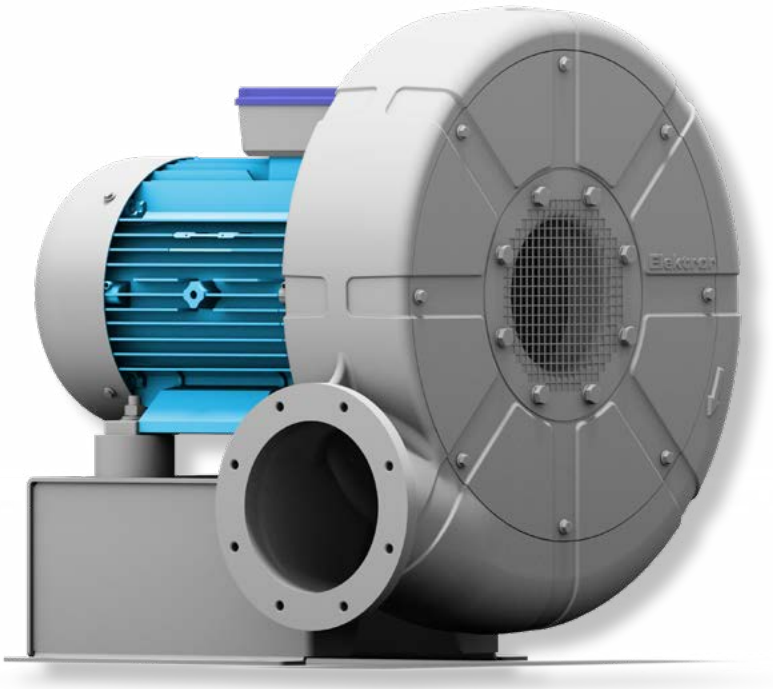
TCF
TWIN CITY FAN

INDUSTRIAL PROCESS AND
COMMERCIAL VENTILATION SYSTEMS

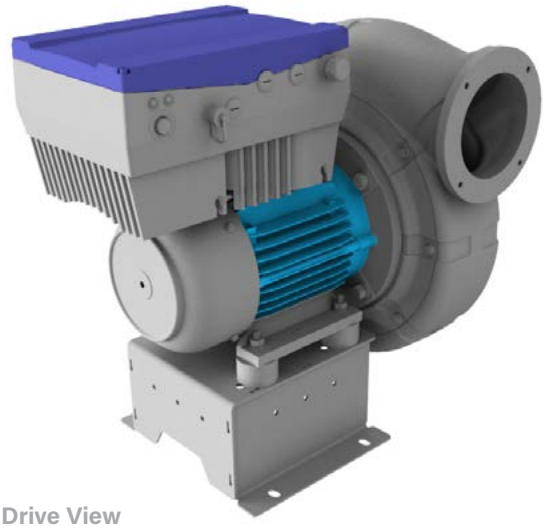
Elektror
airsystems gmbh

EXTREME PRESSURE BLOWERS

Model TXP



Inlet View



Drive View

Overview

TXP

Twin City Fan is proud to announce the new Extreme Pressure Blower Model TXP, engineered and produced by our German partner Elektror Airsystems GmbH. Model TXP, part of the new TX series of blowers, are designed and built to deliver superior performance with a special impeller and cast aluminum housing, driven by special motors capable of operating between 6,500 to 8,300 RPM. Compared to the conventional belt driven blowers, these compact size direct drive blowers achieve the same high pressure and efficiency with about $^{1}/_{2}$ - $^{1}/_{3}$ of the size. The direct drive also eliminates belt and pulley maintenance, giving our customer years of reliable operation. Combined with the variable frequency drives, the TX series demonstrates the versatile performance and is suitable for many applications.

The substantially higher pressure and airflow rating of TCF's Model TXP Extreme Pressure Blower come from the extremely high rotation speeds, in combination with specially designed electric motors driven by a frequency converter. The motors are manufactured to meet the needs of the high pressure blower and ensure optimum performance. The aesthetically designed cast aluminum housings are not only appealing to the environment, but are also aero-dynamically optimized to deliver the airflow required. The well-balanced impeller is made from aluminum as standard and stainless steel as an option. Together, they ensure vibration-free operation at low noise levels.

All motors are UL certified with a rating of IP 54 or better and comply with IEC 60034-1. Motors are designed for frequency converter operations with enhanced winding insulation and a PTC thermistor. The maximum operating frequency is between 120 Hz and 140 Hz. Please note the information on the nameplate of the blower.

Extreme Pressure Blowers Offer:

- Extreme compact size
- Superior performance
- High efficiency
- Built-in high efficiency motor
- Variable speed control
- Industrial strength construction
- Low maintenance
- Low noise characteristics

Energy Regulations

Twin City Fan & Blower supports energy efficiency regulations enacted by the U.S. Department of Energy (DOE) and specific states. The selection and application of fan products is a significant part of these regulations. Engineers and specifiers must understand how to apply TCF products to their specific applications to meet applicable DOE and state regulatory requirements. Twin City Fan & Blower has made significant investments in product testing and development to provide efficient products. Developments in Twin City Fan & Blower's Fan Selector software are in place to aid your decision in product selection to assist with meeting the efficiency requirements as stipulated in the applicable regulations.

Overview

TXP

Speed Control Blowers

This type of device is used wherever different volume flows or pressures are required for process air or process engineering reasons, or where these parameters have to be kept constant.

Advantages

- Energy and cost savings through the combination of high efficiency blower, specially designed motor and use of a frequency converter
- Soft blower start, resulting in longer service life
- Lower noise level and heat generation
- Low maintenance with the elimination of the belts and couplings

Twin City Fan offers two types of construction. The IK Series features the frequency inverter directly mounted on the motors, eliminating the needs for additional or special cabling and installation. The IV Series features the motors with terminal boxes, allowing the necessary frequency converter to be mounted at a limited distance, which depends on the motor and frequency converter type. If the frequency converter is supplied by Twin City Fan, it is available for EMC limit value class A as standard.

Typical Applications Include

- Delivering medium air flow against high system resistance (static pressure)
- Gas and vapor extractions
- Machine components cooling
- Ventilation
- Vacuum generation
- Air supply for combustion systems
- Drying applications
- Air supply for air cushion tables

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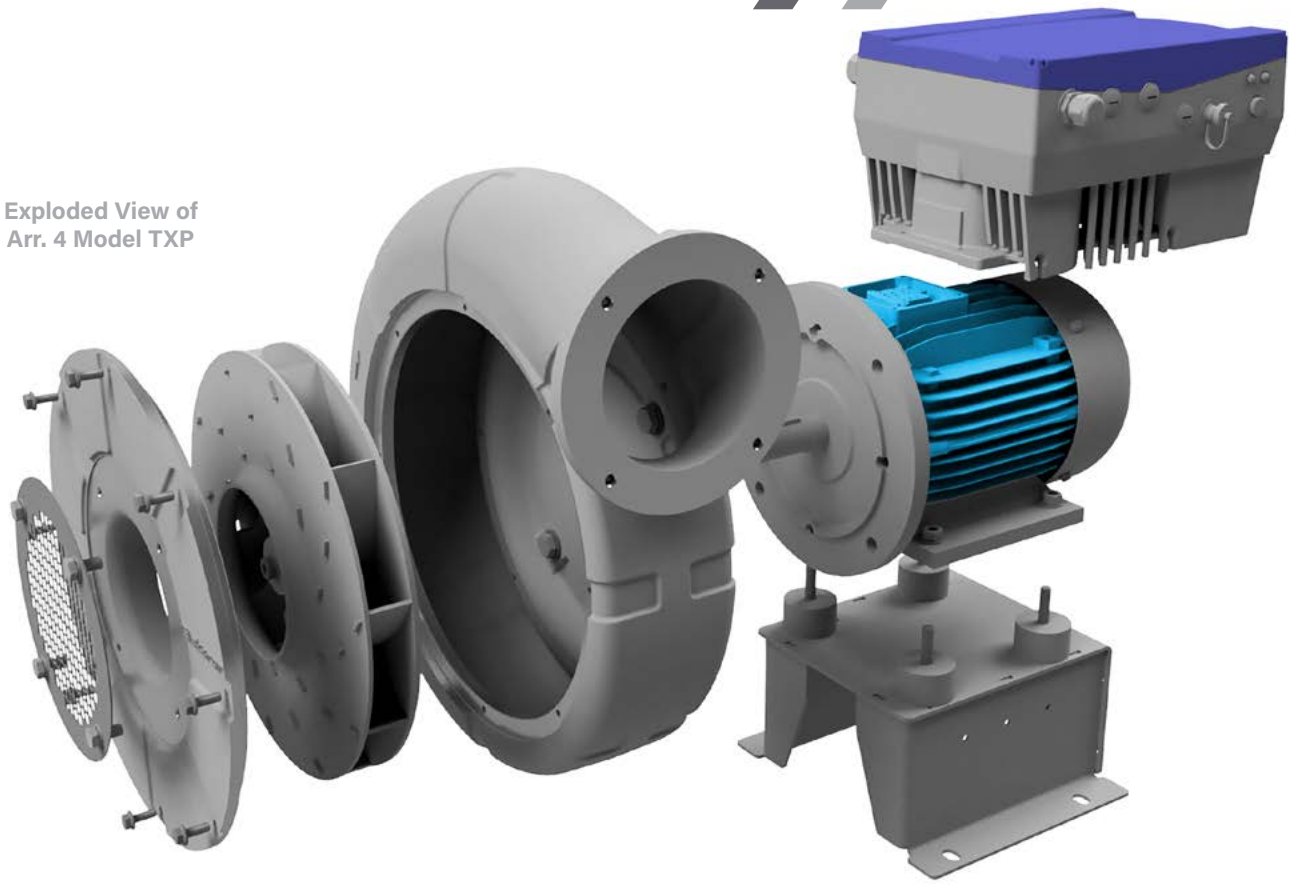
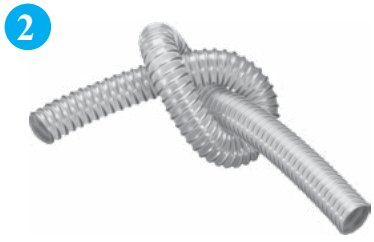
Bag Break Station Application

ACCESSORIES



Exploded View of
Arr. 4 Model TXP



1 Air Knife

- Ideally suitable as a blower connection accessory for drying, cooling, cleaning, blowing out and de-dusting
- Provides a consistent air flow or air curtain and directs it precisely at the desired spot
- Slot width adjustable between 0.08 in. and 0.31 in.
- Material: stainless steel

2 Spiral Hose

- Highly abrasion-proof, smooth interior, optimized flow properties, flexible, high tensile strength and tear resistant
- High resistance to oils, fuels, diluted alkaline solutions and acids, UV radiation and atmospheric agents
- Also suitable for abrasive solids like dusts, powder, fibers, shavings and granules

3 Spiral Hose Clamps

- For attachment of exterior corrugated spiral hoses
- Stainless steel band and housing

Performance

Blowers are flow-generating devices for the movement of air and other gases. In centrifugal blowers the conveyed medium is drawn axially, accelerated radially through the rotation of the impeller and expelled tangentially. The resistance to the discharged air (by ducts, pipes, filters, parts of the installed system) must be overcome by the pressure generated by the blower. However, with increasing flow volume, the ability of the blower to generate more pressure is decreased. The performance behavior depends on the blower design and size. This is presented as characteristic curves of differential pressure and airflow (blower curve).

The required static pressure increases as the airflow increases:

- If the volumetric flow rate shall be doubled, four times the installation resistance must be overcome. The resultant characteristics is called system curve.
- The operating point of the blower is determined by the intersection point of the system curve and the static pressure curve.
- The system pressure calculation requires skill and sometimes experimentation. Prior experience will also help. An increase in system pressure reduces the flow and power consumption (per the blower performance curves).

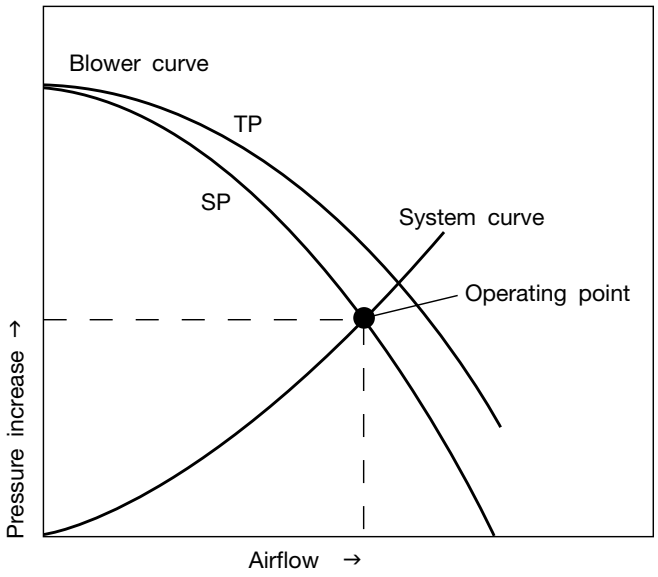
All Model TXP blowers have overloading power curves, which means the power consumption continues to rise as the airflow increases. The maximum airflow of a blower occurs at zero static pressure and consumes the maximum power.

Noise Generation

The noise generated by a blower ensues from flow processes and vortices inside the impeller and the housing and is determined by:

a) the blower design (axial blower, radial blower, construction principle of the impeller),
b) the blower size in relation to the specified pressure differences and volumetric flow rates,
c) the operating point of the blower on the performance curve,
d) discharge velocity,
e) the rotational speed that can be reduced by the variable speed control for the Twin City Fan Extreme Pressure Blowers.

Figure 1. Operating Point of the Blower



The noise levels are not constant over the entire performance range. Blower housings and impellers are designed in accordance with flow requirements. Therefore, the noise generation depends mainly on the requirements for flow volume and pressure difference, as well as on the correct selection of the blower. The noise levels are usually specified in units of dB(A), which is the overall noise level of the blower. Please refer to Twin City Fan's Fan Engineering Letters FE-200 and FE-300 for more detailed information on applications and calculations of noise level.

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Performance Curves

Fan performance curves provided for the Model TXP blowers show the flow and pressure. The blowers are tested in our test lab per AMCA 210, AMCA 300, ISO 5801 and ISO 3746:2010, with free inlet, ducted outlet. Noise levels are indicated at 3.28 feet / 1 meter from the inlet of the blower. All performance values are based on density of 0.075 lb/ft³.

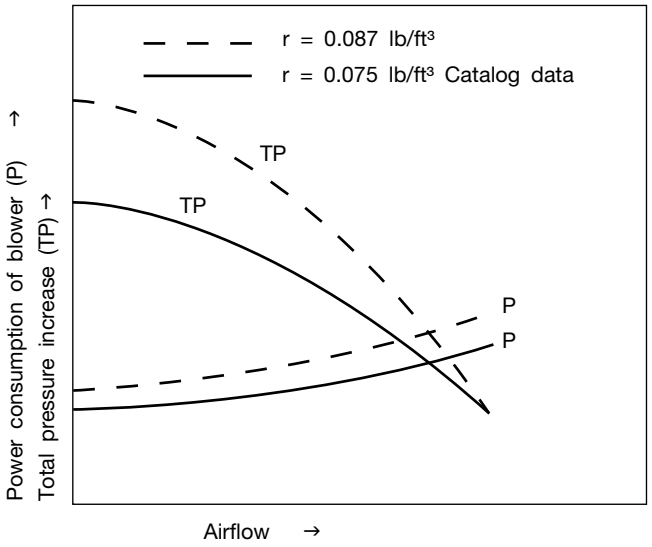
Influence of Air Density

The total pressure increase and the power consumption of the blower change proportionally to the density of the conveyed medium and must be taken into consideration on selecting the blower. See Figure 2. Blower performance must be corrected for any density values other than 0.075 lb/ft³. Twin City Fan's Fan Selector software will give values corrected for density. Density changes through temperature influences may also be calculated as follows:

$$\rho_2 = \rho_1 \frac{273 + \vartheta_1}{273 + \vartheta_2}$$

ϑ = temperature of conveyed medium [°F]
ρ = air density [lb/ft³]

Figure 2. Influence of conveyed medium density



Features

Speed Controlled Blowers

They are to be used wherever a change of airflow is needed.

Model Range IV and IK

All Model TXP blowers require frequency converter operations. The motors are equipped with PTC thermistor sensors for thermal protection with enhanced winding insulation. Speed ranges are 50-120 Hz and 50-140 Hz. The speed range is clearly marked on the nameplate and is the maximum operating speed of the blower.

Temperature of conveyed media and environment

Blowers are designed for an ambient temperature range of -4°F to +104°F. All motors comply with thermal class F in accordance with EN 60034-1 (VDE 0530 Part 1). The media temperature that is handled by the standard blower ranges from -4°F to +176°F.

Insulation

Upon special requests, motors can be supplied for the more stringent protection category IP 55 as well as with tropical and moisture protection insulation. If the blower needs to be further insulated, a PTFE radial shaft seal can be fitted on the shaft. Further insulation possibilities are available upon request.

Protection against corrosion

By using cast aluminum housings and aluminum or steel impellers as manufacturing material, the Model TXP blowers are substantially resistant to corrosion. Painting on the housing further improves the corrosion resistance. Special coatings are available for special applications. In addition, impellers made from stainless steel material can be supplied. Please consult with Twin City Fan for special requests.

Blower Speeds

The standard blowers are equipped with 2-pole motors, which must be driven by the frequency converter. When the blower speed changes, the total pressure, volumetric airflow and power consumption change as follows:

$$\dot{V}_2 = \dot{V}_1 \frac{n_2}{n_1}$$

$$\Delta TP_2 = \Delta TP_1 \left(\frac{n_2}{n_1}\right)^2$$

$$n_2 = n_1 \frac{\dot{V}_2}{\dot{V}_1}$$

$$P_2 = P_1 \left(\frac{n_2}{n_1}\right)^3$$

$\dot{V}$ - Volumetric airflow
ΔTP - Total pressure increase
n - RPM
P - Power consumption

Voltages and Frequencies
Blowers are provided with specially designed 2-pole motors suitable for variable frequency speed controllers. The motors are rated for 400 Volts. It is mandatory to operate the motor at the rated voltage with the variable frequency controllers, which can be connected to the standard power supply. Special voltages are available on request. Variable frequency speed controller changes the fan speed to suit the required performance as follows:

$$n_2 = n_1 \frac{f_2}{f_1}$$

$$\Delta TP_2 = \Delta TP_1 \left(\frac{f_2}{f_1}\right)^2$$

$$\dot{V}_2 = \dot{V}_1 \frac{f_2}{f_1}$$

$$P_2 = P_1 \left(\frac{f_2}{f_1}\right)^3$$

$\dot{V}$ - Volumetric airflow
ΔTP - Total pressure increase
n - RPM
P - Power consumption
f - Frequency

Energy Efficiency

Twin City Fan's Model TXP Extreme Pressure Blowers come installed with high efficiency motors as standard.

Model TXP Extreme Pressure Blower Motors
- high efficiency
- reduce operating costs
- longer service life
- generate less waste heat
- protect the environment

Besides the energy efficient motors used, other factors may further reduce energy and costs. Potential savings may be found, for example, by:
- evaluating the conditions of the application or installation
- the correct selection of the blower
- choosing the appropriate accessories
- optimized control/regulation of Extreme Pressure Blowers with a frequency converter

Instructions for Operation and Maintenance

Up to an operating frequency of 140 Hz, the direct drive Model TXP Extreme Pressure Blowers motors are equipped with sealed (permanently lubricated) ball bearings that do not have to be lubricated. The motor bearings have a minimum service life of 25,000 hours with a horizontal shaft position.

The service life of the ball bearings depends on the operating hours and other factors, such as temperature, humidity, etc. Check the condition of the blower periodically to ensure its optimal performance. Replace the bearings or the motor when the bearing service life runs out.

The Extreme Pressure Blower is intended for clean air. Conveying solid matters is not permitted and the blower's curved impellers are not suitable for transporting material. If the media to be conveyed includes solid matters or other contaminants, an inlet filter must be installed on the blower inlet. Light dust might be permissible to a certain extent. Please consult with Twin City Fan for such applications.

Upon special request, a drain plug can be provided at the lowest point of the blower housing for condensation drainage.

Conveying potentially explosive gas is strictly prohibited. For blowers that have a free inlet or free outlet arrangement, proper protections need to be installed to avoid personal injury. Special screens or guards are available as accessories from the manufacturer.

When installed outdoors, the blower must be installed with weather protection.

Ordering Data

- Blower type
- Volumetric airflow
- Required total or static pressure difference
- Voltage, frequency, three-phase AC for the motor
- Ambient and conveyed medium temperature
- Conveyed medium density
- Type of conveyed medium
- Housing position
- Accessories / special requirements

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Conversion Tables

Units of Measurement

	BY UNITS OF MEASUREMENT	WITH CONVERSION FACTOR	IN UNITS OF MEASUREMENT	BY UNITS OF MEASUREMENT	WITH CONVERSION FACTOR	IN UNITS OF MEASUREMENT
PRESSURE	bar	1000	mbar	mbar	0.001	bar
PRESSURE	mbar	100	Pa	Pa	0.01	mbar
PRESSURE	mmWS	0.098	mbar	mbar	10.2	mmWS
PRESSURE	mWS	98.07	mbar	mbar	0.0102	mWS

European Units of Measurement in the USA

	BY UNITS OF MEASUREMENT	WITH CONVERSION FACTOR	IN UNITS OF MEASUREMENT	BY UNITS OF MEASUREMENT	WITH CONVERSION FACTOR	IN UNITS OF MEASUREMENT
PRESSURE	bar	14.5	psi = lb/in²	psi = lb/in²	0.068	mbar
PRESSURE	mbar	0.0145	psi = lb/in²	psi = lb/in²	68.95	bar
PRESSURE	mbar	0.402	inches water	inches water	2.49	mbar
VOLUMETRIC AIRFLOW	m³/min	264.2	gal/min	gal/min	0.003	m³/min
VOLUMETRIC AIRFLOW	m³/min	35.31	cfm	cfm	0.028	m³/min
ELECTRIC POWER	kW	1.36	hp	hp	0.735	kW
LENGTH	mm	0.039	inch	inch	25.4	mm
LENGTH	m	39.37	inch	inch	0.025	m
LENGTH	mm	0.003	ft	ft	305	mm
LENGTH	m	3.28	ft	ft	0.305	m
WEIGHT	kg	2.05	lb	lb	0.454	kg

Example for Conversion

	BY UNITS OF MEASUREMENT	WITH CONVERSION FACTOR	IN UNITS OF MEASUREMENT	BY UNITS OF MEASUREMENT	WITH CONVERSION FACTOR	IN UNITS OF MEASUREMENT
PRESSURE	180 mbar	0.014	2.61 PSI	2.61 PSI	68.95	180 mbar
VOLUMETRIC AIRFLOW	6 m³/min	35.31	211.8 cfm	211.8 cfm	0.028	6 m³/min

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Housing Configurations

CLOCKWISE (CW) - ROTATION & DISCHARGE (ROTATION VIEW FROM DRIVE SIDE)

UBD
Upblast
CW 360

THD
Top Horizontal
CW 90

TAD*
Top Angular Down
CW 135

DBD
Downblast
CW 180

BAD*
Bottom Angular Down
CW 225

BHD
Bottom Horizontal
CW 270

BAU*
Bottom Angular Up
CW 315

COUNTER CLOCKWISE (CCW) - ROTATION & DISCHARGE (ROTATION VIEW FROM DRIVE SIDE)

UBD
Upblast
CCW 360

THD
Top Horizontal
CCW 90
(standard)

TAD*
Top Angular Down
CCW 135

DBD
Downblast
CCW 180

BAD*
Bottom Angular Down
CCW 225

BHD
Bottom Horizontal
CCW 270

BAU*
Bottom Angular Up
CCW 315

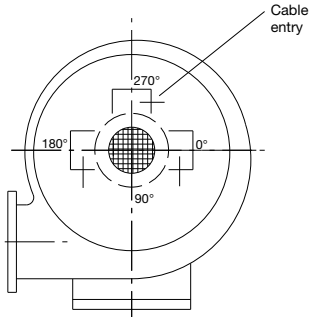
∗ Discharge not standard. Consult Sales.

Terminal Box Positions

Definition of the terminal box position
(seen from suction side)

270° = terminal box at top (standard version)
180° = terminal box left (only on request)
0° = terminal box right (only on request)
90° = terminal box at bottom (only on request)

Figure 4. Terminal Box Positions

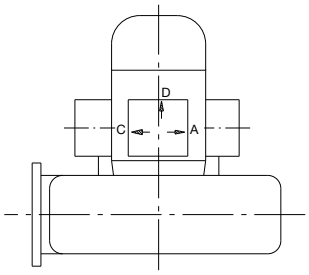


Cable Entry

Definition of cable inlet

A = right (standard version)
C = left
D = rear

Figure 5. Cable Entry



Nomenclature

Model

TXP 12 12 - 120/7.5

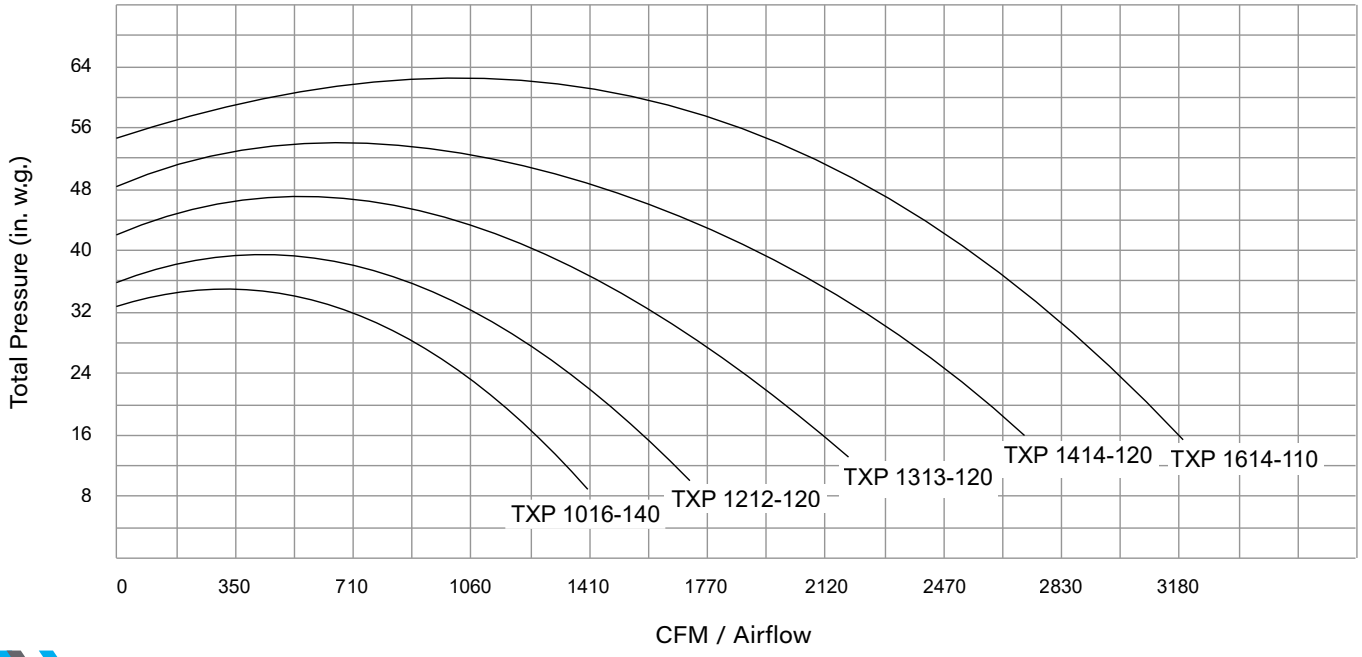
- Rated output (HP)
- Frequency (Hz)
- Width of Impeller (0.1 in.)
- Diameter of Impeller (in.)
- Twin City Fan Extreme Pressure Blower

Serial Number

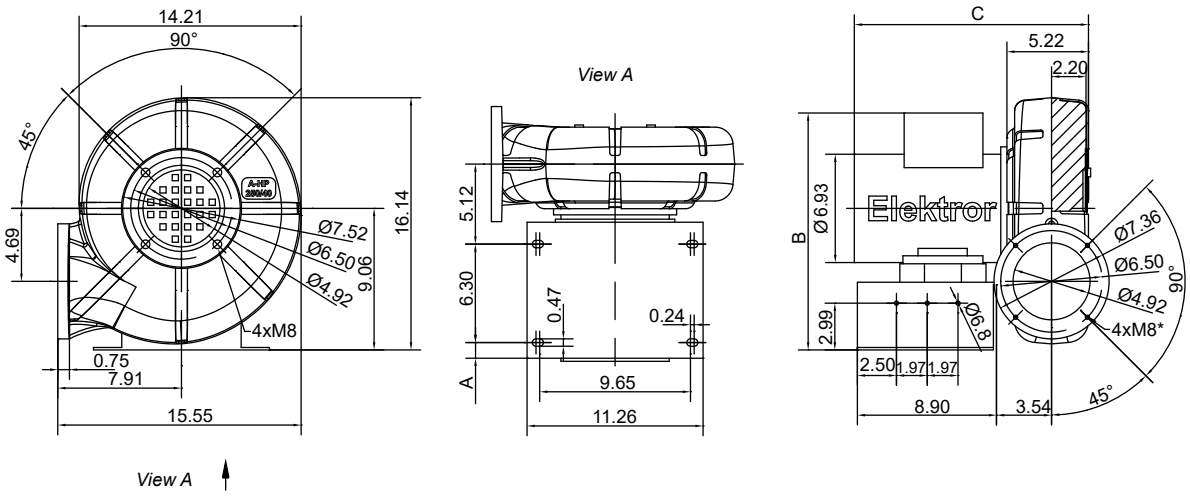
16 06 A 12345678

- Serial Number, 8-digit
- Place of Manufacture
- Month of Manufacture, 2-digit
- Year of Manufacture, 2-digit

Preselection / Characteristic Curves



TXP 1016-140, Arrangement 4

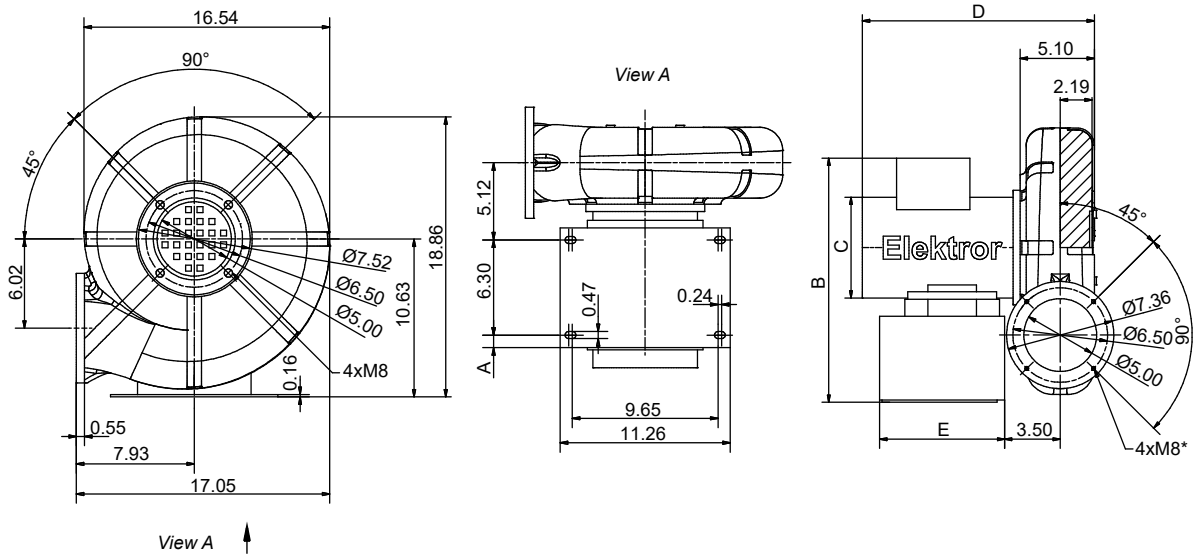


*Can be used as through-hole for M6 screw.

MODEL	A	B	C
TXP 1016-140/4.0*	3.50	15.16	14.98
TXP 1016-140/5.5*	2.52	15.20	15.96
TXP 1016-140/7.5*			

Note: Dimensions in inches

TXP 1212-120, Arrangement 4

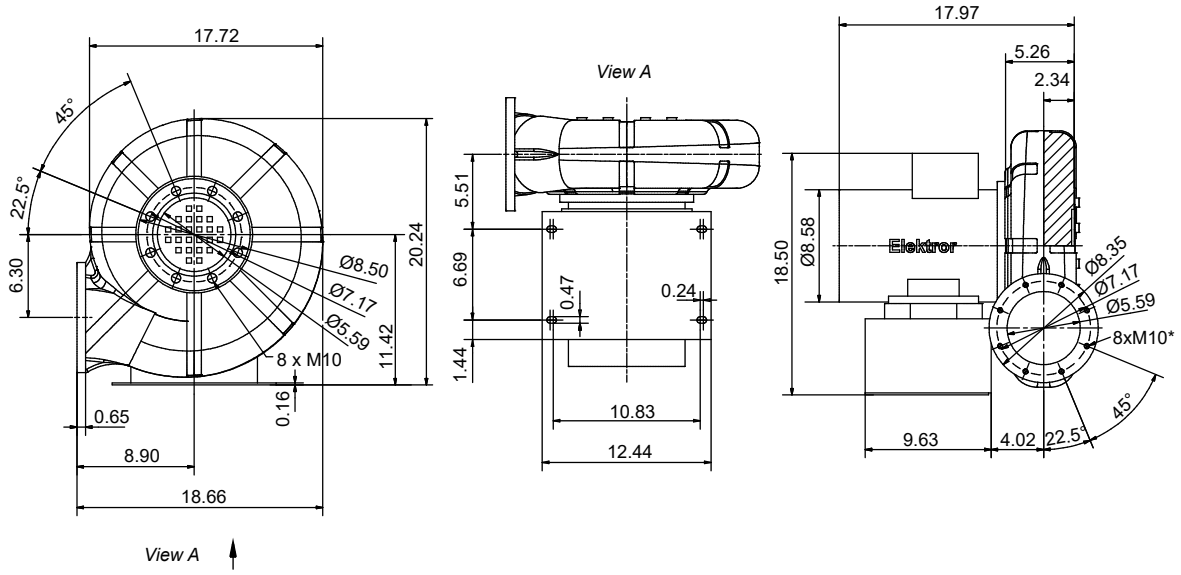


*Can be used as through-hole for M6 screw.

MODEL	A	B	C	D	E
TXP 1212-120/5.5*	0.98	16.77	Ø6.93	15.93	8.90
TXP 1212-120/7.5*	1.85	17.17	Ø7.64	17.11	9.76
TXP 1212-120/8.5*	1.85	17.17	Ø7.64	17.11	9.76

Note: Dimensions in inches

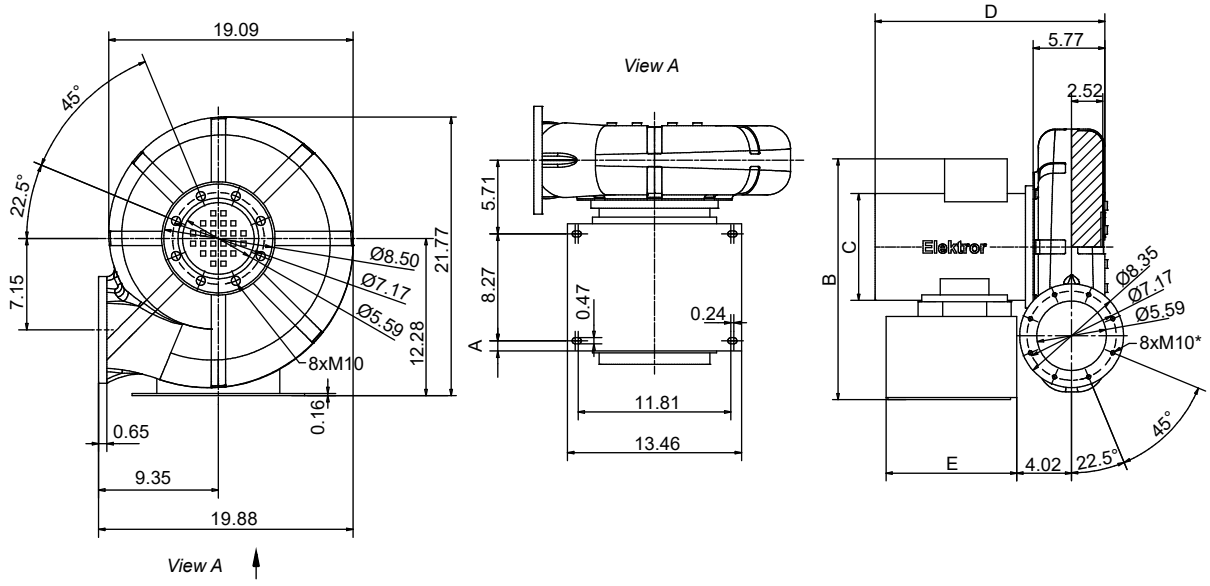
TXP 1313-120, Arrangement 4



*Can be used as through-hole for M8 screw.

Note: Dimensions in inches

TXP 1414-120, Arrangement 4

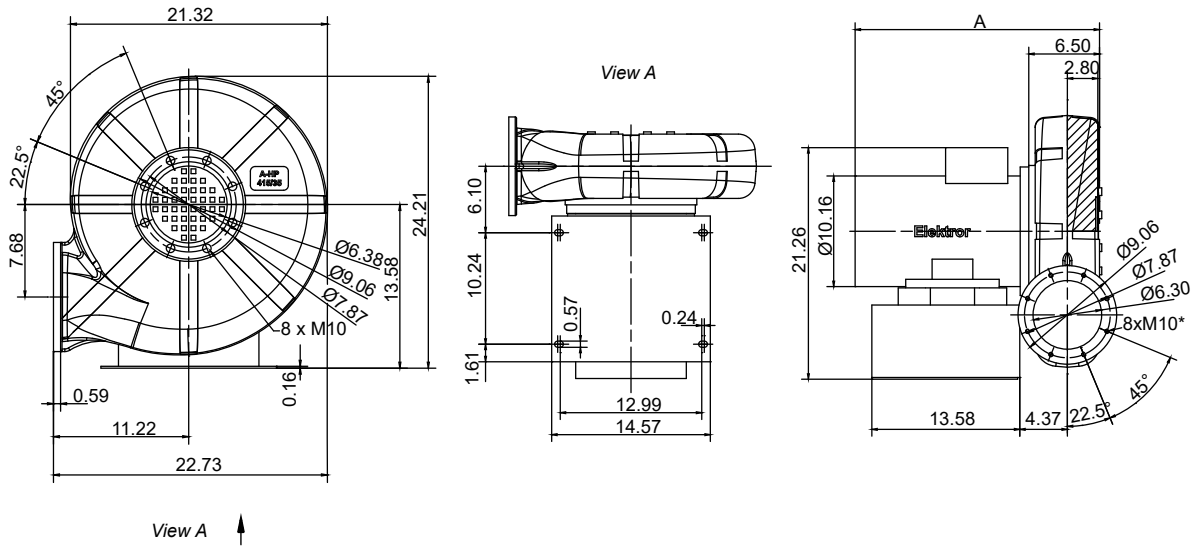


*Can be used as through-hole for M8 screw.

MODEL	A	B	C	D	E
TXP 1414-120/15*	0.94	19.37	Ø8.58	18.48	8.94
TXP 1414-120/20*	3.03	19.96	Ø10.16	21.71	12.99

Note: Dimensions in inches

TXP 1614-110, Arrangement 4

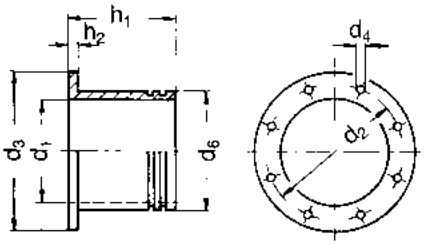


*Can be used as through-hole for M8 screw.

MODEL	A
TXP 1614-110/20*	22.44
TXP 1614-110/25*	23.70
TXP 1614-110/30*	24.45

Note: Dimensions in inches

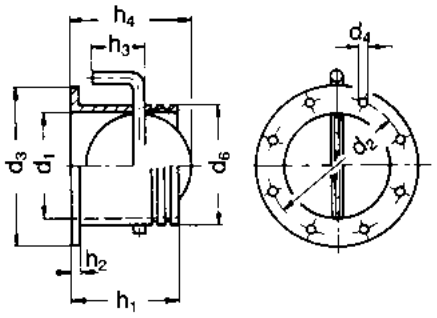
Accessories



Connector Without Flange for Intake or Discharge Side

MODEL	d_1	d_2	d_3	d_4	d_6	h_1	h_2	Material No.
TXP 1016-140 TXP 1212-120	4.92	6.50	7.52	4 x 0.37	5.51	4.72	0.31	9000540
TXP 1313-120 TXP 1414-120	5.51	7.17	8.50	8 x 0.45	5.91	5.51	0.31	9000199
TXP 1614-110	6.14	7.87	9.21	8 x 0.45	6.69	6.30	0.31	9000507

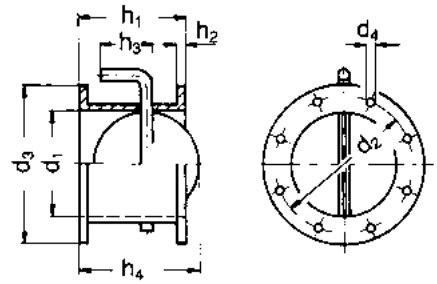
Note: Dimensions in inches



Connector Without Flange with Throttle Valve for Intake or Discharge Side

MODEL	d_1	d_2	d_3	d_4	d_6	h_1	h_2	h_3	h_4	Material No.
TXP 1016-140 TXP 1212-120	4.92	6.50	7.52	4 x 0.37	5.51	4.72	0.31	2.76	4.98	9000543
TXP 1313-120 TXP 1414-120	5.51	7.17	8.50	8 x 0.45	5.91	5.51	0.31	2.95	5.59	9000542
TXP 1614-110	6.30	7.87	9.21	8 x 0.45	6.69	6.30	0.31	3.35	6.42	9000533

Note: Dimensions in inches



Connector with Flange or Throttle Valve for Intake or Discharge Side

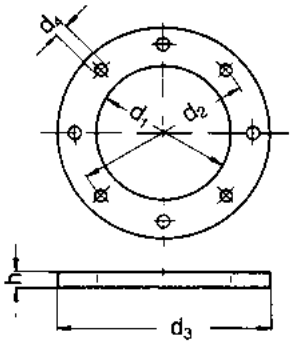
MODEL	d_1	d_2	d_3	d_4	h_1	h_2	h_3	h_4	Material No.
TXP 1016-140 TXP 1212-120	4.92	6.50	7.52	4 x 0.37	4.72	0.31	2.76	4.98	9000545
TXP 1313-120 TXP 1414-120	5.51	7.17	8.50	8 x 0.45	5.51	0.31	2.95	5.59	9000546
TXP 1614-110	6.30	7.87	9.21	8 x 0.45	5.51	0.31	3.35	6.42	9000544

Note: Dimensions in inches

Welding Flange for Pipe Connection on Intake or Discharge Side

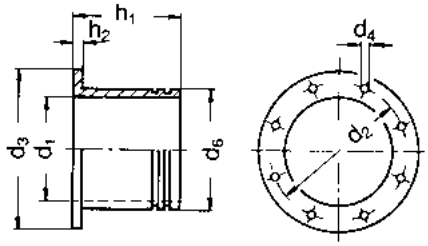
MODEL	d_1	d_2	d_3	d_4	h	Material No.
TXP 1016-140 TXP 1212-120	5.16	6.50	7.52	4 x 0.37	0.24	9000539
TXP 1313-120 TXP 1414-120	5.75	7.17	8.50	8 x 0.45	0.24	9000309
TXP 1614-110	164	7.87	9.06	8 x 0.45	0.24	9000505

Note: Dimensions in inches



Standardized Connector, Discharge or Intake Side

MODEL	d_1	d_2	d_3	d_4	d_6	h_1	h_2	Material No.
TXP 1016-140 TXP 1212-120	5.08	6.50	7.52	4 x 0.37	5.12	1.77	0.31	9019284
TXP 1313-120 TXP 1414-120	5.51	7.17	8.50	8 x 0.45	5.91	2.17	0.31	9018616
TXP 1614-110	6.14	7.87	9.21	8 x 0.45	6.69	1.77	0.31	9018337

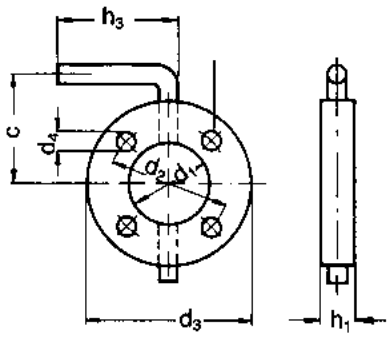


Notes:
1. Connecting elements suitable for this connector: Spiral hoses and spiral hose clamps (see page 4).
2. Dimensions in inches.

Throttle Valve (for fitting on the discharge flange)

MODEL	d_1	d_2	d_3	d_4	d_6	h_1	h_2	Material No.
TXP 1016-140 TXP 1212-120	4.94	4.92	6.50	7.52	4 x 0.35	0.91	3.94	9001323
TXP 1313-120 TXP 1414-120	5.12	5.51	7.17	8.27	8 x 0.43	0.91	3.94	9000469
TXP 1614-110	5.59	6.30	7.87	9.21	8 x 0.43	0.91	3.94	9000541

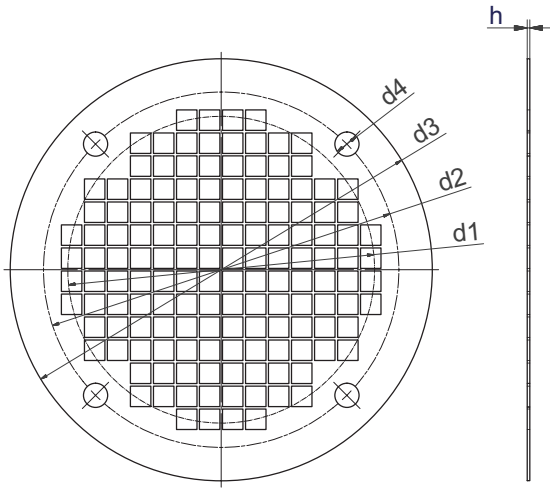
Note: Dimensions in inches



Outlet Guard, Discharge Side

MODEL	d_1	d_2	d_3	d_4	h	Material No.
TXP 1016 TXP 1212	5.71	6.50	7.36	4 x 0.37	0.04	2011628
TXP 1313 TXP 1414	6.38	7.17	8.35	11 x 0.45	0.04	2011629
TXP 1614	6.57	7.87	9.06	8 x 1.77	0.04	2011630

Note: Dimensions in inches

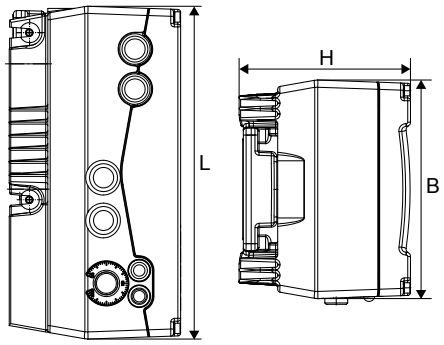


Kostal on the Motor Integrated Frequency Converter (IK)

Kostal INVEOR – EMC Class A

Rated Power (HP)	For Device	Dimensions (B x H x T)	Weight (lbs)	IV Drive Unit Material No.
4.0	TXP 1016-140/4.0	10.63 x 7.44 x 5.51	11.02	9020746
5.5	TXP 1016-140/5.5 TXP 1212-120/5.5	10.63 x 7.44 x 5.51	11.02	9020747
7.5	TXP 1016-140/7.5 TXP 1212-120/7.5	12.09 x 8.78 x 7.13	19.2	9020748
10	TXP 1212-120/8.5 TXP 1313-120/10	12.09 x 8.78 x 7.13	19.2	9020749
15	TXP 1313-120/15 TXP 1414-120/15	16.30 x 11.57 x 9.13	46.3	9020750
20	TXP 1414-120/20 TXP 1614-110/20	16.30 x 11.57 x 9.13	46.3	9020751
25	TXP 1614-110/25	16.30 x 11.57 x 9.13	46.3	9020752
30	TXP 1614-110/30	16.30 x 11.57 x 9.13	46.3	9020753

Note: Dimensions in inches



Kostal INVEOR – Accessories

Description	Material No.
Control panel MMI INVEOR	9020758
Interface cable for PC	9020759
Adapter plate wall mounting on request	

TCF TWIN CITY FAN

Elektror airsystems gmbh

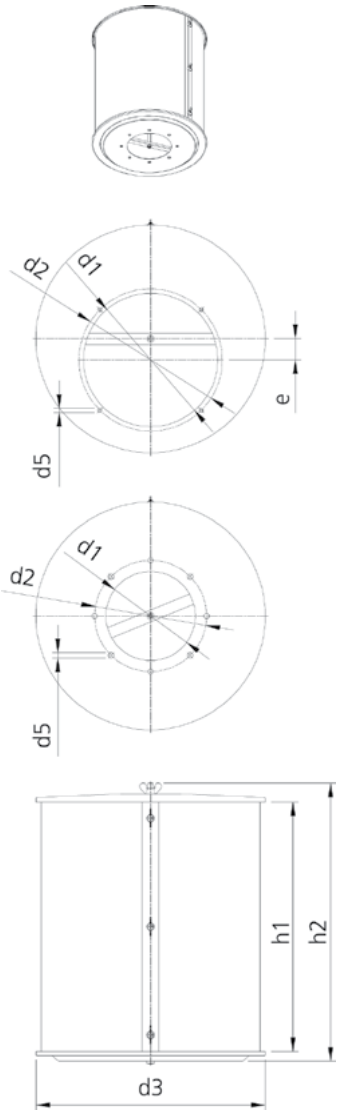
Fine Filter, Intake Side

Layout and dimensions of Twin City Fan fine filters are adapted to the maximum volume flow of the respective blowers and have a very small pressure loss therefore.

The surface of the filter was selected so that with a flow rate of 1.5 m/s an air resistance of 50 Pa can be achieved. The installed filter mat, which is made from synthetic fibers, has a high level of separation and corresponds with the filter class G4 (previously: EU 4) according to DIN EN 779. Higher filter classes require detailed clarification with the factory.

Dirty filters may be cleaned by blowing with compressed air or by washing with a weak soap solution. All steel parts are zinc-galvanized to provide high corrosion protection. Fitting of the filter to the blower intake side is only possible by using the housing cover lid with flange.

Caution: Clogged and dirty filters significantly reduce the blower performance. Cleaning the filters in regular intervals is essential. The permeability of the filters must be guaranteed.

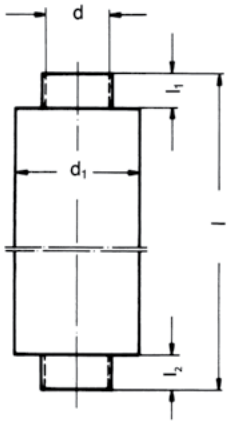


MODEL	d1	d2	d3	d5	e	h1	h2	Filter Material No.	Spare Filter Elements Material No.	Dimension Spare Filter Elements
TXP 1016-140	5.91	6.50	12.40	4 x 0.37	0.94	10.24	12.80	2006942	2006156	0.59 x 10.75 x 37.80
TXP 1212-120	5.91	6.50	16.14	4 x 0.27	–	8.46	10.98	9025328	9008609	0.59 x 8.98 x 48.62
TXP 1313-120 **TXP 1414-120**	6.30	7.17	16.14	8 x 0.45	–	13.54	16.10	9025327	9008611	0.59 x 14.17 x 48.62
TXP 1614-110	7.09	7.87	16.14	8 x 0.45	–	17.68	20.24	9026882	9008612	0.59 x 18.19 x 48.62

Note: Dimensions in inches

Silencer (Intake Side)

MODEL	Noise reduction dB (A)	l	l_1	l_2	d	d_1	Material No.
TXP 1016-140 TXP 1212-120	8-12	47.24	3.94	3.94	5.51	9.84	9001015
TXP 1313-120 TXP 1414-120	9-13	43.31	1.97	1.97	5.91	9.84	9000427
TXP 1614-110	7-13	43.31	1.97	1.97	6.69	9.06	9013830

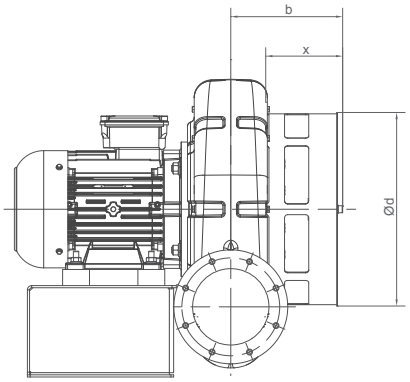


Notes:
1. Fitting of the silencers to the blowers is only possible by means of the connector without flange (see accessories page 16).
2. Maximum pressure for use is 1.200 Pa.
3. Dimensions in inches.

Disk Silencer Without Housing Cover Lid

MODEL	Noise reduction dB (A)	b	x	d	Material No.
TXP 1016-140	Up to 7	7.24	4.53	10.24	2005378
TXP 1212-120	Up to 7	7.44	5.20	12.20	2002071
TXP 1313-120	Up to 7	7.87	5.47	13.19	2002056
TXP 1414-120	Up to 6.5	8.19	5.63	14.17	2002051
TXP 1614-110	Up to 7	8.58	5.75	16.34	2005359

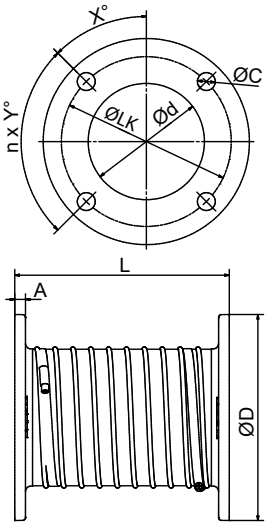
Note: Dimensions in inches



Flexible Connector, Discharge and Intake Side
(applicable for delivery medium temperatures up to 176°F)

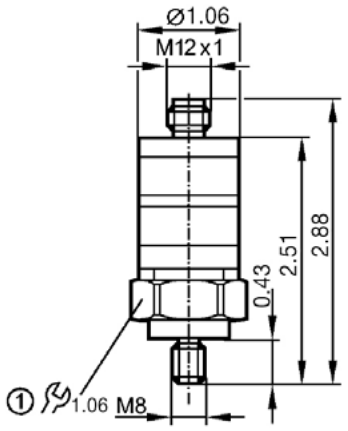
MODEL	n	Y	ØLK	Ød	C	A	L	X°	ØD	Material No.
TXP 1016-140 TXP 1212-120	0.16	90°	6.50	4.92	0.37	0.31	5.91	45°	7.52	9019994
TXP 1313-120 TXP 1414-120	0.31	45°	7.17	5.51	0.45	0.31	5.91	22.5°	8.50	9018617
TXP 1614-110	0.31	45°	7.87	6.14	0.45	0.31	10.24	22.5°	9.21	9018307

Note: Dimensions in inches



Vibration Sensor

Technical Data	
Operating voltage	18 - 32 DC
Switching output	1 switching output contact, switching point adjustable, PNP resilient up to 500 mA
Analog output	4 - 20 mA (4 mA = 0 mm/s; 20 mA = 25 mm/s)
Load impedance	500 Ohm
Response delay	Adjustable from 1 - 60 seconds
Reverse polarity protection	Available
Degree of protection / protection class	IP 67, III
Ambient temperature	-13 - 176°F
Housing material	V4A, plastics
Frequency range	10 - 1000 Hz
Measuring range	0 - 25 mm/s
Measuring size	Vibration velocity V-effective value (rms)
Connection	M12 plug connection
Material No.	9019351



① Tightening torque 15 Nm

Accessories for Vibration Sensor

TYPE	Material No.
Protection cap, plastic transparent	9019352
Cable box	9020321

Complete Set Vibration Sensor

DESCRIPTION	Material No.
"Soft" installation (rubber buffer)	9020320

Complete set consisting of vibration sensor (919351), protection cap (9019352) and cable box (9020321)

Model

TXP

Furnish and install Model TXP Extreme Pressure Blowers, as supplied by Twin City Fan & Blower, Minneapolis, Minnesota. Fans shall be of the size and arrangement as indicated in the fan schedule.

PERFORMANCE — Fans shall be tested in accordance with ISO 5801:2017 (air performance) and ISO 3746:2010 (sound performance) or ANSI/AMCA Standard 210 (air performance) and ANSI/AMCA Standard 300 (sound performance).

HOUSINGS — Model TXP Extreme Pressure Blower housings are to be constructed with heavy aluminum casting as required for pulsation-free operation and to maintain shape at operating pressures. Model TXP blowers shall be constructed with a rotatable housing design. The housing design provides for impeller removal on the inlet side. The blower features a solidly-welded steel motor pedestal with heavy plate and angle bracing for positive and smooth operation. Model TXP blowers are available in direct drive Arrangement 4 only and are available in both clockwise (CW) and counterclockwise (CCW) rotation and in Top Horizontal (THD), Bottom Horizontal (BHD), Upblast (UBD) and Downblast (DBD) discharge positions.

IMPELLERS — Impellers shall be designed for high efficiency air handling at relatively low volume and high pressures. Impellers shall be constructed from high strength aluminum. Heavy-gauge blades shall be fixed to the front and back plates. Impellers shall be statically and dynamically balanced. Stainless steel construction is available as an option.

MOTOR AND DRIVE — Motors shall be provided by Twin City Fan & Blower and directly mounted on the blower. A Variable Frequency Drive (VFD) is required to operate the motor and fan. All motors shall be UL recognized.

FINISH AND COATING — The entire fan assembly, excluding the impeller and shaft, shall be properly washed and pretreated before application of a rust-preventative primer, if called out on the order. After the fan is completely assembled, a finish coat of paint shall be applied to the entire assembly, if called out on the order. The fan shaft shall be coated with a petroleum-based rust protectant.

ACCESSORIES — When specified, accessories such as inlet filters, inlet and outlet silencers, flexible connectors, inlet and outlet flanged connectors, air knives, built-in dampers, vibration sensors, hoses and clamps, shall be provided by Twin City Fan & Blower to maintain one source responsibility.

FACTORY RUN TEST — Prior to shipment, all fans shall be completely assembled and test run as a unit. Each impeller shall be statically and dynamically balanced in accordance with ISO 21940-11 “Mechanical Vibration – Rotor Balancing,“ Balance Quality Grade G6.3 or ANSI/AMCA 204 “Balance Quality and Vibration Levels for Fans” to Fan Application Category BV-3, Balance Quality Grade G6.3.

INDUSTRIAL PROCESS AND COMMERCIAL VENTILATION SYSTEMS

CENTRIFUGAL FANS | UTILITY SETS | PLENUM & PLUG FANS | INLINE CENTRIFUGAL FANS
MIXED FLOW FANS | TUBEAXIAL & VANEAXIAL FANS | WALL MOUNTED FANS | ROOF VENTILATORS
CENTRIFUGAL ROOF & WALL EXHAUSTERS | CEILING VENTILATORS | GRAVITY VENTILATORS | DUCT BLOWERS
RADIAL BLADED FANS | RADIAL TIP FANS | HIGH EFFICIENCY INDUSTRIAL FANS | PRESSURE BLOWERS
LABORATORY EXHAUST FANS | FILTERED SUPPLY FANS | MANCOOLERS | FIBERGLASS FANS | CUSTOM FANS

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