

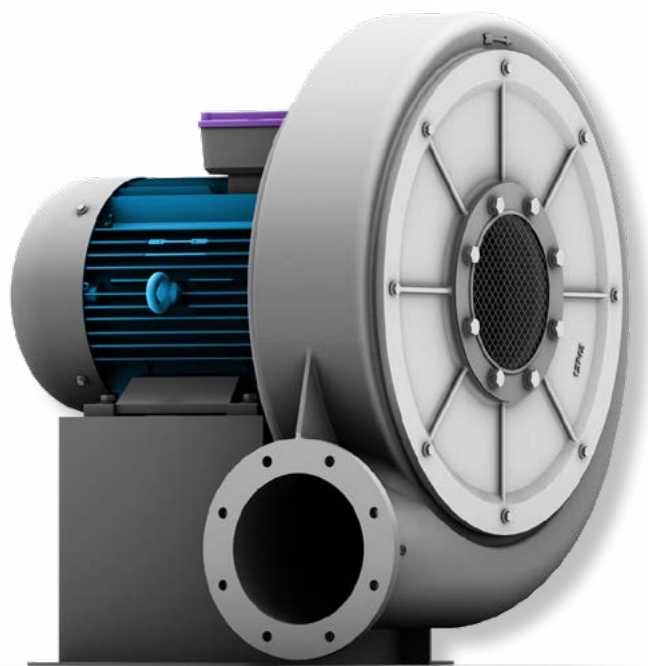


INDUSTRIAL PROCESS AND
COMMERCIAL VENTILATION SYSTEMS

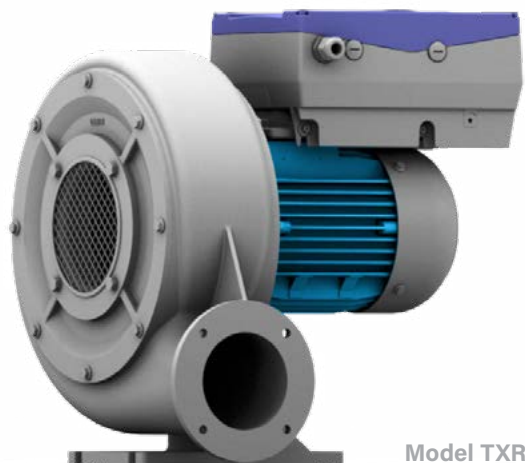
Elektror
airsystems gmbh

EXTREME PRESSURE BLOWERS

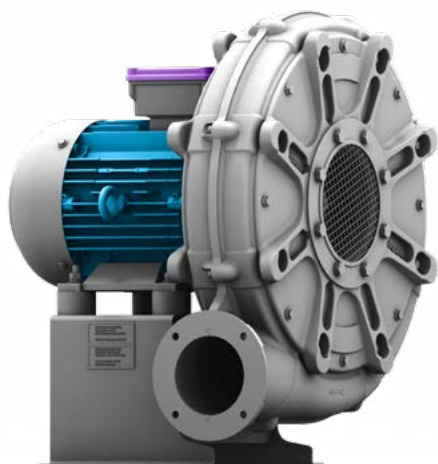
Model TXR



EXTREME PRESSURE BLOWERS



Model TXR



Model TXR, Type B

Overview TXR

Twin City Fan is proud to announce the new Extreme Pressure Blower Model TXR, engineered and produced by our German partner Elektror Airsystems GmbH. Model TXR, 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 5,500 to 8,000 RPM. Compared to the conventional belt driven blowers, these compact size direct drive blowers achieve the same high pressure and efficiency with about $\frac{1}{2}$ - $\frac{1}{3}$ 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 TXR 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 aerodynamically optimized to deliver the airflow required. The well-balanced impeller is made from aluminum and steel sheet metal. 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 95 Hz and 135 Hz. Please note the information on the nameplate of the blower.

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.

Extreme Pressure Blowers Offer:

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

Overview

TXR

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

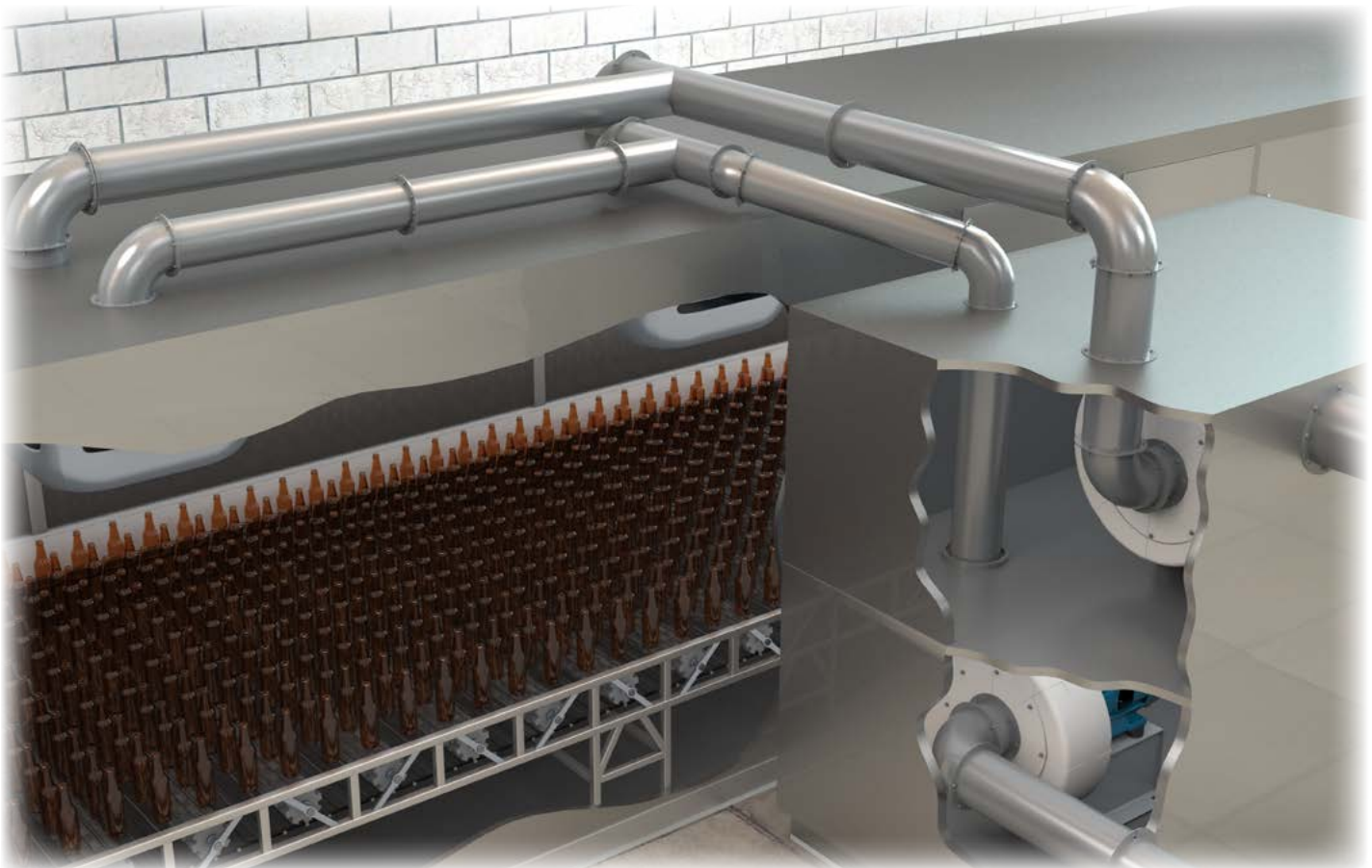
with terminal boxes, allowing the necessary frequency converter to be mounted at a limited distance, which depends on the motor and frequency converter type. If the frequency converter is supplied by Twin City Fan, it is available for EMC limit value class A as standard.

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

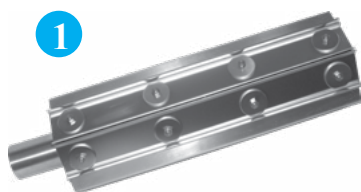
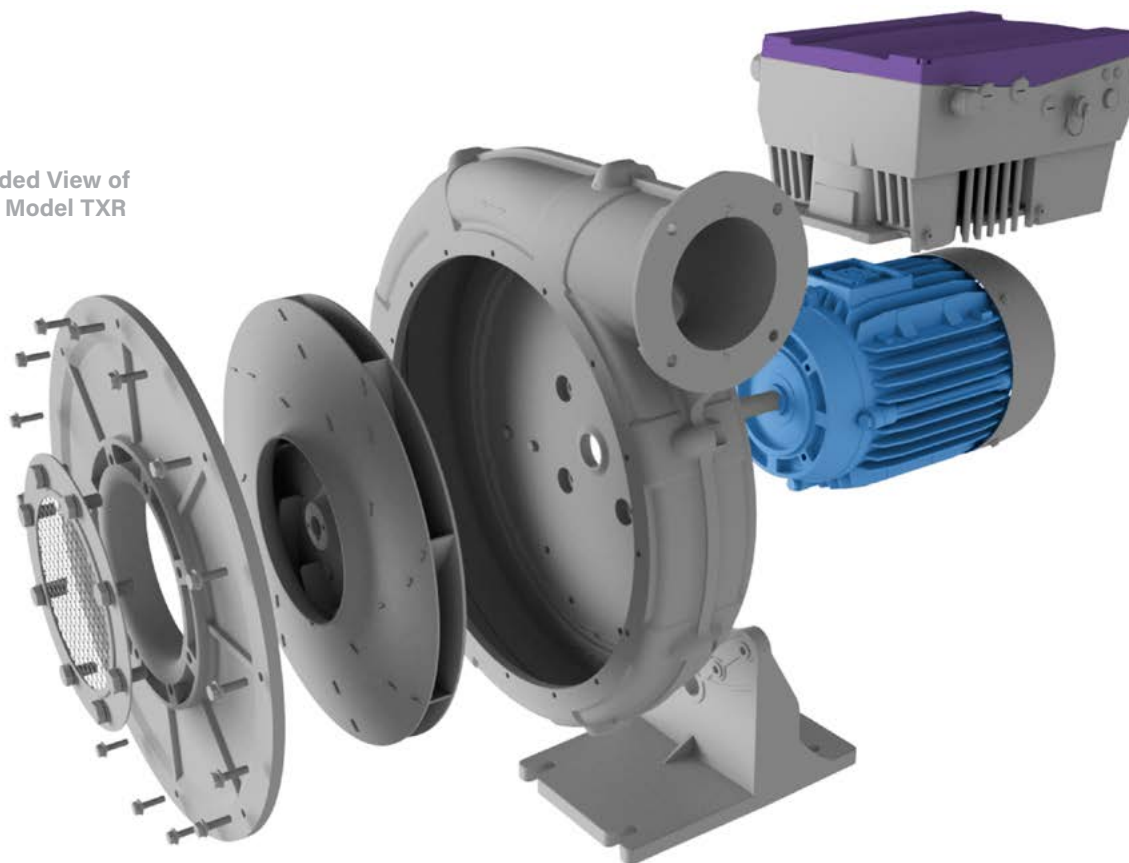


Elektror
airsystems gmbh



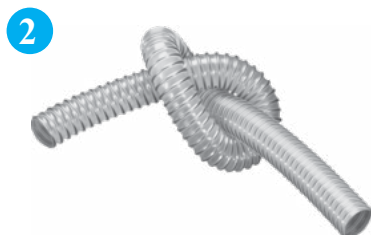
Bottle Drying Application

Exploded View of
Arr. 4 Model TXR



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).

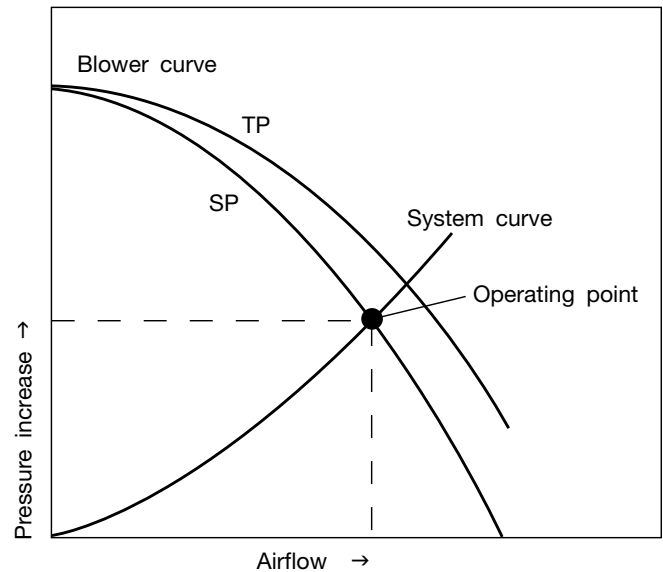
All Model TXR blowers have overloading power curves, which means the power consumption continues to rise as the airflow increases. The maximum airflow of a blower occurs at zero static pressure and consumes the maximum power.

NOISE GENERATION

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

- the blower design (axial blower, radial blower, construction principle of the impeller),
- the blower size in relation to the specified pressure differences and volumetric flow rates,
- the operating point of the blower on the performance curve,
- discharge velocity,
- 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.



Elektor
airsystems gmbh

PERFORMANCE CURVES

Fan performance curves provided for the Model TXR 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]

FEATURES

Speed Controlled Blowers

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

Model Range IV and IK

All Model TXR blowers require frequency converter operations. The motors are equipped with PTC thermistor sensors for thermal protection with enhanced winding insulation. Speed ranges are 5-105 Hz for the standard Model TXR and 20-135 Hz for Type B. The speed range is clearly marked on the nameplate and is the maximum operating speed of the blower.

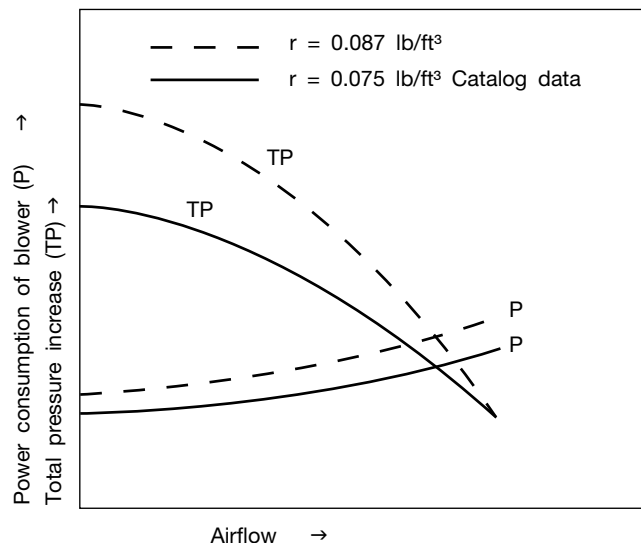
Temperature of conveyed media and environment

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.

Temperature of conveyed media

Temperatures of the conveyed medium up to 356°F may be achieved by fitting a temperature barrier between blower and motor (except Type B range).

Figure 2. Influence of conveyed medium density



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 TXR 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:

$$\begin{aligned} \dot{V}_2 &= \dot{V}_1 \frac{n_2}{n_1} & \dot{V} & \text{- Volumetric airflow} \\ \Delta TP_2 &= \Delta TP_1 \left(\frac{n_2}{n_1} \right)^2 & \Delta TP & \text{- Total pressure increase} \\ n & \text{- RPM} \\ P_2 &= P_1 \left(\frac{n_2}{n_1} \right)^3 & P & \text{- Power consumption} \end{aligned}$$

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:

$$\begin{aligned} n_2 &= n_1 \frac{f_2}{f_1} & \dot{V} & \text{- Volumetric airflow} \\ \Delta TP_2 &= \Delta TP_1 \left(\frac{f_2}{f_1} \right)^2 & \Delta TP & \text{- Total pressure increase} \\ \dot{V}_2 &= \dot{V}_1 \frac{f_2}{f_1} & n & \text{- RPM} \\ P_2 &= P_1 \left(\frac{f_2}{f_1} \right)^3 & P & \text{- Power consumption} \\ & & f & \text{- Frequency} \end{aligned}$$

ENERGY EFFICIENCY

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

Model TXR 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 105 Hz, the direct drive Model TXR 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 22,000 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



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

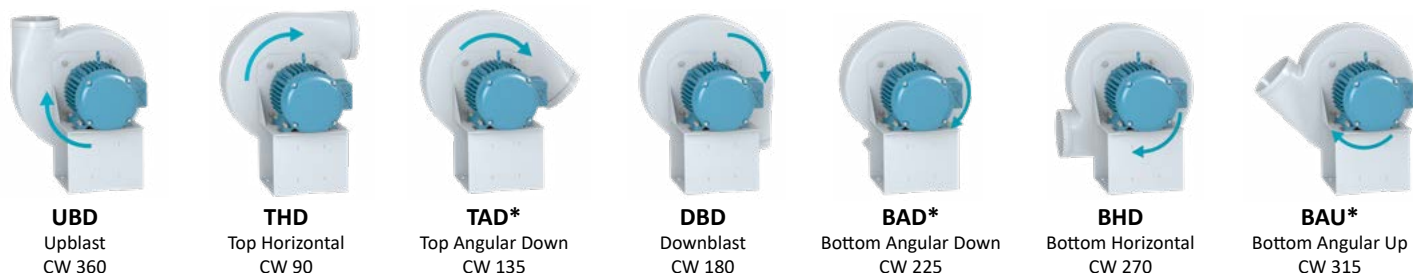
	BY UNITS OF MEASUREMENT	WITH CONVERSION FACTOR	IN UNITS OF MEASUREMENT	BY UNITS OF MEASUREMENT	WITH CONVERSION FACTOR	IN UNITS OF MEASUREMENT
PRESSURE	bar	14.5	psi = lb/in ²	psi = lb/in ²	0.068	mbar
PRESSURE	mbar	0.0145	psi = lb/in ²	psi = lb/in ²	68.95	bar
PRESSURE	mbar	0.402	inches water	inches water	2.49	mbar
VOLUMETRIC AIRFLOW	m ³ /min	264.2	gal/min	gal/min	0.003	m ³ /min
VOLUMETRIC AIRFLOW	m ³ /min	35.31	cfm	cfm	0.028	m ³ /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

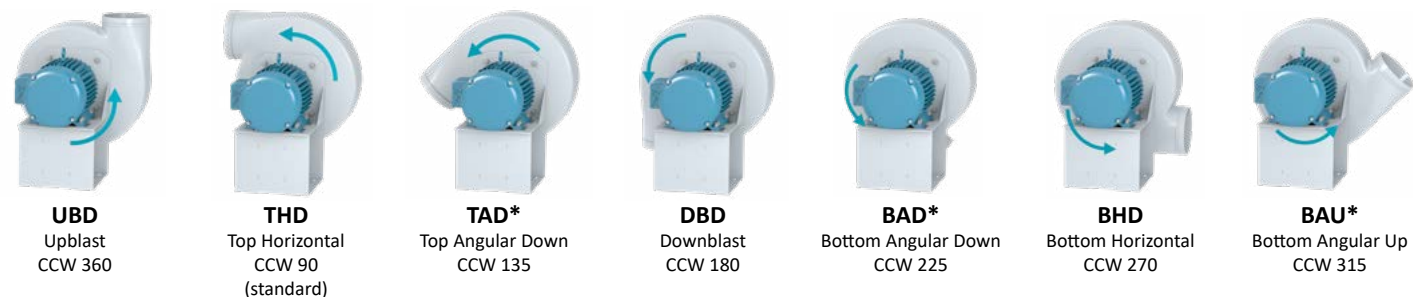
	BY UNITS OF MEASUREMENT	WITH CONVERSION FACTOR	IN UNITS OF MEASUREMENT	BY UNITS OF MEASUREMENT	WITH CONVERSION FACTOR	IN UNITS OF MEASUREMENT
PRESSURE	180 mbar	0.014	2.61 PSI	2.61 PSI	68.95	180 mbar
VOLUMETRIC AIRFLOW	6 m ³ /min	35.31	211.8 cfm	211.8 cfm	0.028	6 m ³ /min

HOUSING CONFIGURATIONS

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



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



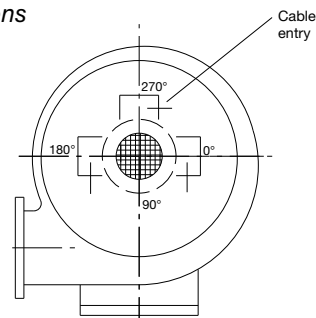
* Discharge not standard. Consult Sales.

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

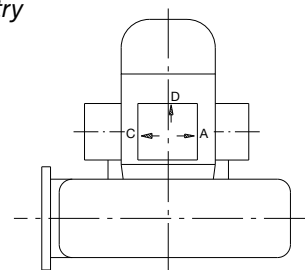


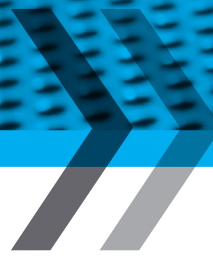
CABLE ENTRY

Definition of cable inlet

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

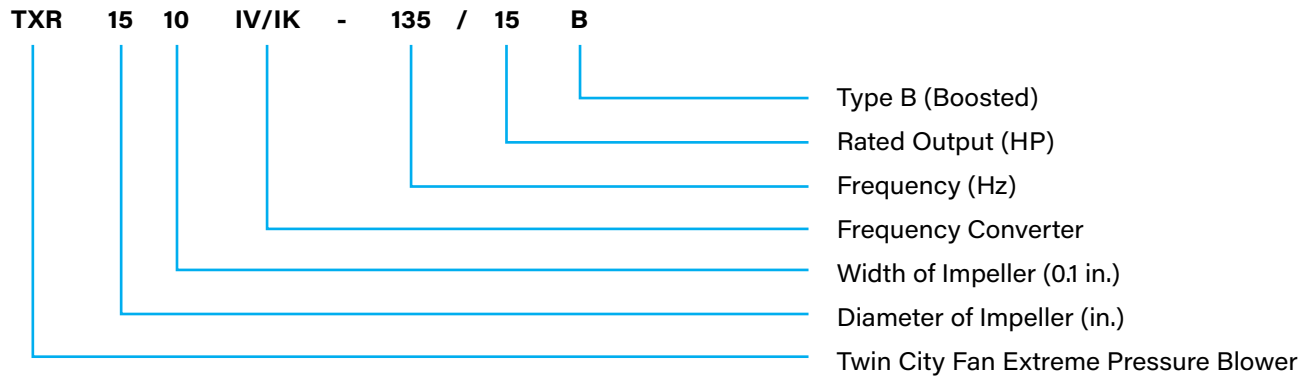
Figure 5. Cable Entry



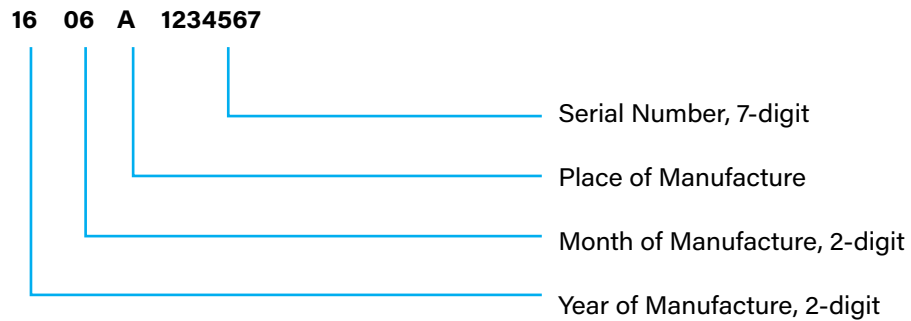


NOMENCLATURE

Model

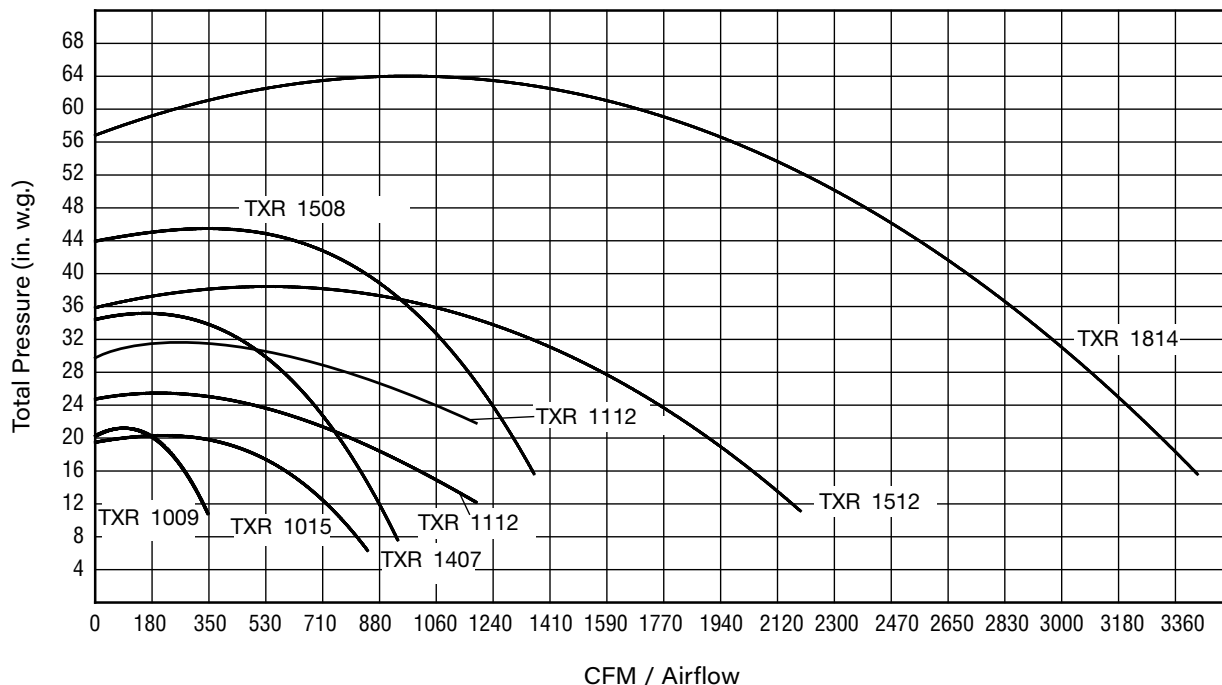


Serial Number

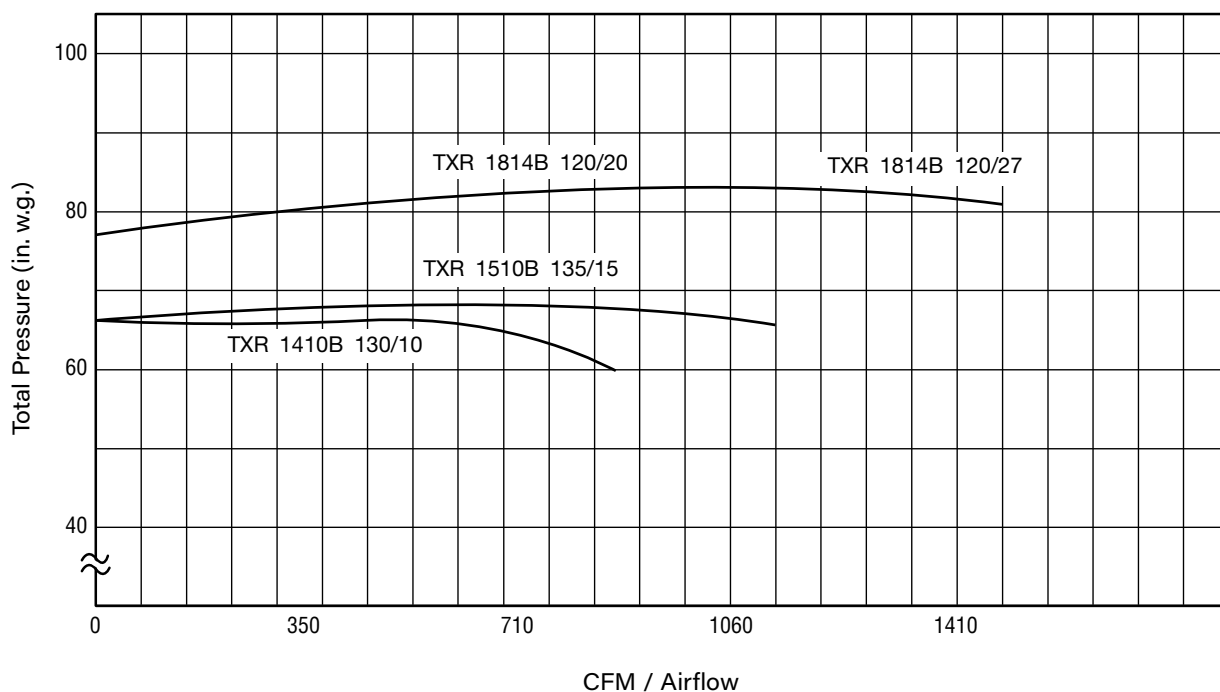


PRESELECTION / CHARACTERISTIC CURVES

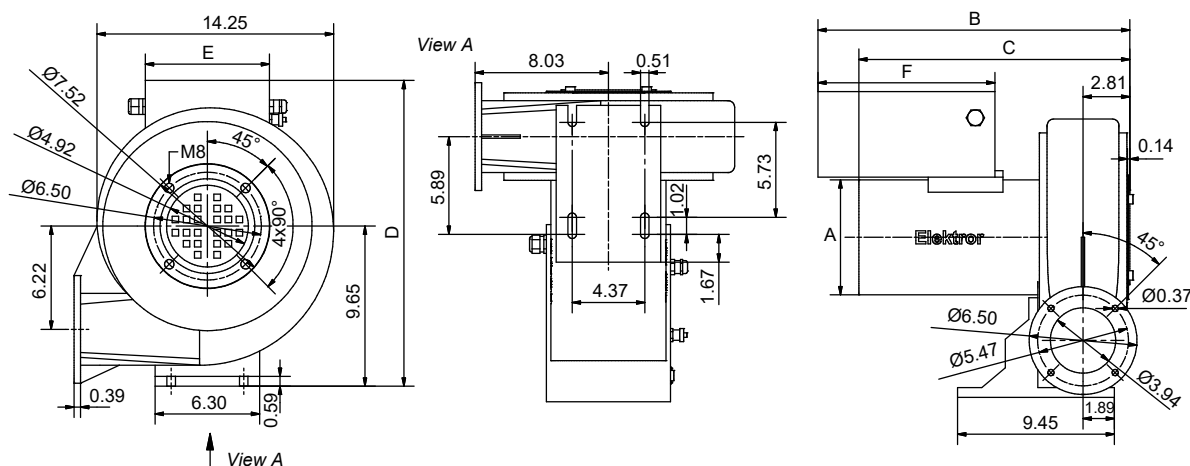
Extreme Pressure Blowers IV/IK



Extreme Pressure Blowers Type B Range

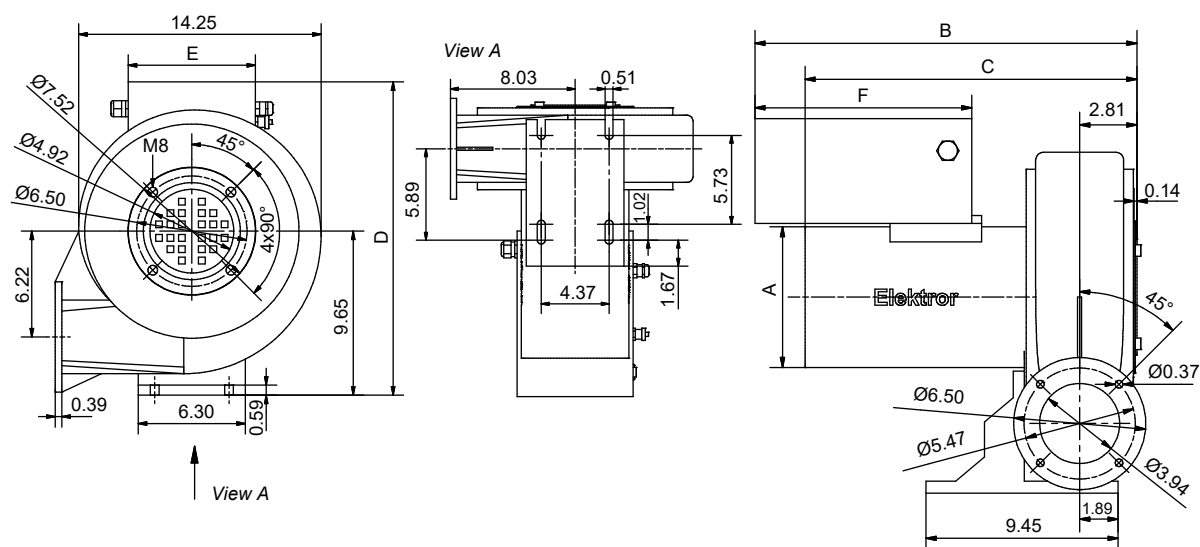


TXR 1112 IV/IK, Arrangement 4



MODEL	A	B	C	D	E	F
TXR 1112 IV-105/2.0	Ø6.14	–	14.65	–	–	–
TXR 1112 IK-105/2.0	Ø6.14	16.57	14.65	17.68	6.02	9.21
TXR 1112 IV-105/3.0	Ø6.93	–	15.35	–	–	–
TXR 1112 IK-105/3.0	Ø6.93	18.78	15.35	18.43	7.48	10.67
TXR 1112 IV-105/4.0	Ø6.93	–	16.32	–	–	–
TXR 1112 IK-105/4.0	Ø6.93	18.78	16.32	18.43	7.48	10.67

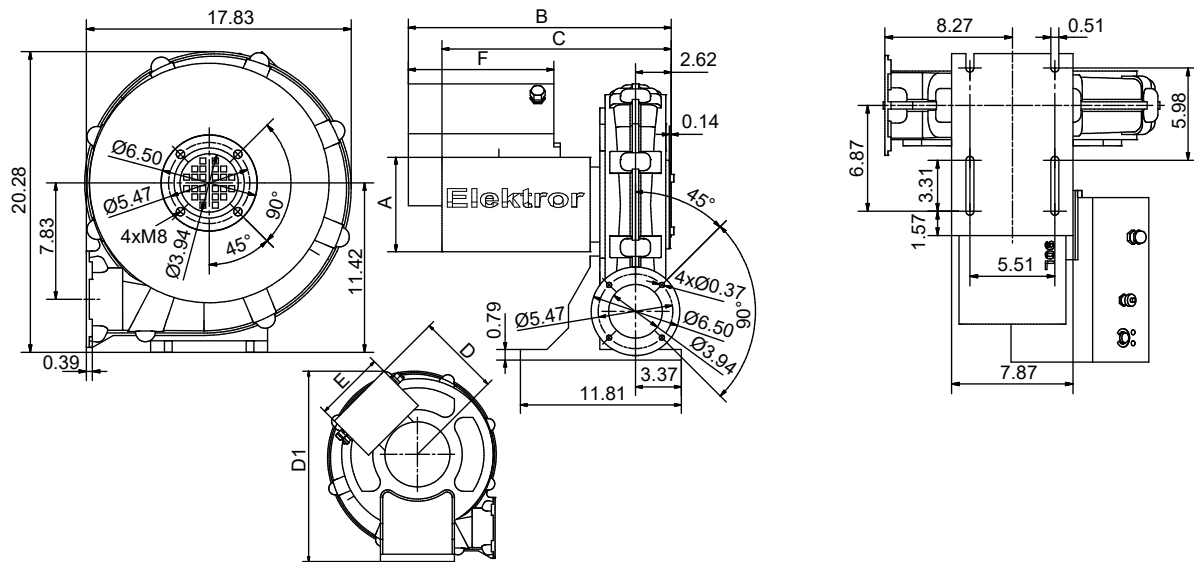
Note: Dimensions in inches



MODEL	A	B	C	D	E	F
TXR 1112 IV-115/5.5*	Ø6.93	–	16.32	–	–	–
TXR 1112 IK-115/5.5	Ø6.93	18.78	16.32	18.43	7.48	10.67

Note: Dimensions in inches

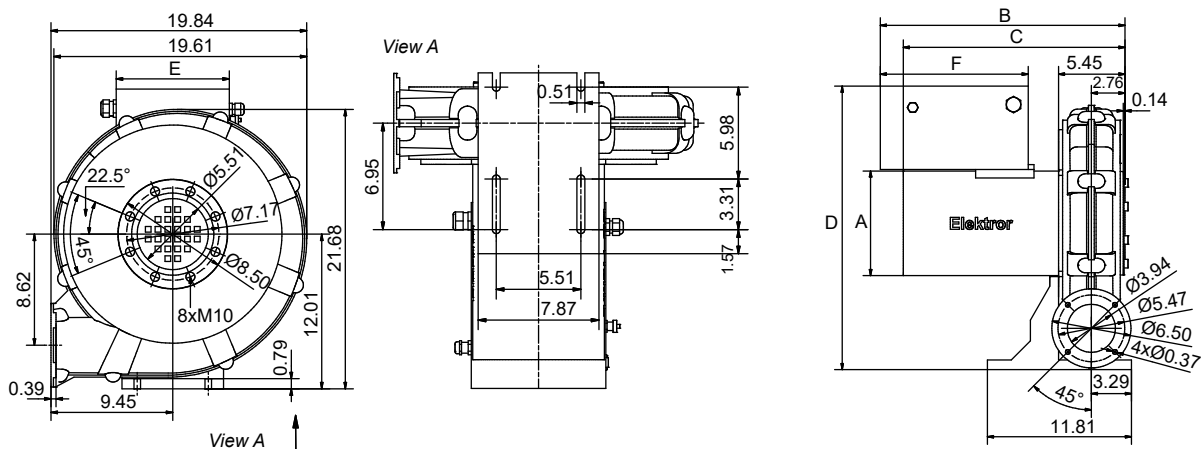
TXR 1407 IV/IK, Arrangement 4



MODEL	A	B	C	D	D1	E	F
TXR 1407 IV-95/2.0	Ø6.14	-	14.45	-	-	-	-
TXR 1407 IK-95/2.0	Ø6.14	16.34	14.45	-	19.45	6.02	9.21
TXR 1407 IV-95/3.0	Ø6.93	-	15.87	-	-	-	-
TXR 1407 IK-95/3.0	Ø6.93	19.25	15.87	8.78	20.28	7.48	10.67
TXR 1407 IV-95/4.0	Ø6.93	-	16.81	-	-	-	-
TXR 1407 IK-95/4.0	Ø6.93	19.29	16.81	8.78	20.28	7.48	10.67

Note: Dimensions in inches

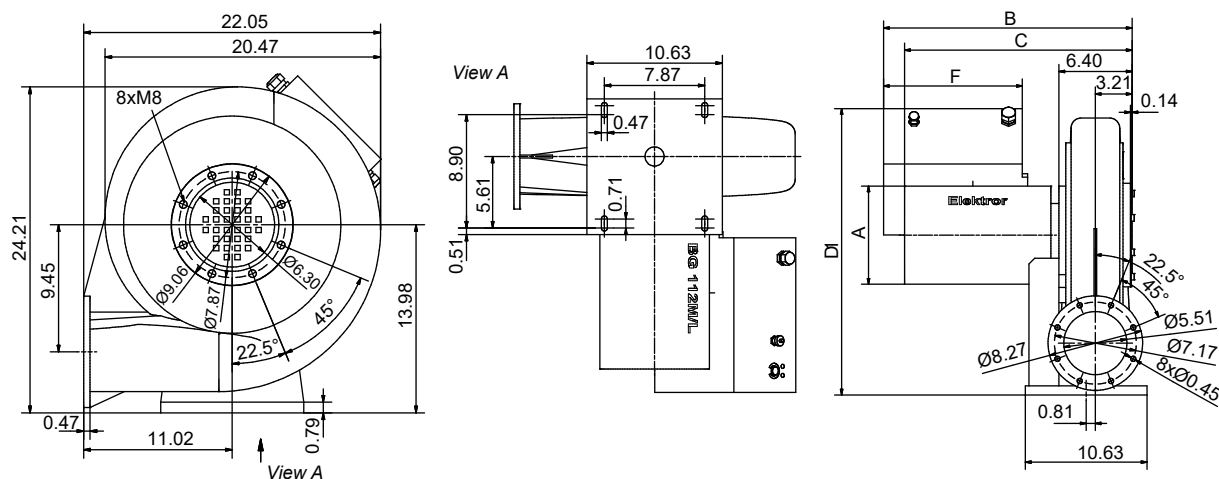
TXR 1508 IV/IK, Arrangement 4



MODEL	A	B	C	D	E	F
TXR 1508 IV-105/5.5	Ø7.64	-	17.54	-	-	-
TXR 1508 IK-105/5.5	Ø7.64	18.92	17.54	21.10	7.48	10.67
TXR 1508 IV-105/7.5	Ø8.58	-	18.19	-	-	-
TXR 1508 IK-105/7.5	Ø8.58	20.07	18.19	23.27	8.78	12.13
TXR 1508 IV-105/10	Ø8.58	-	18.19	-	-	-
TXR 1508 IK-105/10	Ø8.58	20.07	18.19	23.27	8.78	12.13

Note: Dimensions in inches

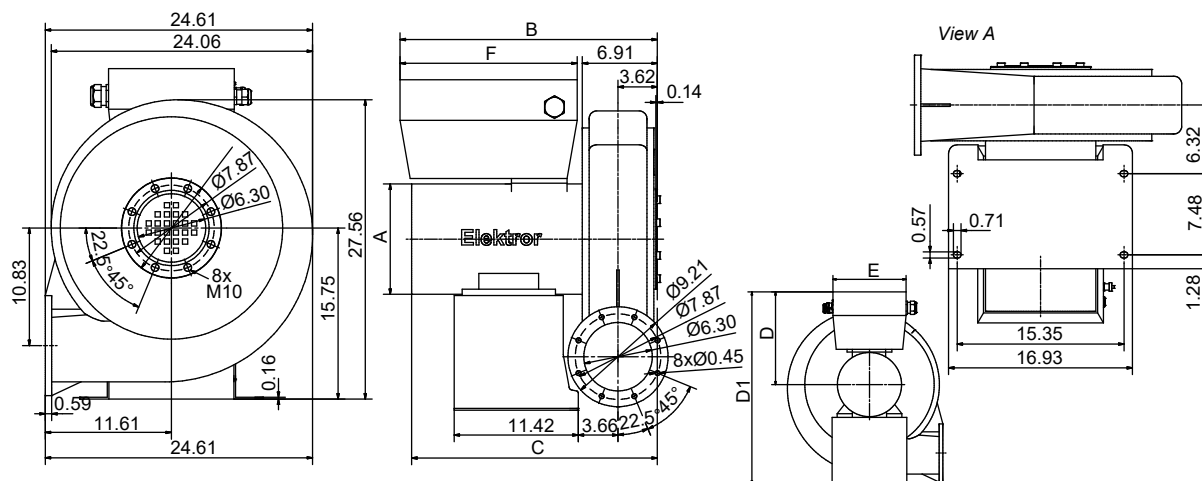
TXR 1512 IV, Arrangement 4



MODEL	A	B	C	D	D1	E	F
TXR 1512 IV-100/7.5	Ø8.58	-	19.88	-	-	-	-
TXR 1512 IV-100/10	Ø8.58	-	19.88	-	-	-	-

Note: Dimensions in inches

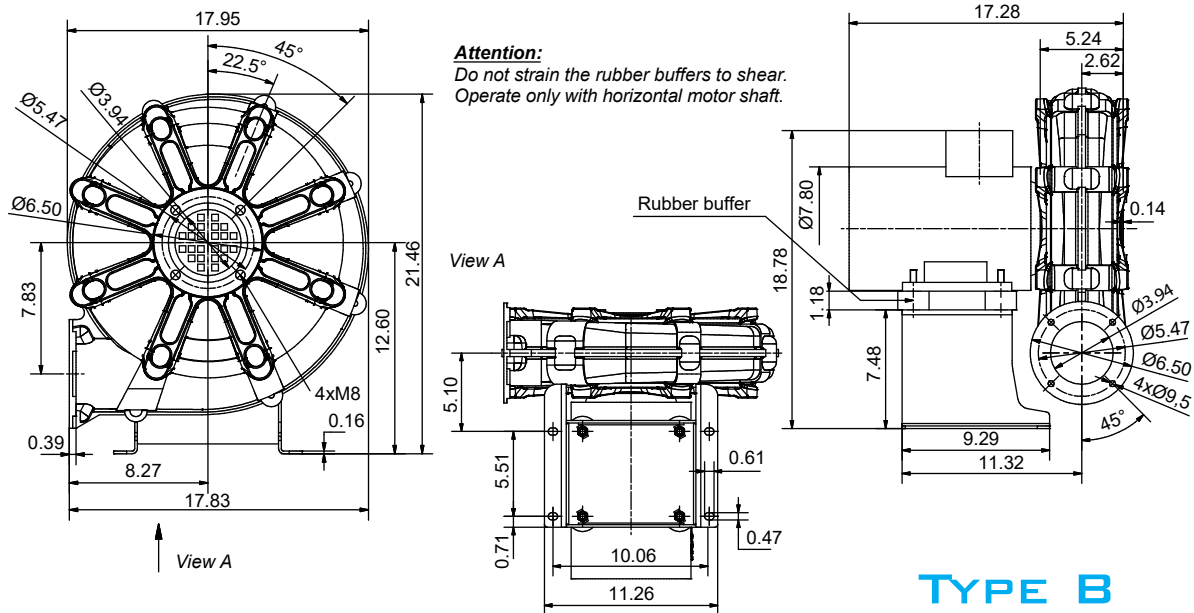
TXR 1814 IV/IK, Arrangement 4



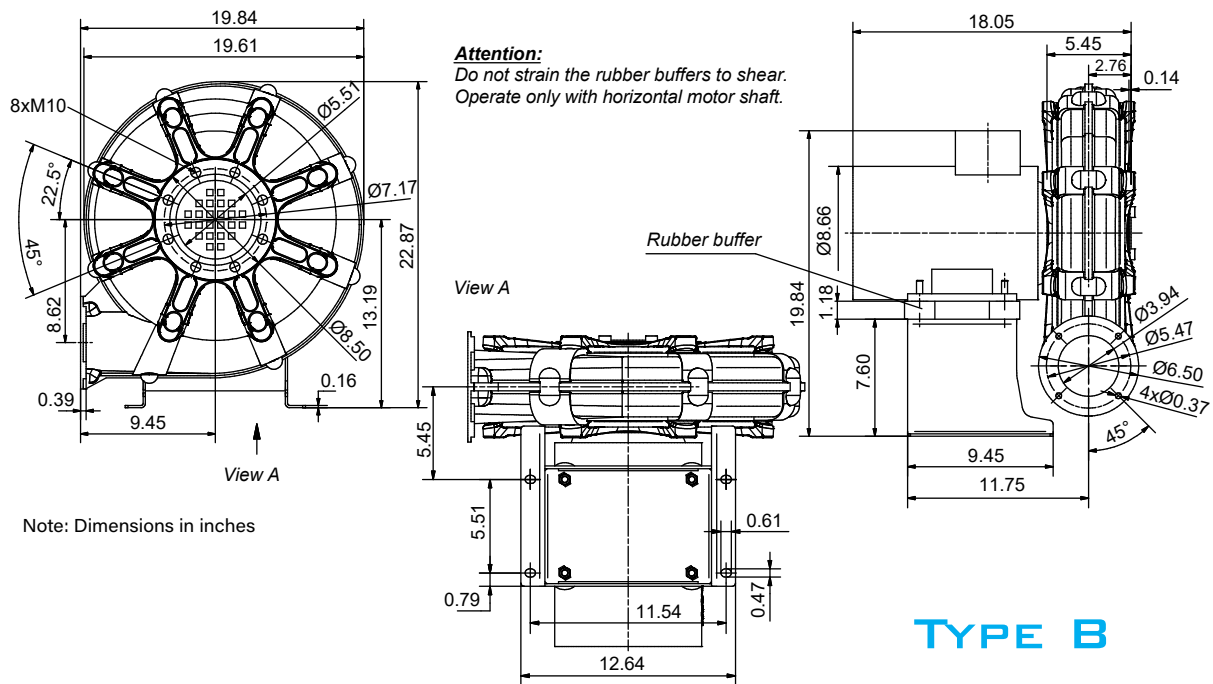
MODEL	A	B	C	D	D1	E	F
TXR 1814 IV-105/15	Ø10.16	-	21.12	-	-	-	-
TXR 1814 IK-105/15	Ø10.16	23.70	21.12	14.69	30.51	11.57	16.30
TXR 1814 IV-105/20	Ø10.16	-	22.62	-	-	-	-
TXR 1814 IK-105/20	Ø10.16	23.68	22.62	14.69	30.43	11.57	16.30
TXR 1814 IV-105/27	Ø10.16	-	22.62	-	-	-	-
TXR 1814 IK-105/27	Ø10.16	23.68	22.62	14.69	30.43	11.57	16.30

Note: Dimensions in inches

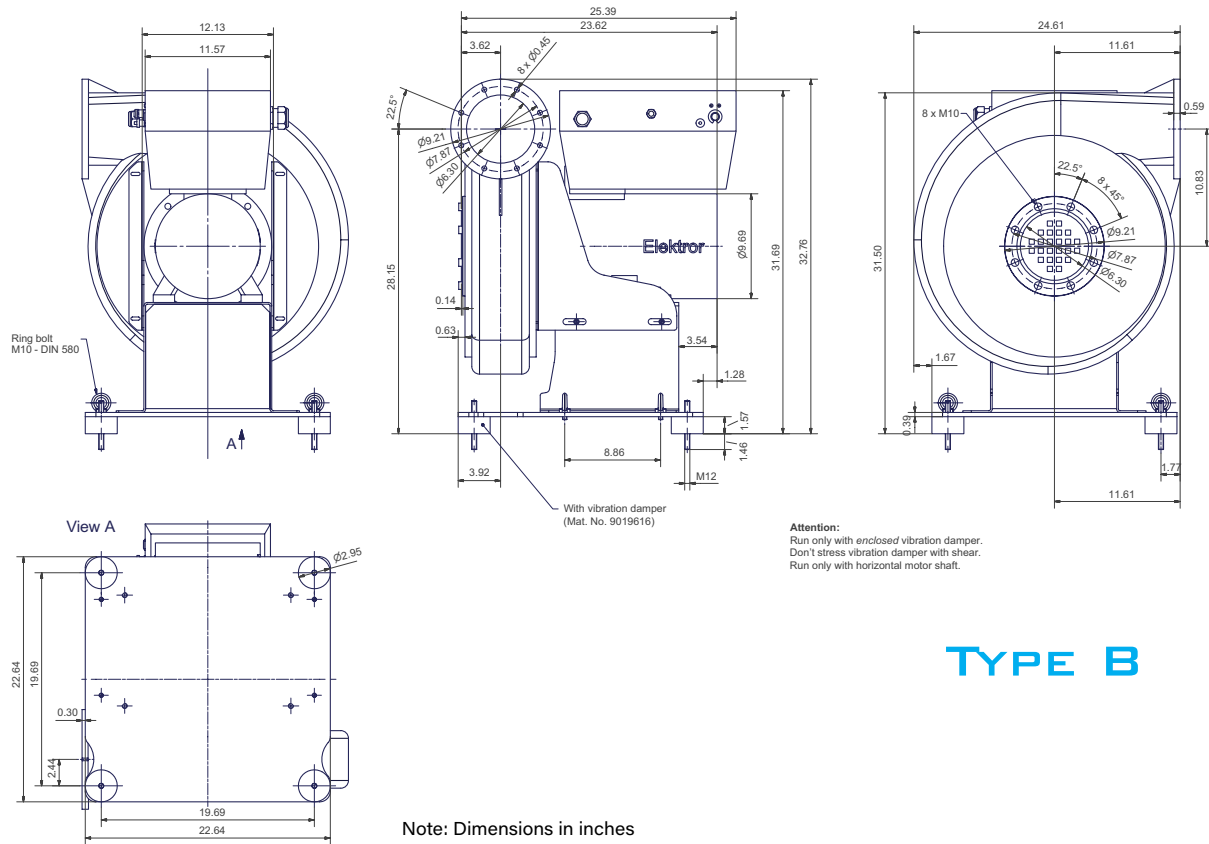
TXR 1410B IV, Arrangement 4



TXR 1510B IV/IK, Arrangement 4

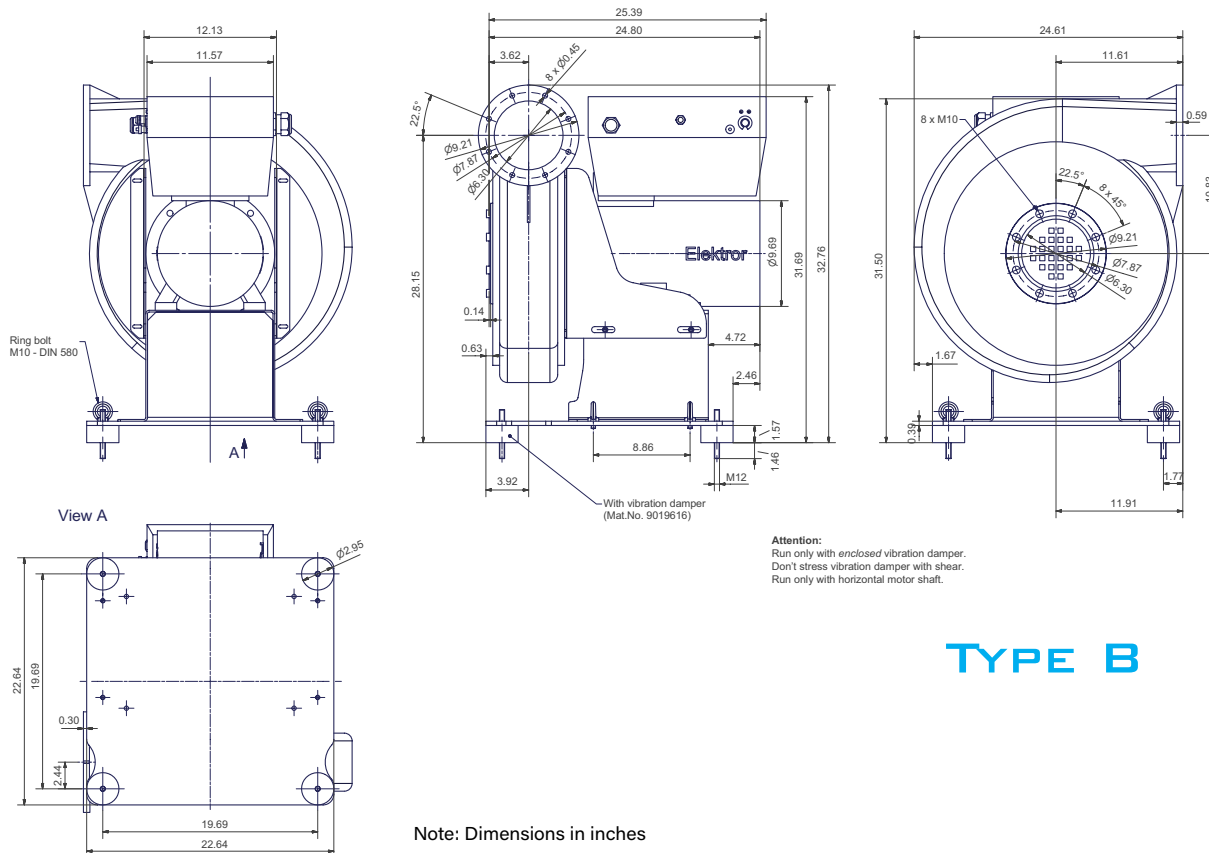


TXR 1814B IV/IK, 15 kW, Arrangement 4



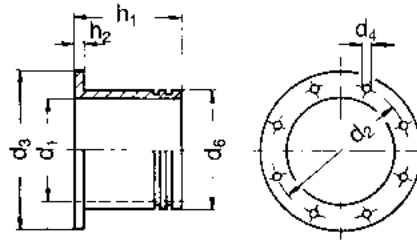
TYPE B

TXR 1814B IV/IK, 20 kW, Arrangement 4



TYPE B

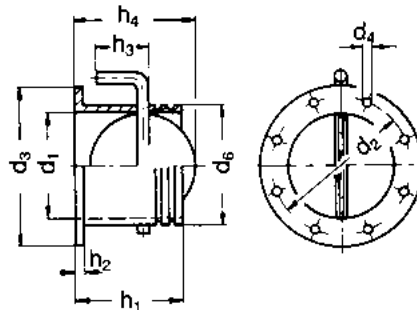
ACCESSORIES



Intake Connector Without Flange

MODEL	d ₁	d ₂	d ₃	d ₄	d ₅	h ₁	h ₂	Material No.
TXR 1009	2.76	4.65	5.71	4 x Ø 0.37	3.07	3.54	0.31	000736
TXR 1015	3.94	5.47	6.50	4 x Ø 0.37	4.33	3.94	0.31	000538
TXR 1112	4.92	6.50	7.52	4 x Ø 0.37	5.51	4.72	0.31	000540
TXR 1407	3.94	5.47	6.50	4 x Ø 0.37	4.33	3.94	0.31	000538
TXR 1508	5.51	7.17	8.50	8 x Ø 0.45	5.91	5.51	0.31	000199
TXR 1512	6.14	7.87	9.21	8 x Ø 0.45	6.69	6.30	0.31	000507
TXR 1814	6.14	7.87	9.21	8 x Ø 0.45	6.69	6.30	0.31	000507

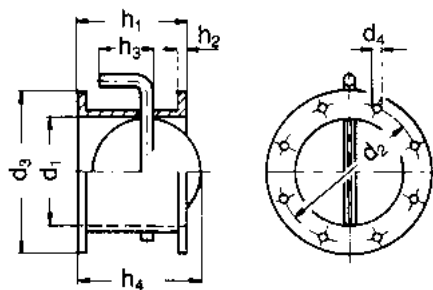
Note: Dimensions in inches



Intake Connector Without Flange with Throttle Valve

MODEL	d ₁	d ₂	d ₃	d ₄	d ₅	h ₁	h ₂	h ₃	h ₄	Material No.
TXR 1009	2.76	4.65	5.71	4 x Ø 0.35	3.07	3.54	0.31	1.77	3.07	000739
TXR 1015	3.94	5.47	6.50	4 x Ø 0.37	4.33	3.94	0.31	2.36	4.25	000740
TXR 1112	4.92	6.50	7.52	4 x Ø 0.37	5.51	4.72	0.31	2.76	4.98	000543
TXR 1407	3.94	5.47	6.50	4 x Ø 0.37	4.33	3.94	0.31	2.36	4.25	000740
TXR 1508	5.51	7.17	8.50	8 x Ø 0.45	5.91	5.51	0.31	2.95	5.59	000542
TXR 1512	6.30	7.87	9.21	8 x Ø 0.45	6.69	6.30	0.31	3.35	6.42	000533
TXR 1814	6.30	7.87	9.21	8 x Ø 0.45	6.69	6.30	0.31	3.35	6.42	000533

Note: Dimensions in inches



Intake Connector With Flange and Throttle Valve

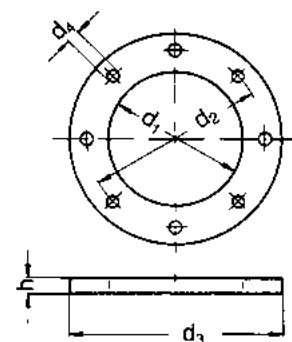
MODEL	d ₁	d ₂	d ₃	d ₄	h ₁	h ₂	h ₃	h ₄	Material No.
TXR 1009	2.91	4.65	5.71	4 x Ø 0.35	3.15	0.31	1.77	3.07	000742
TXR 1015	4.02	5.47	6.50	4 x Ø 0.37	3.94	0.31	2.36	4.25	000743
TXR 1112	4.92	6.50	7.52	4 x Ø 0.37	4.72	0.31	2.76	4.98	000545
TXR 1407	4.02	5.47	6.50	4 x Ø 0.37	3.94	0.31	2.36	4.25	000743
TXR 1508	5.51	7.17	8.50	8 x Ø 0.45	5.51	0.31	2.95	5.59	000546
TXR 1512	6.30	7.87	9.21	8 x Ø 0.45	5.51	0.31	3.35	6.42	000544
TXR 1814	6.30	7.87	9.21	8 x Ø 0.45	5.51	0.31	3.35	6.42	000544

Note: Dimensions in inches

Welding Flange for Pipe Connection on Intake Side

MODEL	d ₁	d ₂	d ₃	d ₄	h	Material No.
TXR 1009	2.95	4.65	5.71	4 x Ø 0.37	0.24	000731
TXR 1015	4.13	5.47	6.50	4 x Ø 0.37	0.24	000552
TXR 1112	5.16	6.50	7.52	4 x Ø 0.37	0.24	000539
TXR 1407	4.13	5.47	6.50	4 x Ø 0.37	0.24	000552
TXR 1508	5.75	7.17	8.50	8 x Ø 0.45	0.24	000309
TXR 1512	6.46	7.87	9.06	8 x Ø 0.45	0.24	000505
TXR 1814	6.46	7.87	9.21	8 x Ø 0.45	0.24	000551

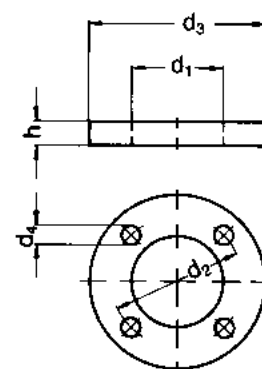
Note: Dimensions in inches

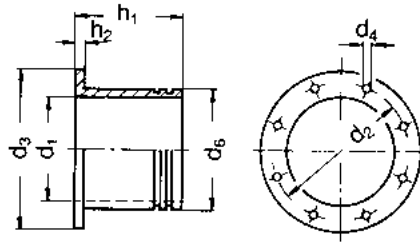


Welding Flange for Pipe Connection on Discharge Side

MODEL	d ₁	d ₂	d ₃	d ₄	h	Material No.
TXR 1009	2.56	3.74	4.53	4 x Ø 0.39	0.24	011904
TXR 1015	3.94	5.31	6.30	4 x Ø 0.43	0.24	011910
TXR 1112 TXR 1407	4.13	5.47	6.50	4 x Ø 0.37	0.24	000552
TXR 1508	4.13	5.47	6.50	4 x Ø 0.37	0.24	000552
TXR 1512	5.75	7.17	8.27	8 x Ø 0.45	0.24	000506
TXR 1814	6.46	7.87	9.21	4 x Ø 0.45	0.24	000551

Note: Dimensions in inches



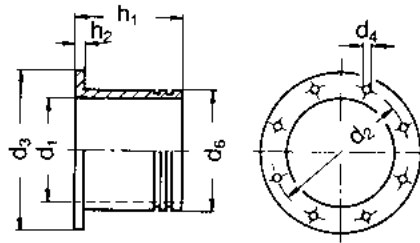


Standardized Connector, Intake Side

MODEL	d ₁	d ₂	d ₃	d ₄	d ₅	h ₁	h ₂	Material No.
TXR 1009	2.76	4.65	5.71	4 x 0.35	2.95	3.54	0.31	017366
TXR 1015 TXR 1407	3.94	5.47	6.50	4 x 0.37	4.29	2.95	0.31	017365

Notes:

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



Standardized Connector, Intake Side

MODEL	d ₁	d ₂	d ₃	d ₄	d ₅	h ₁	h ₂	Material No.
TXR 1009	2.56	3.74	4.53	4 x 0.39	2.95	1.77	0.24	017362
TXR 1015	3.94	5.31	6.50	4 x 0.43	4.29	2.95	0.31	017363
TXR 1112 TXR 1407 TXR 1508	3.94	5.47	6.50	4 x 0.37	4.29	2.95	0.31	017365

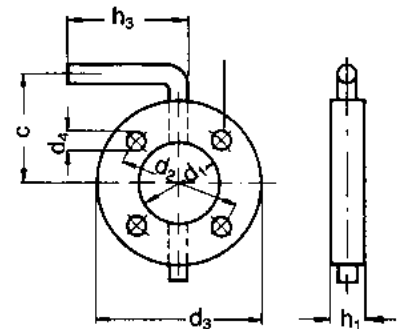
Notes:

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	c	d ₁	d ₂	d ₃	d ₄	h ₁	h ₂	Material No.
TXR 1009	3.25	2.56	3.74	4.53	4 x Ø 0.35	0.91	3.94	000029
TXR 1015	3.94	3.94	5.31	6.30	4 x Ø 0.43	0.91	3.94	000031
TXR 1112 TXR 1407	4.23	3.94	5.47	6.50	4 x Ø 0.35	0.91	3.94	000738
TXR 1508	4.23	3.94	5.47	6.50	4 x Ø 0.35	0.91	3.94	000738
TXR 1512	5.12	5.51	7.17	8.27	8 x Ø 0.43	0.91	3.94	000469
TXR 1814	5.59	6.30	7.87	9.21	8 x Ø 0.43	0.91	3.94	000541

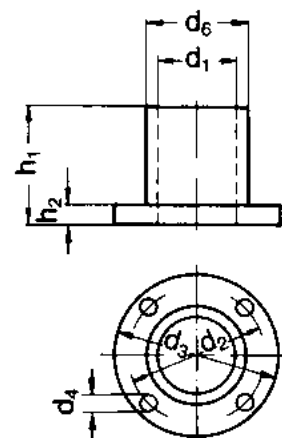
Note: Dimensions in inches



Discharge Connector for Tube Connection

MODEL	d ₁	d ₂	d ₃	d ₄	d ₅	h ₁	h ₂	Material No.
TXR 1009	2.56	3.74	4.53	4 x Ø 0.39	2.95	1.77	0.24	000038
TXR 1015	3.94	5.31	6.30	4 x Ø 0.43	4.33	2.60	0.24	000039
TXR 1112 TXR 1407	3.94	5.47	6.50	4 x Ø 0.37	4.33	3.94	0.31	000538
TXR 1508	3.94	5.47	6.50	4 x Ø 0.37	4.33	3.94	0.31	000538
TXR 1512	5.51	7.17	8.27	8 x Ø 0.45	5.91	3.94	0.47	000470
TXR 1814	6.14	7.87	9.21	8 x Ø 0.45	6.69	6.30	0.31	000507

Note: Dimensions in inches



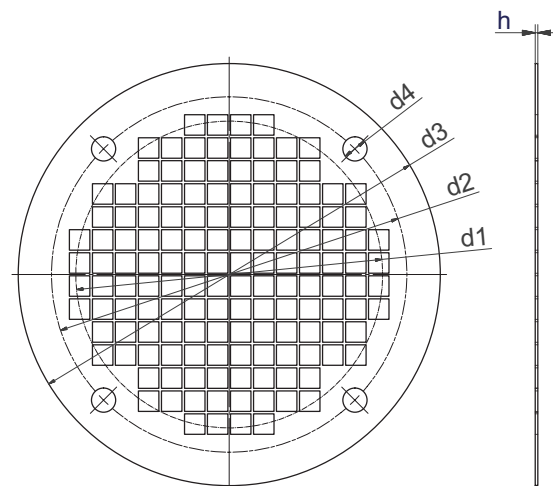
Outlet Guard, Discharge Side

MODEL	d ₁	d ₂	d ₃	d ₄	h	Material No.
TXR 1009	3.15	3.74	4.53	8 x 0.24	0.04	2011631
TXR 1015	5.08	5.31	6.31	4 x 0.24	0.04	2011632
TXR 1112	4.72	5.47	6.89	4 x 0.37	0.04	2011633
TXR 1407 TXR 1410B* TXR 1508 TXR 1510B	4.72	5.47	6.50	4 x 0.37	0.04	9024104
TXR 1512*	6.57	7.87	9.21	8 x 0.45	0.04	9024108
TXR 1814 TXR 1814B	6.38	7.17	8.35	8 x 0.45	0.04	2011629

Notes:

* Only available for the IV version.

1. Dimensions in inches.

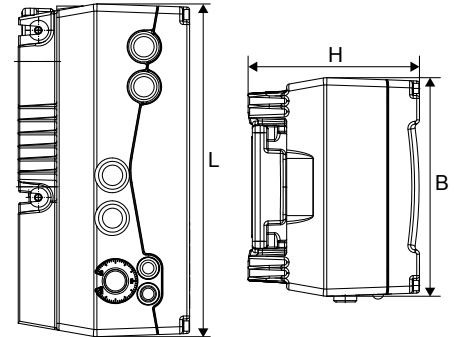


Kostal on the Motor Integrated Frequency Converter (IK)

Kostal INVEOR – EMC Class A

Rated Power (HP)	For Device	Dimensions (L x B x H)	Weight (lbs.)	IV Drive Unit Material No.
1.0	TXR 1009 IK-105/1.0	9.17 x 6.02 x 4.72	8.6	020743
2.0	TXR 1009 IK-105/1.5, TXR 1015 IK-105/1.5, TXR 1015 IK-105/2.0, TXR 1112 IK-105/2.0, TXR 1407 IK-95/2.0	9.17 x 6.02 x 4.72	8.6	020744
3.0	TXR 1015 IK-105/3.0, TXR 1112 IK-105/3.0, TXR 1407 IK-95/3.0	10.63 x 7.44 x 5.51	11.02	020745
4.0	TXR 1112 IK-105/4.0, TXR 1407 IK-95/4.0	10.63 x 7.44 x 5.51	11.02	020746
5.5	TXR 1508 IK-105/5.5	10.63 x 7.44 x 5.51	11.02	020747
7.5	TXR 1508 IK-105/7.5, TXR 1512 IK-105/7.5	12.09 x 8.78 x 7.13	19.18	020748
10	TXR 1508 IK-105/10, TXR 1512 IK-100/10	12.09 x 8.78 x 7.13	19.18	020749
15	TXR 1814 IK-105/15	16.30 x 11.57 x 9.13	46.3	020750
20	TXR 1814 IK-105/20	16.30 x 11.57 x 9.13	46.3	020751
30	TXR 1814 IK-105/30	16.30 x 11.57 x 9.13	46.3	020753

Note: Dimensions in inches



Kostal INVEOR – Accessories

Description	Material No.
Control panel MMI INVEOR	020758
Interface cable for PC	020759
Adapter plate wall mounting on request	

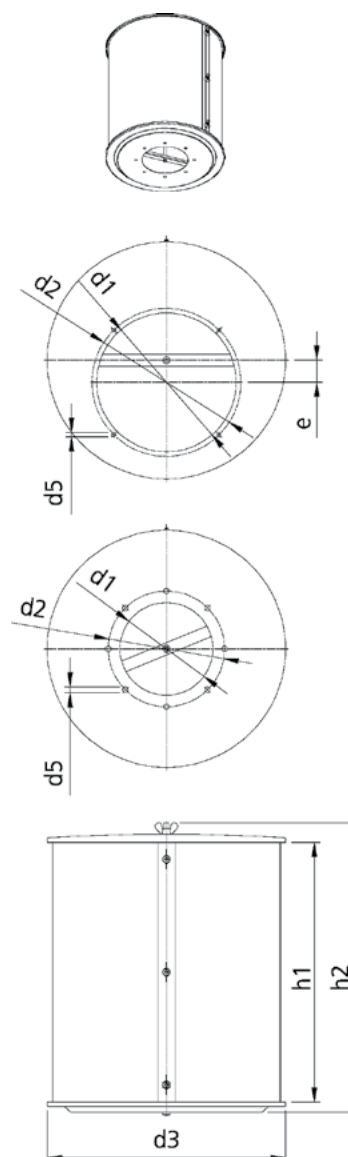
Fine Filter, Intake Side

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	d ₁	d ₂	d ₃	d ₅	e	h ₁	h ₂	Filter Material No.	Spare Filter Elements Material No.	Dimension Spare Filter Elements
TXR 1112	5.91	6.50	16.14	4 x 0.37	–	8.46	10.77	009102	008609	0.59 x 8.98 x 48.62
TXR 1410	4.72	5.47	16.14	4 x 0.37	–	8.46	10.51	009112	008609	0.59 x 8.98 x 48.62
TXR 1508	6.30	7.17	16.14	8 x 0.45	–	13.58	15.91	021318	008611	0.59 x 14.17 x 48.62
TXR 1814	6.93	7.87	20.08	8 x 0.45	–	25.87	27.91	009115	008615	0.59 x 26.54 x 60.63

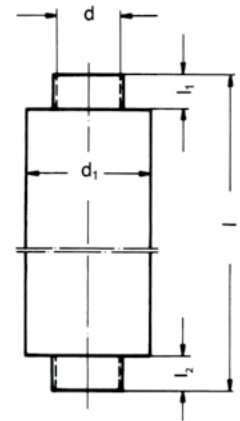
Note: Dimensions in inches

Silencer (Intake Side)

MODEL	Noise reduction dB (A)	l	l ₁	l ₂	d	d ₁	Material No.
TXR 1009	–	23.62	1.97	5.91	3.15	4.72	000603
TXR 1015	–	47.24	1.97	5.91	4.41	6.30	000751
TXR 1112	–	47.24	3.94	3.94	5.51	9.84	001015
TXR 1407 TXR 1410	–	47.24	1.97	5.91	4.41	6.30	000751
TXR 1508 TXR 1510	– 10-15	43.31	1.97	1.97	5.91	9.84	000427
TXR 1512	–	47.24	3.94	3.94	7.09	11.02	000421
TXR 1814	– 7-15	43.31	1.97	1.97	6.69	9.06	013830

Notes:

1. Fitting of the silencers to the blowers is only possible by means of the connector without flange (see accessories page 25).
2. Maximum pressure for use is 1.200 Pa.
3. Dimensions in inches.

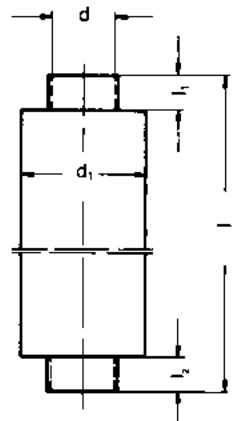


Silencer (Discharge Side)

MODEL	Noise reduction dB (A)	l	l ₁	l ₂	d	d ₁	Material No.
TXR 1009	On Request	23.62	1.97	5.91	3.15	4.72	000603
TXR 1015	On Request	47.24	1.97	5.91	4.41	6.30	000751
TXR 1112 TXR 1407 TXR 1410	On Request	47.24	1.97	5.91	4.41	6.30	000751
TXR 1508 TXR 1510	On Request	47.24	1.97	5.91	4.41	6.30	000751
TXR 1512	On Request	43.31	1.97	5.91	5.91	9.84	000427
TXR 1814	On Request	43.31	1.97	5.91	6.69	9.06	013830

Notes:

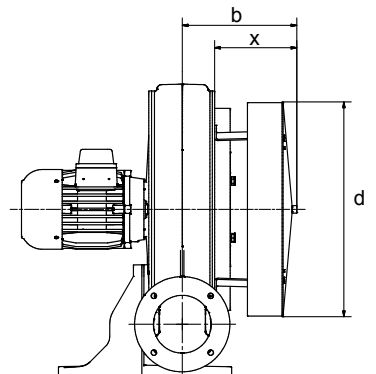
1. Fitting of the silencers to the blowers is only possible by means of the connector without flange (see accessories page 27).
2. Maximum pressure for use is 1.200 Pa.
3. Dimensions in inches.



Disk Silencer Without Housing Cover Lid

MODEL	Noise reduction dB (A)	b	x	d	Material No.
TXR 1112 IV/IK TXR 1112 IV/IK-15/4,0	up to 6	8.11	5.31	11.22	025032
TXR 1410 IV-130/7,5	up to 5	8.62	6.46	14.57	020448
TXR 1508 IV-135/11	up to 5	8.94	6.69	14.57	020454
TXR 1814 IV	up to 10	13.58	10.24	18.27	017176

Note: Dimensions in inches

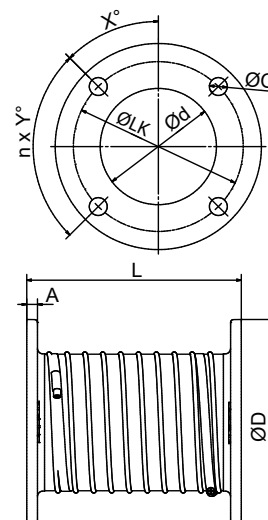


Flexible Connector, Intake Side

(applicable for delivery medium temperatures up to 80°C)

MODEL	n	Y	ØLK	Ød	C	A	L	X°	ØD	Material No.
TXR 1009	0.16	90°	4.65	2.76	0.35	0.31	7.87	45°	5.71	018492
TXR 1112	0.16	90°	6.50	4.92	0.37	0.31	5.91	45°	7.52	019994
TXR 1015 TXR 1410	0.16	90°	5.47	3.94	0.37	0.31	7.87	45°	6.50	018494
TXR 1508	0.31	45°	7.17	5.51	0.45	0.31	5.91	22.5°	8.50	018617
TXR 1512	0.31	45°	7.87	6.14	0.45	0.31	10.24	22.5°	9.21	018307
TXR 1814	0.31	45°	7.87	6.14	0.45	0.31	10.24	22.5°	9.21	018307
TXR 1814B	0.31	45°	7.87	6.14	0.45	0.31	10.24	22.5°	9.21	019290

Note: Dimensions in inches

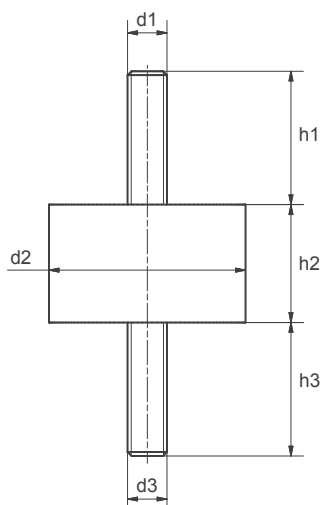


Flexible Connector, Discharge Side

(applicable for delivery medium temperatures up to 80°C)

MODEL	n	Y	ØLK	Ød	C	A	L	X°	ØD	Material No.
TXR 1009	0.16	90°	3.74	2.56	0.35	0.31	7.87	45°	5.71	019476
TXR 1015	0.16	90°	5.31	3.94	0.37	0.31	5.91	45°	7.52	018643
TXR 1112 TXR 1410 TXR 1508	0.16	90°	5.47	3.94	0.37	0.31	7.87	45°	6.50	018494
TXR 1512	0.31	45°	7.17	5.51	0.45	0.31	10.24	22.5°	9.21	018617
TXR 1814	0.31	45°	7.87	6.14	0.45	0.31	10.24	22.5°	9.21	018307
TXR 1814B	0.31	45°	7.87	6.14	0.45	0.31	10.24	22.5°	9.21	019290

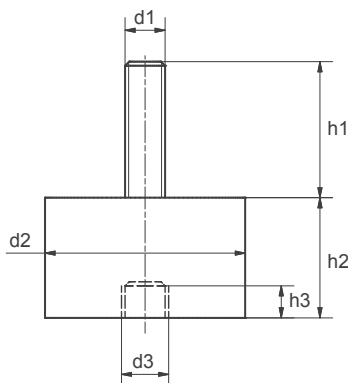
Note: Dimensions in inches



Rubber Metal Buffer (Standard), Version A, Shore 57°

MODEL	d ₁	d ₂	d ₃	h ₁	h ₂	h ₃	Pieces/ Unit	Material No.
TXR 1009	M10	1.97	M10	1.34	1.18	1.34	4	003459
TXR 1015	–	–	–	–	–	–	–	–
TXR 1112	M10	1.97	M10	1.34	1.18	1.34	4	003459
TXR 1407	M10	1.97	M10	1.34	1.18	1.34	4	003459
TXR 1508	M10	1.97	M10	1.34	1.18	1.34	4	003459
TXR 1512	M10	1.97	M10	1.34	1.18	1.34	4	003459
TXR 1814	M12	2.95	M12	1.46	1.57	1.46	4	007977

Note: Dimensions in inches



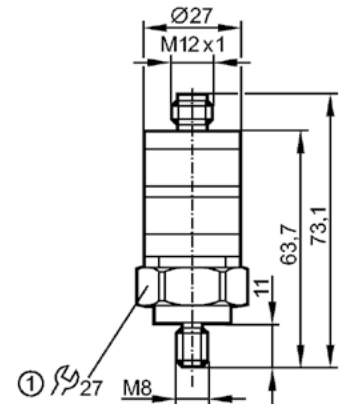
Rubber Metal Buffer (Optional), Version B, Shore 57°

MODEL	d ₁	d ₂	d ₃	h ₁	h ₂	h ₃	Pieces/ Unit	Material No.
TXR 1009	M10	1.97	M10	1.34	1.18	0.39	4	011436
TXR 1015	–	–	–	–	–	–	–	–
TXR 1112	M10	1.97	M10	1.34	1.18	0.39	4	011436
TXR 1407	M10	1.97	M10	1.34	1.18	0.39	4	011436
TXR 1508	M10	1.97	M10	1.34	1.18	0.39	4	011436
TXR 1512	M10	1.97	M10	1.34	1.18	0.39	4	011436
TXR 1814	–	–	–	–	–	–	–	–

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	-25 - 80 °C
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.	019351



① Locking torque 15 Nm

Accessories for Vibration Sensor

TYPE	Material No.
Protection cap, plastic transparent	019352
Cable box	020321

Complete Set Vibration Sensor

DESCRIPTION	Material No.
"Soft" installation (rubber buffer)	020320
"Fixed" installation (screwed)	020330

Complete set consisting of vibration sensor (19351), protection cap (019352) and cable box (020321)



Model

TXR

Furnish and install Model TXR 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 TXR 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 TXR 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 TXR 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 or steel. Heavy-gauge blades shall be fixed to both the front and back plates. Impellers shall be statically and dynamically balanced. Stainless steel construction is available.

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



Elektrotor
airsystems gmbh

TWIN CITY FAN & BLOWER
WWW.TCF.COM

5959 TRENTON LANE N. | MINNEAPOLIS, MN 55442 | PHONE: 763-551-7600 | FAX: 763-551-7601

©2021-2024 Twin City Fan Companies, Ltd., Minneapolis, MN. All rights reserved. Catalog illustrations cover the general appearance of Twin City Fan & Blower products at the time of publication and we reserve the right to make changes in design and construction at any time without notice.