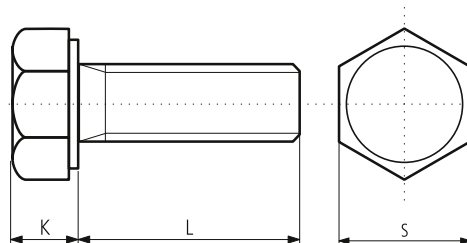
SRS steel screws are used for fastening additional components to ventilation ducts and joining rectangular duct corners together.

#### Example identification

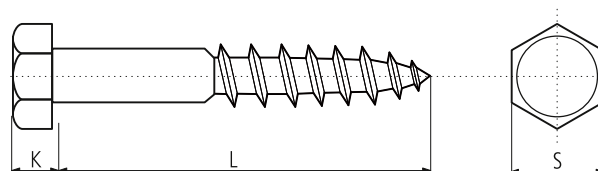
Product code: **SRS - M8**

type \_\_\_\_\_  
 diameter \_\_\_\_\_

### Dimensions



code	size	L [mm]	K [mm]	S [mm]	weight [kg/100]
SRS-M6	M	25	5	10	0,66
SRS-M8	M	25	5	13	1,39
SRS-M10	M	25	5	17	2,57
SRS-M12	M	25	5	19	3,66



code	size	L [mm]	K [mm]	S [mm]	weight [kg/100]
SRS-D6-50	M6	50	4	10	
SRS-D6-70	M6	70	4	10	
SRS-D8-50	M8	50	5,5	13	
SRS-D8-65	M8	65	5,5	13	
SRS-D8-70	M8	70	5,5	13	
SRS-D10-50	M10	50	7	17	
SRS-D10-65	M10	65	7	17	
SRS-D10-70	M10	70	7	17	
SRS-D10-100	M10	100	7	17	

# Steel Nuts

## NKS



### Description

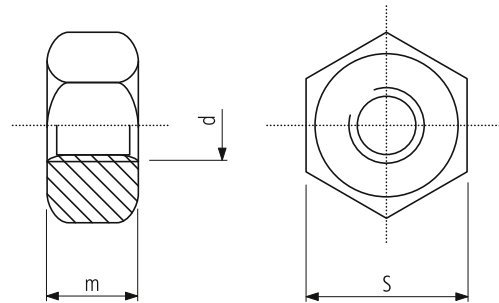
Together with SRS screws, the NKS steel nut is used for the installation of ventilation system components.

#### Example identification

Product code: **NKS - M8**

type \_\_\_\_\_  
 diameter \_\_\_\_\_

### Dimensions



code	d [mm]	class	S [mm]	weight [kg/100]
NKS-M6	6	5	10	0,25
NKS-M8	8	5	13	0,52
NKS-M10	10	5	17	1,16
NKS-M12	12	5	19	1,73

# Side Corners for Rectangular Ducts

## NQ



### Description

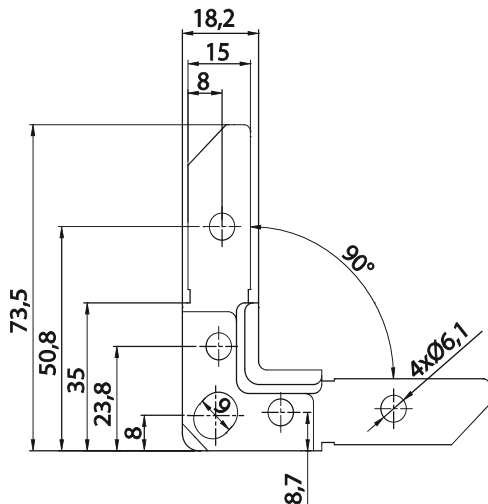
NQ galvanised side corners are used to join PQ20, 30 and 40 channels and thus create an end cover for connecting two rectangular ducts. The side corners can be made of acid-proof material or aluminium.

#### Example identification

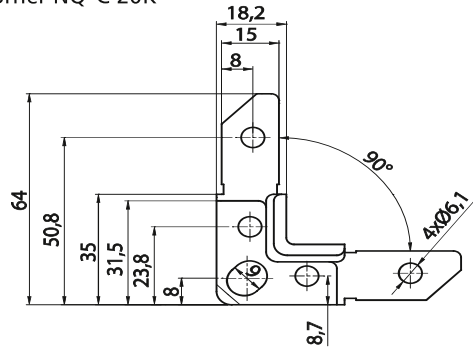
Product code: **NQ-20-C**  
 type \_\_\_\_\_  
 material \_\_\_\_\_

### Dimensions

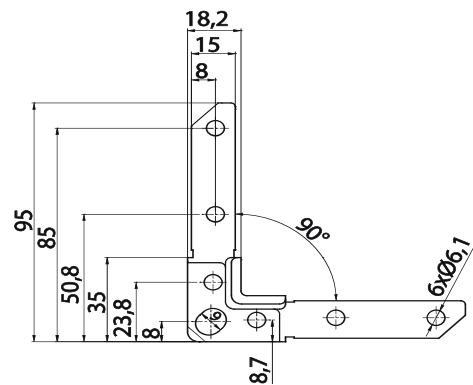
Side Corner NQ-C-20



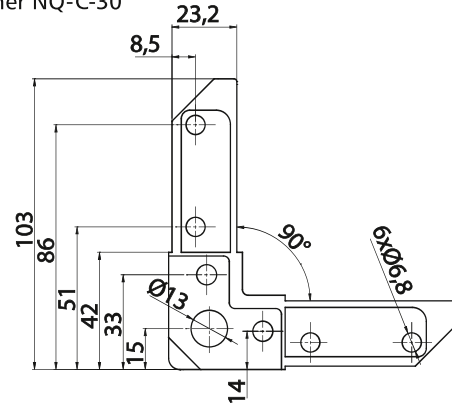
Side Corner NQ-C-20K



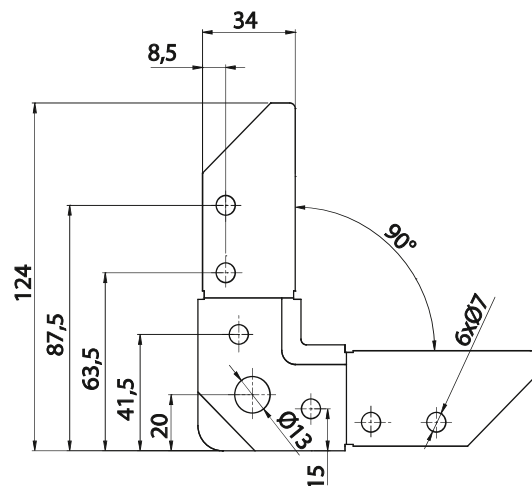
Side Corner NQ-C-20L



Side Corner NQ-C-30



Side Corner NQ-C-40



# Square ventilation duct profiles

## PQ



### Description

The PQ profile is made of galvanized steel sheet and used to join square ducts.

They are installed on the bare end of the duct and fitting. Depending on dimensions and pressure in the duct, we use profiles in three dimensions.

**Packaging:** Sections with the length of 5 running metres are packed into packages consisting of 500 running metres, sections with the length of 3 running metres are packed into packages consisting of 300 running metres.

#### Available materials - marking example

PQ-...-...-...- galvanized sheet

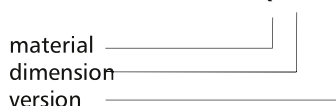
PQ-...-...-...-K - 1.4301 / 304 stainless sheet

PQ-...-...-...-K-316L - 1.4404 / 316L stainless steel with molybdenum

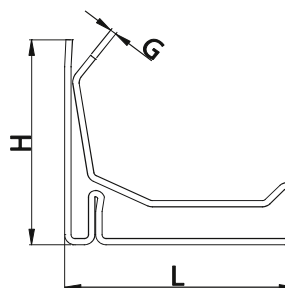
PQ-...-...-...-A - AW-1050A H24 aluminium sheet

#### Marking example

Product code: **PQ-C-20-ECO**



### Dimensions



PQ profile

Type	Height H [mm]	Width L [mm]	Thickness G [mm]
PQ-C-20	25	20	0,7
PQ-C-30	25	30	0,8
PQ-C-40	30	40	0,9
PQ-C-20-ECO	25	20	0,6
PQ-C-30-ECO	25	30	0,7
PQ-C-40-ECO	30	40	0,8
PQ-K-20*	25	20	0,6
PQ-K-30*	25	30	0,6
PQ-K-40*	30	40	0,7

\* supplies in grade 1.4301 as per EN 10088

PQ-A-20**	25	20	0,7
PQ-A-30**	25	30	0,8
PQ-A-40**	30	40	0,9

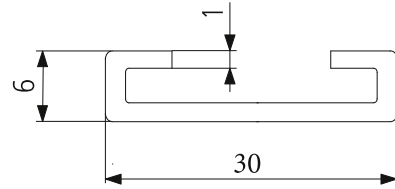
\* supplies in grade 1050A as per PN-EN 573-3

Pressure [Pa]	duct dimension "a" or "b"				
	< 500 [mm]	500-1000 [mm]	1001-1600 [mm]	1601-2500 [mm]	2501 [mm]
200	PQ 20	PQ 20	PQ 30	PQ 30	PQ 40
400	PQ 20	PQ 20	PQ 30	PQ 30	PQ 40
600	PQ 20	PQ 20	PQ 30	PQ 30	PQ 40
800	PQ 20	PQ 20	PQ 30	PQ 30	PQ 40
1000	PQ 20	PQ 20	PQ 30	PQ 30	PQ 40
1200	PQ 20	PQ 30	PQ 30	PQ 40	PQ 40
1500	PQ 20	PQ 30	PQ 30	PQ 40	PQ 40

# Slide Duct C CLIP



## Dimensions



## Description

The PWQ slide duct is used for joining rectangular ducts. A channel of particular length is drawn on PQ-20 or PQ-30 end cover joining profiles.

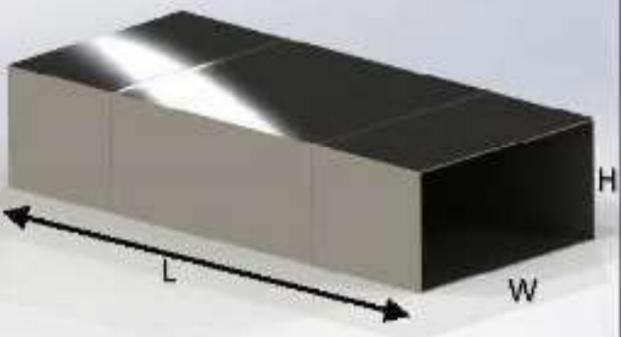
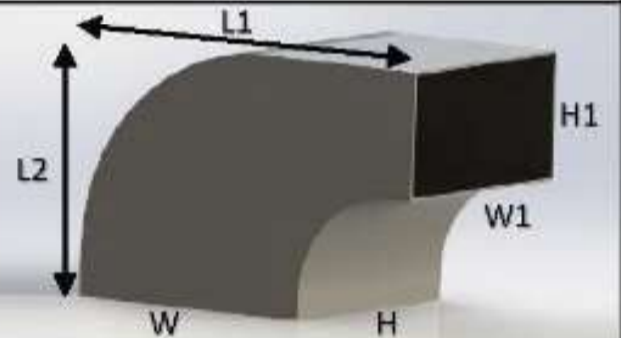
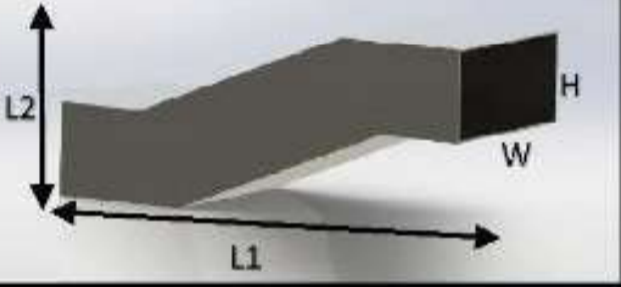
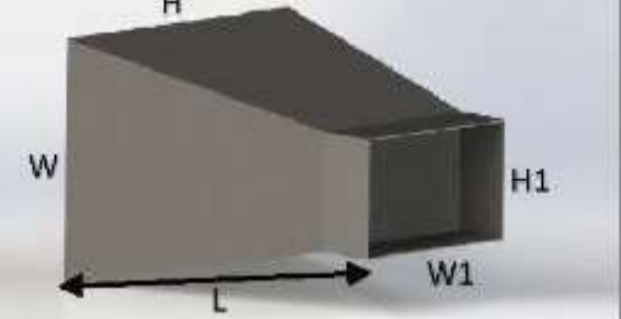
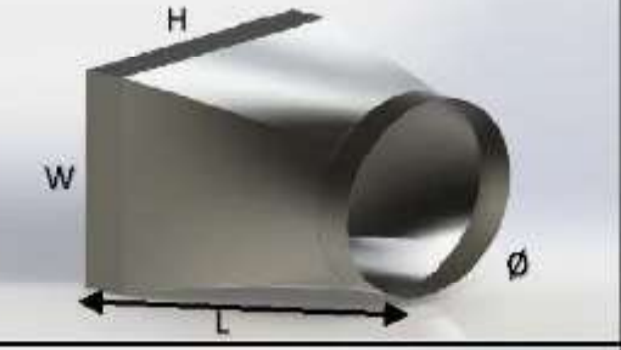
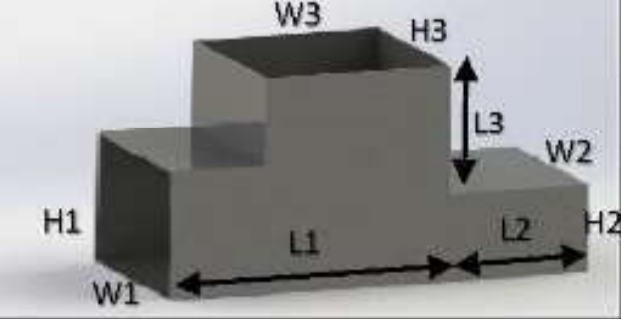
### Example identification

Product code: \_\_\_\_\_ CLP

type \_\_\_\_\_



## METHOD OF CALCULATION

DESCRIPTION	FORMULA	DETAIL
STRAIGHT DUCT	$A = 2 (W + H) L$	
ELBOW	$A = 2 (W + H) (L1 + L2)$	
OFF-SET	$A = 2 (W + H) (L1 + L2)$	
REDUCER	$A = 2 (W + H) L$	
TRANSITION	$A = 2 (W + H) L$	
TEE	$A = 2 (W1 + H1) L1$ $+ 2 (W2 + H2) L2$ $+ 2 (W3 + H3) L3$	



شركة تقنية الهواء الصناعية  
**AIR TECHNOLOGIES COMPANY**

**6**

**Construction Schedule**

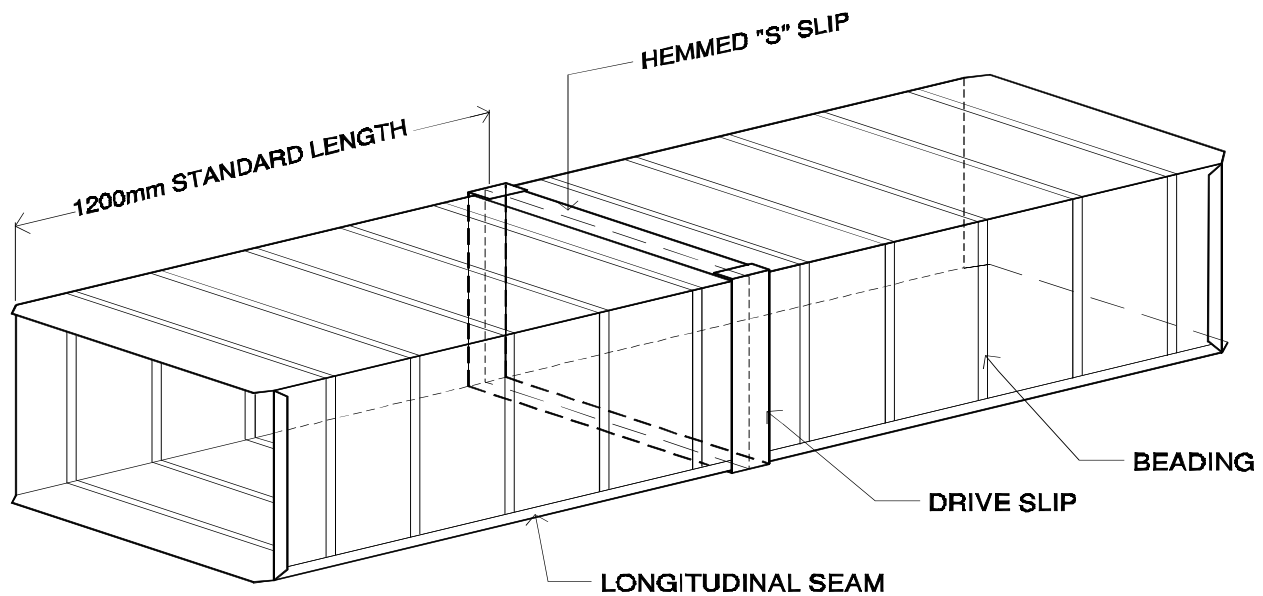




**RECTANGULAR DUCTWORKS CONSTRUCTION SCHEDULE**  
**2"W.G. PRESSURE CLASS - AS PER SMACNA STDS, 2RD EDITION 1995"**  
**GALVANIZED STEEL CONFORM TO ASTM A653, G90 COATING LOCKFORMING QUALITY**

MAXIMUM DUCT DIMENSION	U.S. GAGE NO.	LONGITUDINAL SEAMS	INTERMEDIATE REINFORCEMENT	TRANSVERSE CONNECTIONS
0-254	26	DOUBLE CORNER SEAM	NOT REQUIRED	HEMMED "S" SLIP & DRIVE SLIP
255-457	26	DOUBLE CORNER SEAM	NOT REQUIRED	REINFORCED "S" SLIP WITH 25X25X16Ga DRIVE SLIP - 24Ga
458-711	24	DOUBLE CORNER SEAM	NOT REQUIRED	1" STANDING S - 20GA DRIVE SLIP WITH 25X25X3mm ANGLE
712-915	24	DOUBLE CORNER SEAM	NOT REQUIRED	1" STANDING S - 18GA DRIVE SLIP WITH 25X25X3mm ANGLE
916-1219	22	DOUBLE CORNER SEAM	NOT REQUIRED	SLIDE ON FLANGE DAC-30/DAC-35
1220-1372	20	DOUBLE CORNER SEAM	NOT REQUIRED	SLIDE ON FLANGE DAC-30/DAC-35
1373-1524	18	PITTSBURGH LOCK SEAM	NOT REQUIRED	SLIDE ON FLANGE DAC-30/DAC-35
1525-2438	18	PITTSBURGH LOCK SEAM	50X50X5mm ANGLE @600mm c-c	COMPANION ANGLE 50X 50X 5mm
2439-3048	18	PITTSBURGH LOCK SEAM	50X50X5mm ANGLE @600mm c-c	COMPANION ANGLE 50X 50X 5mm

**2" W.G. PRESSURE CLASS - AS PER SMACNA STDS, 2RD EDITION 1995  
GALVANIZED STEEL CONFORM TO ASTM A653, G90 COATING LOCKFORMING QUALITY**



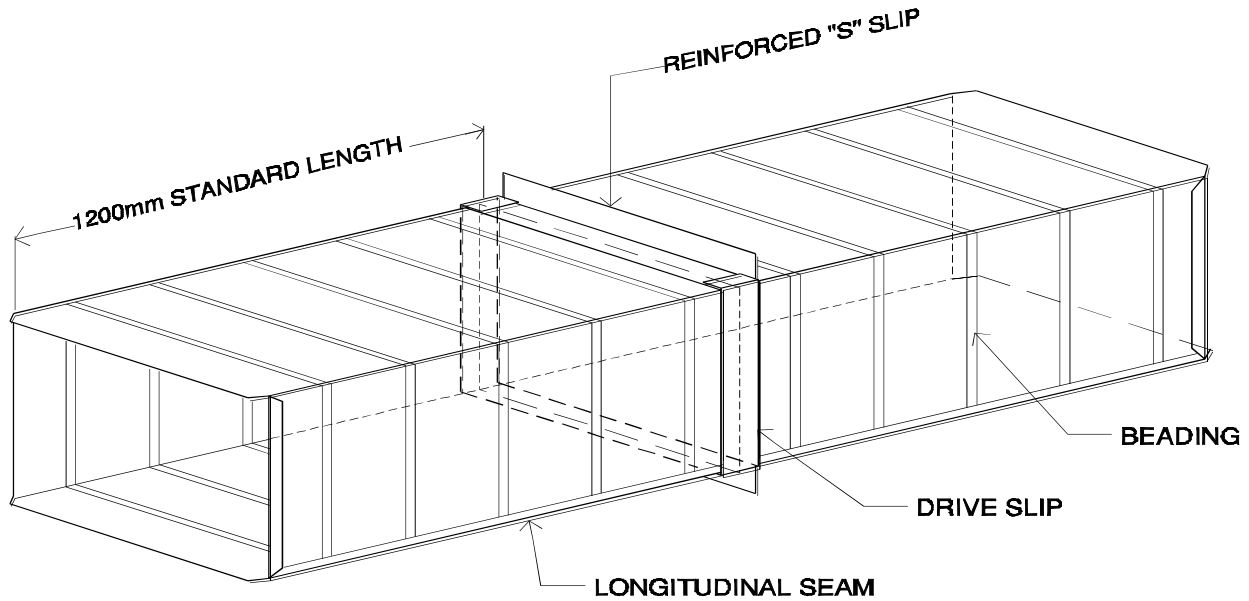
**SINGLE WALL RECTANGULAR DUCT**



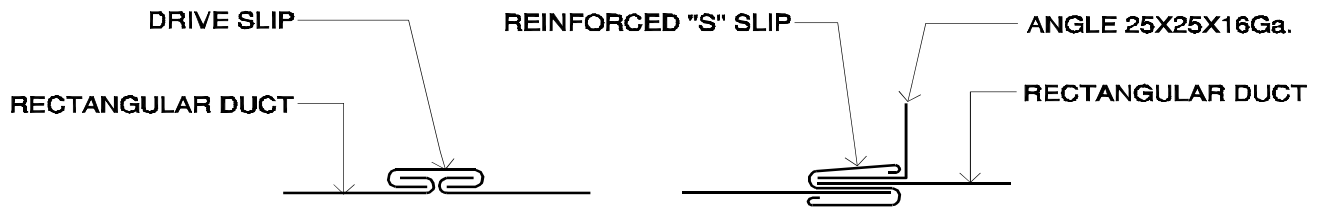
**TRANSVERSE CONNECTION DETAILS**

DUCT SIZE ( mm )	U.S. GAGE NO.	TRANSVERSE CONNECTION	INTERMEDIATE REINFORCEMENT
0 - 254	26	HEMMED "S" SLIP (24 Ga) DRIVE SLIP (24 Ga.)	NOT REQUIRED

**2" W.G. PRESSURE CLASS - AS PER SMACNA STDS, 2RD EDITION 1995**  
**GALVANIZED STEEL CONFORM TO ASTM A653, G90 COATING LOCKFORMING QUALITY**



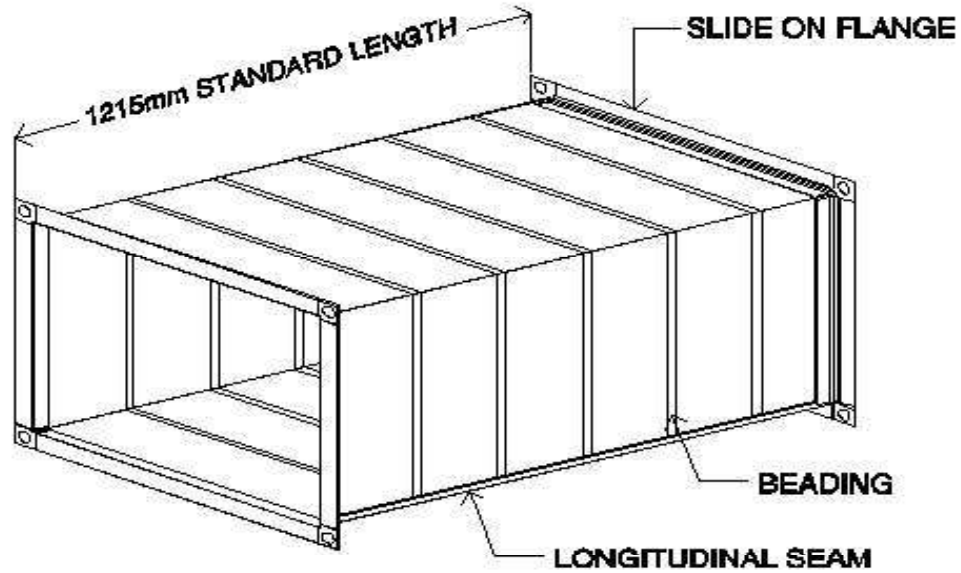
**SINGLE WALL RECTANGULAR DUCT**



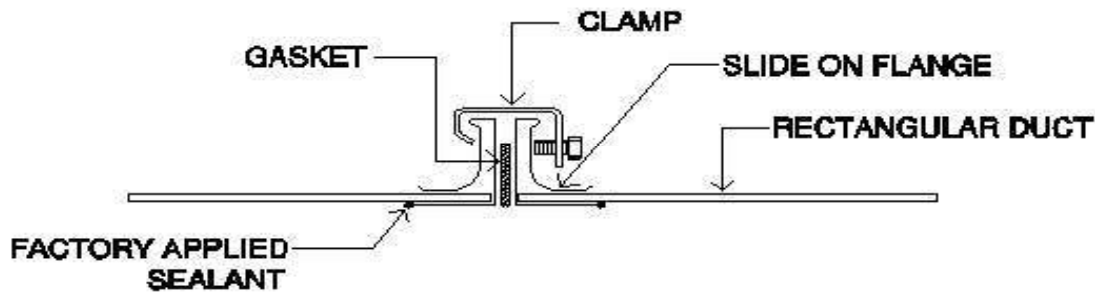
**TRANSVERSE CONNECTION DETAILS**

DUCT SIZE (mm)	U.S. GAGE NO.	TRANSVERSE CONNECTION	INTERMEDIATE REINFORCEMENT
255 - 457	26	REINFORCED "S" SLIP WITH 25X25X16Ga DRIVE SLIP - 24Ga	NOT REQUIRED

**2" W.G. PRESSURE CLASS - AS PER SMACNA STDS, 2RD EDITION 1995  
GALVANIZED STEEL CONFORM TO ASTM A653, G90 COATING LOCKFORMING QUALITY**



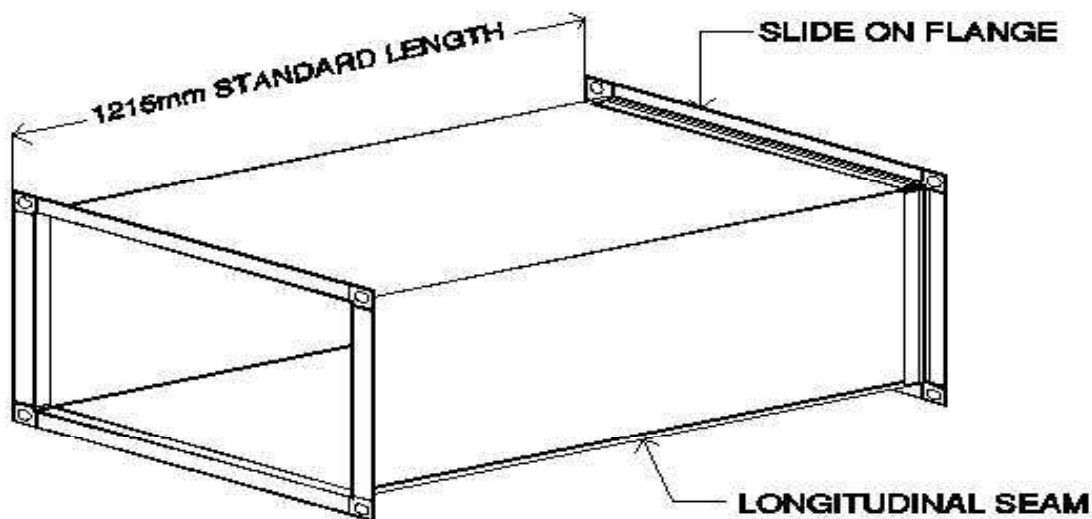
**RECTANGULAR STRAIGHT DUCT**



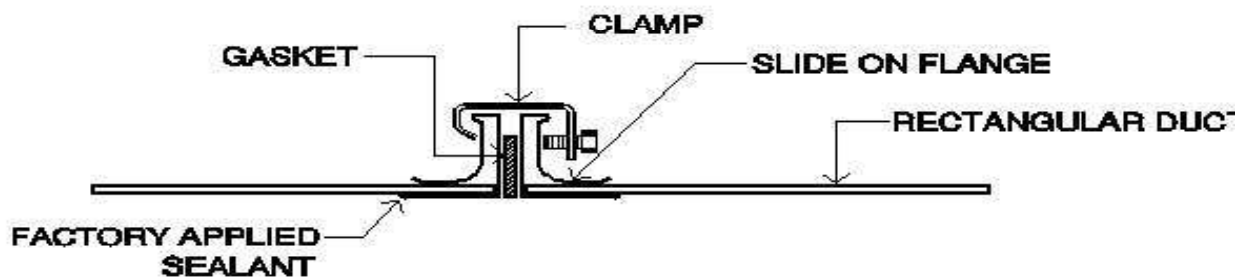
**TRANSVERSE CONNECTION**

DUCT SIZE (mm)	U.S. GAGE NO.	TRANSVERSE CONNECTION	INTERMEDIATE REINFORCEMENT
458 - 610	24	SLIDE ON FLANGE DAC 30	NOT REQUIRED
611 - 915	24	SLIDE ON FLANGE DAC 30	NOT REQUIRED
916 - 1219	22	SLIDE ON FLANGE DAC 30	NOT REQUIRED
1220 - 1372	20	SLIDE ON FLANGE DAC 30	NOT REQUIRED

**2" W.G. PRESSURE CLASS - AS PER SMACNA STDS, 2RD EDITION 1995  
GALVANIZED STEEL CONFORM TO ASTM A653, G90 COATING LOCKFORMING QUALITY**



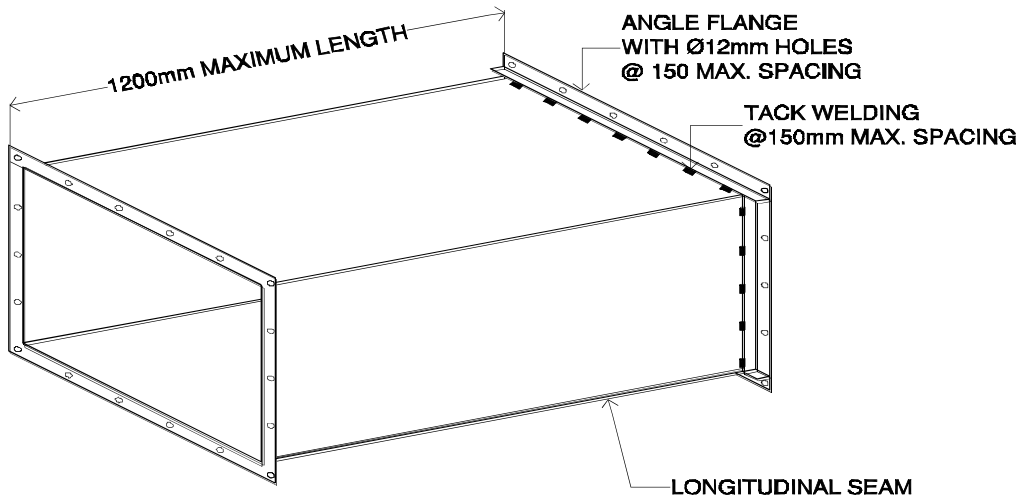
**RECTANGULAR STRAIGHT DUCT**



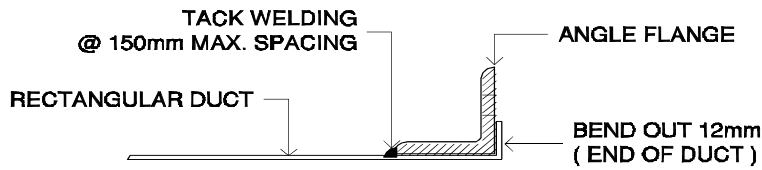
**TRANSVERSE CONNECTION**

DUCT SIZE (mm)	U.S. GAGE NO.	TRANSVERSE CONNECTION	INTERMEDIATE REINFORCEMENT
1373 - 1524	18	COMPANION ANGLE 50x50x5mm	NOT REQUIRED

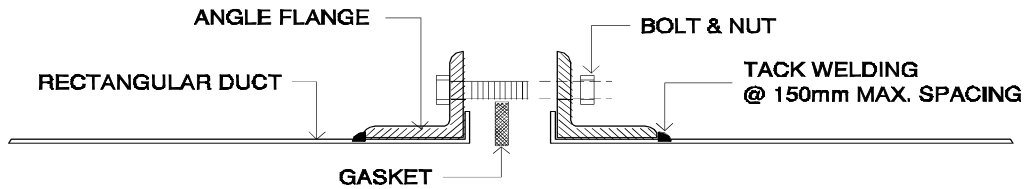
**2" W.G. PRESSURE CLASS - AS PER SMACNA STDS, 2RD EDITION 1995**  
**GALVANIZED STEEL CONFORM TO ASTM A653, G90 COATING LOCKFORMING QUALITY**



**RECTANGULAR STRAIGHT DUCT**



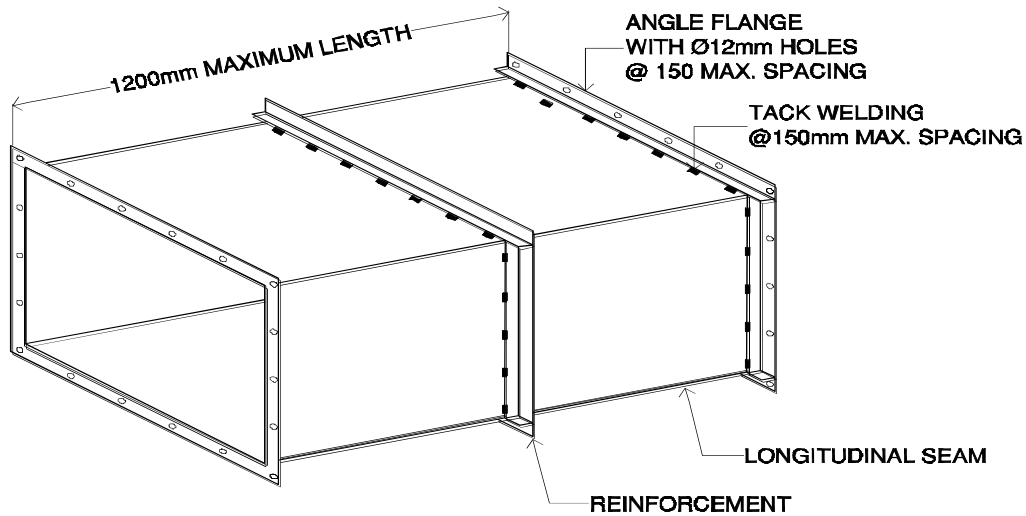
**VAN STONE CONNECTION DETAIL**



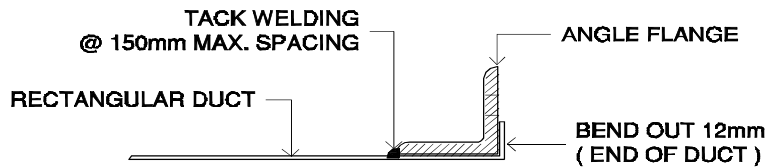
**FLANGE TO FLANGE CONNECTION DETAIL**

DUCT SIZE (mm)	U.S GAGE NO.	TRANSVERSE CONNECTION	INTERMEDIATE REINFORCEMENT
1525-2438	18	COMPANION ANGLE 50x50x5mm	NOT REQUIRED

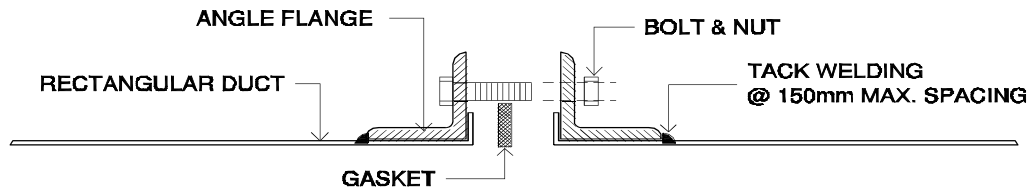
**2" W.G. PRESSURE CLASS - AS PER SMACNA STDS, 2RD EDITION 1995  
GALVANIZED STEEL CONFORM TO ASTM A653, G90 COATING LOCKFORMING QUALITY**



**RECTANGULAR STRAIGHT DUCT**



**VAN STONE CONNECTION DETAIL**



**FLANGE TO FLANGE CONNECTION DETAIL**

DUCT SIZE (mm)	U.S. GAGE NO.	TRANSVERSE CONNECTION	INTERMEDIATE REINFORCEMENT
2439-3048	18	COMPANION ANGLE 50X50X5mm	ANGLE FLANGE 50X50X5MM



شركة تقنية الهواء الصناعية  
**AIR TECHNOLOGIES COMPANY**

**7**

**Certifications**



# QUALITY CERTIFICATE

Saudi Basic Industries Corporation (SABIC)  
P.O.Box 5101 Riyadh 11422  
Kingdom of Saudi Arabia



شهادة الجودة  
الشركة السعودية للصناعات الأساسية (سابك)  
ص. ب. 5101 الرياض 11422  
المملكة العربية السعودية

Customer Name and Address  
ATTIEH STEEL COMPANY.  
P.O.BOX 12480  
INDUSTRIAL AREA  
21473 Jeddah  
TEL # 02 620062

Shipping Address  
ATTIEH ( Jeddah FACTORY)  
P.O.BOX 12480  
JEDDAH  
21473 Jeddah  
TEL # 2-687-6762

عنوان التسليم

Certificate No. F003030481  
Customer No. 10020923  
Sales Order/Item No. 2172778/40  
Customer P.O. No. 46386  
Date of Issue 07/02/18  
Delivery note No. 89328173

رقم الشهادة  
رقم الزبون  
رقم أمر البيع  
رقم أمر الشراء  
تاريخ الإصدار  
رقم التسليم

Product details CRCG 0.55 Standard SASO-ASTM-A653  
المواصفات المعروض (ملم) Coating Spec. G90 Steel Grade LFQ  
Thickness(mm) 0.55 Width(mm) 1220

درجة الحديد  
الطول (م)

Material ID	Heat ID	Pieces	Net Wt.(MT)	YS N/mm2	UTS N/mm2	EL%	GL (mm)/LT	Bend Test	Hardness	ECV	Zinc Coat g/m2	Ra(Mm)	Impact (J)	Others
رقم اللوحة رقم العنبر	رقم الصب	القطع	صافي الوزن	مقاومة الخضوع	مقاومة الشد	نسبة الاستطالة	اختبار التلين	اختبار الثني	الصلادة	أركمن	التكسية بالزنك	لخونه	اختبار تصادم	أخرى
1618020064	1749251	-	4.18	288	333	30	L0.50	OK	57	-	280	-	-	-

Heat ID	C	Mn	S	P	Si	Al	N	Nb	V	Ti	Ca	Cr	Cu	Mo	Sn	Ni	CEV	Tramp	B
رقم الصب	كربون	منجنيز	كبريت	فوسفور	سيليكون	الومنيوم	نتروجين	نيوبيوم	فاناديوم	تيتانيوم	كالمسيوم	كروم	نحاس	موليبدينوم	قصدير	نيكل	0.093	بورون	0.00016
1749251	0.0576	0.18	0.0061	0.0065	0.009	0.0385	0.0029	00	0.00195	0.0012	0.00123	0.0099	0.0205	0.00255	0.001	0.0248			

Physical Properties

Chem. Composition %

Impact Test Temperature °C  
Bend Test is according to standard  
Drop Weight Tear Test  
Hardness Unit

درجة اختبار التصادم  
اختبار الثني حسب المواصفات المطلوبة  
اختبار الشد الثقيل حسب المواصفات المطلوبة  
وحدة اختبار الصلادة

Responsible Care  
14001:2013 & ISO 14001:2004  
Environmental Management System



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TEST CERTIFICATE AS PER EN10204/3.1  
شهادة الإختبار حسب المواصفة الأوروبية

**QUALITY CERTIFICATE**  
Saudi Basic Industries Corporation (SABIC)  
P.O.Box 5101 Riyadh 11422  
Kingdom of Saudi Arabia

**سابك**  
SABIC

**شهادة الجودة**  
الشركة السعودية للصناعات الأساسية (سابك)  
ص. ب. 5101 الرياض 11422  
المملكة العربية السعودية

Customer Name and Address  
ATTIEH STEEL COMPANY.  
P.O.BOX 12480  
INDUSTRIAL AREA  
21473- Jeddah  
TEL # 02 620062

Shipping Address  
ATTIEH ( Jeddah FACTORY)  
P.O.BOX 12480  
JEDDAH  
21473- Jeddah  
TEL # 2-687-6762

Certificate No. F003030548  
Customer No. 10020923  
Sales Order/Item No. 2172778/60  
Customer P.O. No. 46386  
Date of Issue 07/02/18  
Delivery note No. 89328279

عنوان التسليم

رقم الشهادة  
رقم الزبون  
رقم أمر البيع  
رقم أمر الشراء  
تاريخ الإصدار  
رقم التسليم

Product details  
Thickness(mm) 0.60

Coating Spec. G90  
مواد الطلاء الزنك

Steel Grade L.FQ  
درجة الحديد (الطول:م)

Standard Width(mm) 1220

المواصفات (ملم)

عرض (ملم)

Material ID	Heat ID	Pieces	Net Wt.(MT)	YS N/mm2	UTS N/mm2	EL%	GL (mm)LT	Bend Test	Hardness	ECV	Zinc Coat g/m2	r	n	Raf(Mm)	Impact (J)	Others
رقم اللثة رقم التغليف	رقم الصبة	التقطع	صافي الوزن	مقاومة الخضوع	مقاومة الشد	نسبة الاستطالة	اختبار التواء	اختبار الثني	الصلادة	أركسن	التغطية بالزنك	-	-	الخضونه	اختبار تصادم	اخرى
1618020173	1749247	-	4.19	245	346	40	L0.50	OK	58	-	283	-	-	-	-	-
1618020108	1749247	-	4.02	245	346	40	L0.50	OK	55	-	281	-	-	-	-	-

Heat ID	C	Mn	S	P	Si	Al	N	Nb	V	Ti	Ca	Cr	Cu	Mo	Sn	Ni	CEV	Tramp	B
رقم الصبة	كربون	منجنيز	كبريت	فسفور	سيليكون	الومنيوم	نتروجين	نيوبيوم	فاناديوم	تيتانيوم	كاليوم	كروم	نحاس	موليبدينوم	قصدير	نيكل	مكافئ الكربون	الشوائب	بورون
1749247	0.0577	0.181	0.0054	0.0064	0.01	0.0395	0.0028	0.00117	0.00113	0.00041	0.0075	0.0049	0.00073	0.00073	0.00	0.0175	0.091	0.0001	
1749247	0.0577	0.181	0.0054	0.0064	0.01	0.0395	0.0028	0.00117	0.00113	0.00041	0.0075	0.0049	0.00073	0.00073	0.00	0.0175	0.091	0.0001	

Impact Test Temperature °C  
Bend Test is according to standard  
Drop Weight Tear Test  
Hardness Unit

OHSAS 18001:2007  
Occupational Health & Safety  
Management System

DNV-GL  
ISO 9001:2015  
CERTIFIED

Responsible Care  
14001:2013 & ISO 14001:2004  
Environmental Management  
System

ACCREDITED  
ISO 17025:2005  
TL-693

Hadheed laboratory accredited  
for ISO 17025  
Cert. No.TL-693



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TEST CERTIFICATE AS PER EN10204/3.1

شهادة الإختبار حسب المواصفات الأوروبية

# QUALITY CERTIFICATE

Saudi Basic Industries Corporation (SABIC)  
P.O.Box 5101 Riyadh 11422  
Kingdom of Saudi Arabia

سابك  
sabic

# شهادة الجودة

الشركة السعودية للصناعات الأساسية (سابك)  
ص.ب. 5101 الرياض 11422  
المملكة العربية السعودية

Customer Name and Address ATTIEH STEEL COMPANY. P.O.BOX 12480 INDUSTRIAL AREA 21473 Jeddah TEL # 02 620062	اسم الزبون وعنوانه ATTIEH ( Jeddah FACTORY) P.O.BOX 12480 JEDDAH 21473 Jeddah TEL # 2-687-6762	Shipping Address ATTIEH ( Jeddah FACTORY) P.O.BOX 12480 JEDDAH 21473 Jeddah TEL # 2-687-6762	عنوان التسليم	Certificate No. F003022368 Customer No. 10020923 Sales Order/Item No. 2131431/80 Customer P.O. No. 46107 Date of Issue 07/01/18 Delivery note No. 89198349	رقم الشهادة رقم الزبون رقم أمر البيع رقم أمر الشراء تاريخ الإصدار رقم التسليم
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Product details Thickness(mm) 0.70	CRCG	خواص المنتج (ملم)	المواصفات SASO-ASTM-A653	Coating Spec. G90	مواصفة الزنك	Steel Grade L220	LFQ	درجة الحديد (م)
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Material ID	Heat ID	Pieces	Net Wt.(MT)	YS N/mm <sup>2</sup>	UTS N/mm <sup>2</sup>	EL%	GL (mm)LT	Bend Test	Hardness	ECV	Zinc Coat g/m <sup>2</sup>	Ra(Mm)	Impact (J)	Others
رقم اللقمة / رقم التعريف	رقم الصبة	القطع	صافي الوزن	مقاومة الخضوع	مقاومة الشد	نسبة الاستطالة	اختبار القياس	اختبار الثني	الصلادة	أركسن	التكسية بالزنك	خشونة	اختبار تصادم	الخرى
1618010172	1744026	.	8.28	298	349	40	L0 50	OK	58	-	282	-	-	-

Physical Properties

Heat ID	C	Mn	S	F	Si	Al	N	Nb	V	Ti	Ca	Cr	Cu	Mo	Sn	Ni	CEV	Tramp	B
رقم الصبة	كربون	منجنيز	كبريت	فوسفور	سيليكون	الومنيوم	نتروجين	نيوبيوم	فاناديوم	تيتانيوم	كالميوم	كروم	نحاس	موليبدينوم	قصدير	نيكل	مكافئ الكربون	الشوائب	بورون
1744025	0.0562	0.18	0.007	0.0064	0.006	0.0302	0.0046	0.0002	0.00057	0.00054	0.00003	0.0083	0.0076	0.00301	0.001	0.013	0.09		0.00002

Chem. Composition %

Impact Test Temperature °C

Bend Test is according to standard

Drop Weight Tear Test

Hardness Unit

درجة اختبار التسليم

اختبار الثني حسب المواصفات المطلوبة

اختبار الشقوق لوزن حسب المواصفات المطلوبة

وحدة اختبار الصلادة

OHSAS 18001:2007

Occupational Health & Safety

Management System

Responsible Care

14001:2013 & ISO 14001:2004

Environmental Management System

ACCREDITED

ISO 17025:2005

TL-693

ISO 9001:2015

Quality Management

ISO 22301

Business Continuity Management

ISO 17025:2005

TL-693

This certificate is

generated electronically,

stamp and signature are

not required

TEST CERTIFICATE AS PER EN10204/3.1

شهادة الإختبار حسب المواصفه الأوربيه

**QUALITY CERTIFICATE**  
Saudi Basic Industries Corporation (SABIC)  
P.O.Box 5101 Riyadh 11422  
Kingdom of Saudi Arabia



**شهادة الجودة**  
الشركة السعودية للصناعات الأساسية (سابك)  
ص . ب 5101 الرياض 11422  
المملكة العربية السعودية

اسم الزبون و عنوانه  
Customer Name and Address  
ATTIEH STEEL COMPANY.  
P.O.Box 12480  
INDUSTRIAL AREA  
21473 Jeddah  
TEL # 02 620062

Shipping Address  
ATTIEH ( Jeddah FACTORY)  
P.O.Box 12480  
JEDDAH  
21473 Jeddah  
TEL # 2-687-6762

رقم الشهادة  
رقم الزبون  
رقم أمر البيع  
رقم أمر الشراء  
تاريخ الإصدار  
رقم التسليم  
Certificate No. F003030548  
Customer No. 10020923  
Sales Order/Item No. 2172778/60  
Customer P.O. No. 46386  
Date of Issue 07/02/18  
Delivery note No. 89328279

Product details CRCG 0.60 Standard SASO-ASTM-A653  
Thickness(mm) Width(mm) 1220  
المواصفات العرض (ملم)

Coating Spec. G90  
Steel Grade L.FQ  
مواصفة الزنك الطول (م)

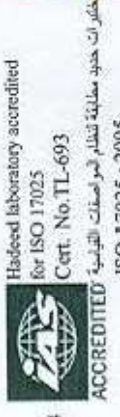
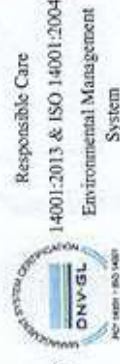
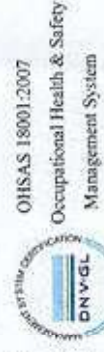
Material ID	Heat ID	Pieces	Net Wt.(MT)	YS N/mm2	UTS N/mm2	EL%	GL (mm)LT	Bend Test	Hardness	ECV	Zinc Coat g/m2	r	n	Raf(Mm)	Impact (J)	Others
1618020173	1749247	-	4.19	245	346	40	L0 50	OK	58	-	283	-	-	-	-	-
1618020108	1749247	-	4.02	245	346	40	L0 50	OK	55	-	281	-	-	-	-	-

Heat ID	C	Mn	S	P	Si	Al	N	Nb	V	Ti	Ca	Cr	Cu	Mo	Sn	Ni	CeV	Tramp	B
1749247	0.0577	0.181	0.0054	0.0064	0.01	0.0395	0.0028	00	0.00117	0.00113	0.00041	0.0075	0.0049	0.00073	00	0.0175	0.091	0.0001	0.0001
1749247	0.0577	0.181	0.0054	0.0064	0.01	0.0395	0.0028	00	0.00117	0.00113	0.00041	0.0075	0.0049	0.00073	00	0.0175	0.091	0.0001	0.0001

Physical Properties

Chem. Composition %

Impact Test Temperature °C  
Bend Test is according to standard  
Drop Weight Tear Test  
Hardness Unit



This certificate is generated electronically, stamp and signature are not required

TEST CERTIFICATE AS PER EN10204/3.1

شهادة الاختبار حسب المواصفة الأوروبية

# QUALITY CERTIFICATE

Saudi Basic Industries Corporation (SABIC)  
P.O.Box 5101 Riyadh 11422  
Kingdom of Saudi Arabia

سابك  
sabic

شهادة الجودة  
الشركة السعودية للصناعات الأساسية (سابك)  
ص. ب. 5101 الرياض 11422  
المملكة العربية السعودية

Customer Name and Address  
اسم الزبون وعنوانه  
ATTIEH STEEL COMPANY,  
P.O.BOX 12480  
INDUSTRIAL AREA  
21473 Jeddah  
TEL # 02 620062

Shipping Address  
ATTIEH ( Jeddah FACTORY)  
P.O.BOX 12480  
JEDDAH  
21473 Jeddah  
TEL # 2-687-6762

Certificate No. F003024022  
Customer No. 10020923  
Sales Order/Item.No. 2131431/100  
Customer P.O. No. 46107  
Date of Issue 12/01/18  
Delivery note No. 89214537

عنوان التسليم

رقم الشهادة  
رقم الزبون  
رقم أمر البيع  
رقم أمر الشراء  
تاريخ الإصدار  
رقم التسليم

Product details  
Thicknes(mm) 0.90  
CRCG  
خواص المنتج  
المسلكة (ملم)  
Standard SASO-ASTM-A653  
المواصفات  
عرض (ملم)  
1220

Coating Spec. G90  
مواصفة الزنك  
Steel Grade LFQ  
درجة الحديد  
Length(mm)  
الطول (م)

Material ID	Heat ID	Pieces	Net Wt.(MT)	YS N/mm2	UTS N/mm2	EL%	GL (mm)L/T	Bend Test	Hardness	ECV	Zinc Coat g/m2	r	n	Ra(Mm)	Impact (J)	Others
رقم اللثة / رقم التعريف	رقم الصبة	القطع	صافي الوزن	متانة الخضوع	متانة الشد	نسبة الاستطالة	اختبار القياس	اختبار الثني	الصلادة	أركسن	التكسية بالزنك			الخشونة	اختبار تصادم	أخرى
1618010409	1744031	-	9.67	208	321	40	L0.50	OK	57	-	277	-	-	-	-	-

Heat ID	C	Mn	S	P	Si	Al	N	Nb	V	Ti	Ca	Cr	Cu	Mo	Sn	Ni	CeV	Tramp	B
رقم الصبة	كربون	منجنيز	كبريت	فوسفور	سيلكون	الومنيوم	نروجين	نيوبيوم	فاناديوم	تيتانيوم	كالمسيوم	كروم	نحاس	موليبدينوم	قصدير	نيكل	0.084	الشوائب	بورون
1744031	0.0497	0.17	0.0085	0.0074	0.007	0.0417	0.0059	0.0002	0.00108	0.00074	0.00007	0.0118	0.0179	0.00444	0.001	0.0204	0.084		0.00002

الخصائص الفيزيائية

% الخصائص الكيميائية

Impact Test Temperature °C  
درجة اختبار التصادم  
Bend Test is according to standard  
اختبار الثني حسب المواصفات المطلوبة  
Drop Weight Tear Test  
اختبار السقوط الحر حسب المواصفات المطلوبة  
Hardness Unit  
وحدة اختبار الصلابة

OHSAS 18001:2007  
Occupational Health & Safety  
Management System  
Responsible Care  
14001:2013 & ISO 14001:2004  
Environmental Management  
System  
Haddad laboratory accredited  
for ISO 17025  
Cert. No. TL-693  
مختبرات حديد معتمدة لنظام المواصفات القياسية  
ISO 17025 : 2005  
TL-693 رقم الشهادة

This certificate is  
generated electronically,  
stamp and signatures are  
not required  
ISO 9001  
Quality Management  
ISO 22001  
Food Safety Management

TEST CERTIFICATE AS PER EN10204/3.1  
شهادة الاختبار حسب المواصفة الأوروبية

# QUALITY CERTIFICATE

Saudi Basic Industries Corporation (SABIC)  
P.O.Box 5101 Riyadh 11422  
Kingdom of Saudi Arabia

سابك  
sabic

شهادة الجودة  
الشركة السعودية للصناعات الأساسية (سابك)  
ص. ب. 5101 الرياض 11422  
المملكة العربية السعودية

Customer Name and Address ATTIEH STEEL COMPANY. P.O.BOX 12480 INDUSTRIAL AREA 21473 Jeddah TEL # 02 620062	اسم الزبون وعنوانه ATTIEH ( Jeddah FACTORY) P.O.BOX 12480 JEDDAH 21473 Jeddah TEL # 2-687-6762	Shipping Address ATTIEH ( Jeddah FACTORY) P.O.BOX 12480 JEDDAH 21473 Jeddah TEL # 2-687-6762	عنوان التسليم	Certificate No. F003020861 Customer No. 10020923 Sales Order/Item No. 2131431/180 Customer P.O. No. 46107 Date of Issue 31/12/17 Delivery note No. 89168651	رقم الشهادة رقم الزبون رقم أمر البيع رقم أمر الشراء تاريخ الإصدار رقم التسليم
---	---	---	---------------	--	--

Product details Thickness(mm) 1.00	CRCG	خواص المنتج السماكة (ملم) 1.00	Standard Width(mm) 1220	SASO-ASTM-A653	المواصفات العرض (ملم) 1220	Coating Spec. G90	موصفة الزنك	Steel Grade L FQ	درجة الحديد الطول (م)
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Material ID	Heat ID	Pieces	Net Wt.(MT)	YS N/mm2	UTS N/mm2	EL%	GL (mm)LT	Bend Test	Hardness	ECV	Zinc Coat g/m2	r	n	Ra(Mm)	Impact (J)	Others
1617520087	1744037	-	4.76	294	336	40	L0.50	OK	52	-	276	-	-	-	-	-

Physical Properties

Heat ID	C	Mn	S	P	Si	Al	N	Nb	V	Ti	Ca	Cr	Cu	Mo	Sn	Ni	CEV	Tramp	B
1744037	0.0536	0.161	0.0094	0.0056	0.005	0.0366	0.0015	0.0002	0.00081	0.00065	0.00003	0.0144	0.036	0.00487	0.001	0.0243	0.088	0.00002	0.00002

Chem. Composition %

Impact Test Temperature °C  
Bend Test is according to standard  
Drop Weight Test  
Hardness Unit



Responsible Care  
14001:2013 & ISO 14001:2004  
Environmental Management  
System



Headed laboratory accredited  
for ISO 17025  
Cert. No. TL-693  
ISO 17025 : 2005  
TL-693



This certificate is  
generated electronically.  
stamp and signature are  
not required

TEST CERTIFICATE AS PER EN10204/3.1  
شهادة الإختبار حسب المواصفة الأوروبية

التفاصيل الكيميائية %

الخواص الفيزيائية

Customer Name and Address ATTIEH STEEL COMPANY. P.O.BOX 12480 INDUSTRIAL AREA 21473 Jeddah TEL # 02 620062	اسم الزبون وعنوانه ATTIEH ( Jeddah FACTORY) P.O.BOX 12480 JEDDAH 21473 Jeddah TEL # 2-687-6762	Shipping Address ATTIEH ( Jeddah FACTORY) P.O.BOX 12480 JEDDAH 21473 Jeddah TEL # 2-687-6762	عنوان التسليم	Certificate No. F003020516 Customer No. 10020923 Sales Order/Item No. 2131431/120 Customer P.O. No. 46107 Date of Issue 29/12/17 Delivery note No. 89166379	رقم الشهادة رقم الزبون رقم أمر البيع رقم أمر الشراء تاريخ الإصدار رقم التسليم
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Product details Thickness(mm) 1.20	CRCG	خواص المنتج المساكة (ملم) 1.20	Standard SASO-ASTM-A653	المواصفات العرض (ملم) 1220	Coating Spec. G90	موصفة الزنك	Steel Grade L.FQ	درجة الحديد (الطولام)
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Material ID	Heat ID	Pieces	Net Wt.(MT)	YS N/mm2	UTS N/mm2	EL%	GL (mm)LT	Bend Test	Hardness	ECV	Zinc Coat g/m2	r	n	RaI(Mm)	Impact (J)	Others
رقم اللعة / رقم التعريف	رقم الصبة	القطع	صافي الوزن	مقاومة الخضوع	مقاومة الشد	نسبة الاستطالة	اختبار القوس	اختبار الثني	الصلادة	أركسن	التكسية بالزنك	-	-	الخشونة	اختبار تضخم	اخرى
1617520082	1744007	-	9.79	317	372	34	L0 50	OK	55	-	279	-	-	-	-	-

Physical Properties

Heat ID	C	Mn	S	P	Si	Al	N	Nb	V	Ti	Ca	Cr	Cu	Mo	Sn	Ni	CEV	Tramp	B
رقم الصبة	كربون	منجنيز	كبريت	فوسفور	سيليكون	ألومنيوم	نتروجين	نيوبيوم	فاناديوم	تيتانيوم	كاليوم	كروم	نحاس	موليبدينوم	قصدير	نيكل	0.09	الشوائب	بورون
1744007	0.055	0.171	0.0079	0.0068	0.006	0.027	0.006	0.0002	0.00027	0.00052	0.00003	0.0105	0.0312	0.00351	0.001	0.0192	0.09	0.00002	0.00002

Chem. Composition %

Impact Test Temperature °C  
Bend Test is according to standard  
Drop Weight Tear Test  
Hardness Unit

درجة اختبار التسليم  
اختبار الثني حسب المواصفات المطبقة  
اختبار سقوط الحجر حسب المواصفات المطبقة  
وحدة اختبار الصلادة

TEST CERTIFICATE AS PER EN10204/3.1  
شهادة الاختبار حسب المواصفة الأوروبية

OHSAS 18001:2007  
Occupational Health & Safety  
Management System

Responsible Care  
14001:2013 & ISO 14001:2004  
Environmental Management  
System

ACCREDITED  
ISO 17025 : 2005  
TL-693

Haddeed laboratory accredited  
for ISO 17025  
Cert. No. TL-693  
مختبر ك حد معتمدة لتقدير المواصفات القياسية  
ISO 17025 : 2005  
رقم الشهادة TL-693

ISO 9001  
Quality Management  
ISO 22000  
Business Continuity Management

This certificate is  
generated electronically,  
stamp and signature are  
not required

% صحتنا بتكنولوجيا

مختبر ك حد معتمدة لتقدير المواصفات القياسية

# QUALITY CERTIFICATE

Saudi Basic Industries Corporation (SABIC)  
P.O.Box 5101 Riyadh 11422  
Kingdom of Saudi Arabia

سابك  
sabic

شهادة الجودة

الشركة السعودية للصناعات الأساسية (سابك)  
ص. ب. 5101 الرياض 11422  
المملكة العربية السعودية

Customer Name and Address ATTIEH STEEL COMPANY, P.O.BOX 12480 INDUSTRIAL AREA 21473 Jeddah TEL # 02 620062	اسم الزبون وعنوانه	Shipping Address ATTIEH ( Jeddah FACTORY) P.O.BOX 12480 JEDDAH 21473 Jeddah TEL # 2-687-6762	عنوان الشحن	Certificate No. F003020809 Customer No. 10020923 Sales Order/Item No. 2131431130 Customer P.O. No. 46107 Date of Issue 31/12/17 Delivery note No. 89180329	رقم الشهادة رقم الزبون رقم أمر البيع رقم أمر الشراء تاريخ الإصدار رقم التسليم
---	--------------------	---	-------------	---	--

Product details Thickness(mm) 1.50	CRCG	خواص المنتج	Standard SASO-ASTM-A653	المواصفات	Coating Spec. G90	Steel Grade LFG	درجة الحديد
		سمك الصلابة (ملم)	1220	العرض (ملم)			الطول (م)

Material ID	Heat ID	Pieces	Net Wt.(MT)	YS N/mm2	UTS N/mm2	EL%	GL (mm)LT	Bend Test	Hardness	ECV	Zinc Coat g/m2	r	n	Ra(Mm)	Impact (J)	Others
1617510668	1745272	-	10.23	330	343	36	L0.50	OK	55	-	277	-	-	-	-	-

Physical Properties

Heat ID	C	Mn	S	P	Si	Al	Nb	V	Ti	Ca	Cr	Cu	Mo	Sn	Ni	CEV	Tramp	B
1745272	0.0491	0.162	0.0096	0.0077	0.007	0.0288	0.00087	0.00087	0.00087	0.00039	0.0126	0.0193	0.0012	0.003	0.0178	0.082	0.0082	0.00

Chem. Composition %

Impact Test Temperature °C	درجة اختبار التسليم	Responsible Care	مسئول الرعاية
Bend Test is according to standard	اختبار الشق حسب المواصفات المطلوبة	14001:2013 & ISO 14001:2004	مسئول إدارة الجودة والبيئة والسلامة
Drop Weight Test	اختبار الوزن حسب المواصفات المطلوبة	Environmental Management System	نظام إدارة البيئة
Hardness Unit	وحدة اختبار الصلابة	Occupational Health & Safety Management System	نظام إدارة الصحة والسلامة المهنية

TEST CERTIFICATE AS PER EN10204/3.1

شهادة الإختبار حسب المواصفة الأوروبية



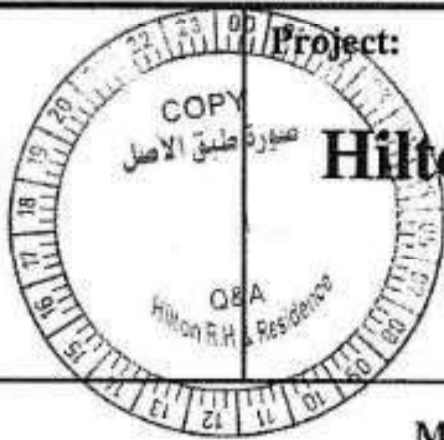
مسئول إدارة الجودة والبيئة والسلامة  
مسئول إدارة البيئة  
نظام إدارة الصحة والسلامة المهنية

This certificate is generated electronically, stamp and signature are not required



## Previous Approvals

Consultant:



**Hilton Riyadh Hotel & Residence**

Contractor:



الشركة العامة للتجارة والمقاولات  
 Al-latifia Trading & Contracting Co.

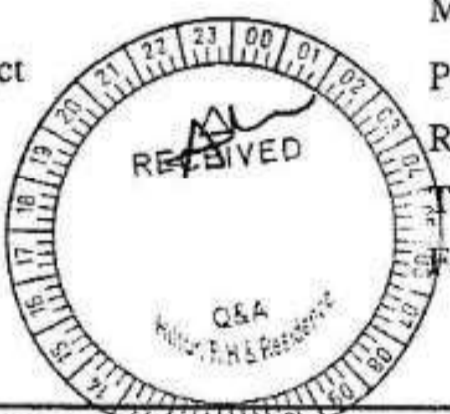
Action	Info
	Del

**MATERIAL SUBMITTAL**

Ref. No. : M - 142 - G - AF - G - H - 00021 Rev 0 Date : 1 0 0 9 1 5  New Submittal  Resubmittal

Architectural     Electrical     Civil     Furniture/Equipment    Specs. No. 15890  
 Structural     Mechanical     Interior Design     Others    Drwg. No.

Description*	Manufacturer	Supplier	No. of Catalogue/Sample	Code
Galvanized Duct	M/s. AIRTECH Co. P.O. Box No - 11444 Riyadh Tel - 01 498 2998 Fax		2/1 W/SAMPLE FLANGE DUCT.	<u>B</u>



Catalogue     Drawing     Sample     Certificate     Calculation     Document

Having checked this submittal, we certify that it confirms to the requirements of the Contract Documents in all respects, except as otherwise indicated herein (

*Riad Shakkri*

Technical Manager *[Signature]*

Received by:

\_\_\_\_\_ Date \_\_\_\_\_ Name & Signature of Consultant

Remarks / Comments:

- ① GALVANIZED DUCT MATERIAL IS APPROVED . REFER TO MARKED PAGES .
- ② REFER DUCT WORK CONSTRUCTION SCHEDULE .
- ③ MINIMUM #22 GAGE IS REQUIRED



Status A Approved    C Revise & Resubmit, Work shall not proceed    N No Action  
B Approved as noted    D Rejected - Resubmit

Consultant Site Office		Consultant Head Office	
Engineer: <i>[Signature]</i>	Project Manager: <i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
Date: _____	Name & Signature: <u>Devkata Das</u>	Date: _____	Name & Signature: _____

15/10/15  
 Name & Signature

*[Handwritten mark]*



**KUWAIT INSTITUTE FOR SCIENTIFIC RESEARCH**  
 Contract No. 117568  
 Administration Building & Mosque Project



CONTRACT NO. : 117568  
 CONSULTANT: AL JAZERA CONSULTANTS  
 CONTRACTOR: AL Enma'a Real Estate Co.  
 TO: RESIDENT ENGINEER (JC)

**SITE TRANSMITTAL  
(MATERIAL)**

TRNS No: KISR-MAT-HVAC-B1 | Rev.: 00  
 DIV/SEC.:  
 DATE: 17/03/2018

**WE REQUEST APPROVAL OF THE FOLLOWING MATERIAL/GOODS/PRODUCTS/EQUIPMENT THAT COMPLIES WITH THE CONTRACT DOCUMENTS.**

Item No.	Drwg Spec. or BOQ Ref		Item Description	Type	Code	
					Submittal	Action
1	15810-5	5	Construction Schedule For Rectanglur & Spiral Ducts (As per attached)  Manufacturer : Airtech - K.S.A	OT		B

**N.B. We certify that above items have been reviewed in detail and are correct and in strict conformance with the contract Document unless mentioned herein as otherwise.**

For Contractor :

*[Signature]*

Date : 17/03/2018

Received by Consultant :



Date :

cc: KISR

**CONSULTANT'S REMARKS:**

**Action : "B" Approved As Noted :**

- Proposed duct gauges **are approved.**
- Use profile for ducts sized 0-1600mms dia.
- Use profile for ducts sized 1650-1800mms dia.
- Provide gaskets for flanged duct connections

Corrections or comments made relative to submittals during this review do not relieve the Contractor with the requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The Contractor is responsible for confirming and correlating all quantities and dimensions, selecting appropriate processes and techniques of constructions, coordinating his work with that of other trades, and performing his work in a safe and satisfactory manner.

Resident Engineer :

*[Signature]*

KISR Project - Contract # 117568

18 MAR 2018

Date :

Received by Contractor :

Time : 2:30

Rec. By : *[Signature]*

Date :

Distribution: KISR

\* Submittal Code:

- Submitted for Approval
- Submitted for information

\*\* Action Code

- A. Approved
- B. Approved As Noted
- BR. Approved As Noted Resubmit
- C. Not Approved
- D. For Information/Incomplete

Type: MD-Manufacturer Data

- SM-Sample
- CAT-Catalogue
- CT-Certificates
- GT-Guarantee
- OT-Other

Al-Enma'a Real Estate Co.  
Distribution List

Sub-Contractor

Action  Info

Ahco  Action  Info

ETA  Action  Info

Steel  Action  Info

Other's  Action  Info

Note: A separate transmittal should be made for each material.

Staff

DPM  Action  Info

UM  Action  Info

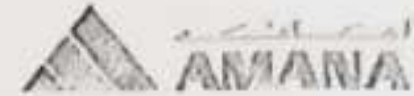
Coord.  Action  Info

CS  Action  Info

QC  Action  Info

Others  Action  Info

Form # 005



Project: - Design & Build Qiddiya Site Office Building @ Qiddiya

**MATERIAL APPROVAL REQUEST**

To **Qiddiyah Investment Company**

Attention **Eng'r Abdullah Alfurhad (Project Manager)**

Mat. No. **KJ-111-O-EN-MAT-9010-00**

Date **July 24, 2019**

For Resubmittal Only

Client Letter Ref:

Date:

**APPROVAL REQUESTED FOR : G.I. DUCT, FITTINGS & ACCESSORIES**

**Manufacturer/ Supplier : AIRTECH / Air Technologies Co.**

**Sample/ Finish : RECTANGULAR DUCTWORKS: 2" W.G. PRESSURE CLASS - AS PER SMACNA STDS, 3RD EDITION 2005, GALVANIZED STEEL CONFORM TO ASTM A653, G90 COATING LOCKFORMING QUALITY.**

**Catalogue Ref : Technical Data / Catalogue**

**Attachment:**  Technical Data  Catalogue  Sample List  Physical Sample  Others - Drawings

**LOCATION WHERE USED**

**Projectwide - Air Conditioning System.**

**RELEVANT DRAWINGS AND SPECIFICATIONS:**

Design Drawings: CMJ-040-O-EN-PAC-00-0001; CMJ-040-O-EN-PAC-00-0300; CMJ-040-O-EN-PAC-00-0600; CMJ-040-O-EN-PAC-01-0001; CMJ-040-O-EN-PAC-01-0002; CMJ-040-O-EN-PAC-02-0001

**MATERIAL CONFORMS TO SPECIFICATION : YES**

	Prepared By	Reviewed By	Approved By
Signature			
Name	Rafnir Palawi	Khader Mydeen Balcha	
Designation	Project Coordinator - MEP	Project Manager - MEP	

**CLIENT / CONSULTANT COMMENTS:**

Code A: Approved  Code B: Approved with Comments  Code C: Rejected (Revise & Resubmit)  Code D: For Information

**REMARKS :**

**Reply on KJ-111-O-EN-MAT-9010-00-GI Ductworks & Accessories:**

- All duct work shall be constructed, reinforced, supported, joined, and installed in accordance with standard code and manufacturer recommendation.
- Painting finishes and color of the ducts shall be as per architectural interior design.
- Compliance with the specification shall not relieve the Contractor from any of his Contractual obligations and responsibilities towards fulfilling the performance requirements.
- No approval or consent or absence of comment by the Employer or the Employer's representative shall affect the Contractor's obligations or liabilities.

Signature:

Name: **Faisal Almuhammad**

Date: **28/7/19**