Sanitaire TurboMAX turbo blower

PRODUCT DESCRIPTION & TECHNICAL DATA



TurboMAX high efficiency, high speed turbo blower

The TurboMAX blower is a highly efficient, high speed, direct drive turbo blower developed for superior reliability. Featuring a compact design, the TurboMAX blower is engineered to meet today's demanding quality requirements. TurboMAX is CE Compliant and manufactured in facilities according to ISO 9000 and 14000 standards.

Unlike magnetic bearing blowers, the TurboMAX blower is totally oil free with low maintenance requirements due to self-adjusting contactless bearings. TurboMAX is also able to operate safely in fluctuation input power situations or unplanned power cuts with no need for auxiliary power or power backup uninterruptible power supply (UPS).

Motor

The TurboMAX motor is the core of the blower and is a high speed permanent magnet synchronous motor (PMSM). Capable of high rotational speeds with no mechanical friction loses or wear during operation, TurboMAX does not require lubrication. There is also no need for magnetizing so less cooling is needed. In the PMSM motor there is no slip, resulting in high efficiency even during partial load. The TurboMAX impeller is connected directly to the shaft of the motor giving 0% transmission losses. The motor can generate high power with only 1/10th of the size of a standard IEC equivalent motor power. The PMSM motor is controlled by a frequency converter that gives high control accuracy, and has a Class H temperature design.

Impeller

The impeller is made from solid forged aluminum and machined in 5 axis machines to obtain the highest possible efficiency with a high tolerance for all models, the TurboMAX impeller has a very smooth surface giving it a more efficient and stronger design then caste impellers.

Inlet filter

TurboMAX has built-in air filters for easy maintenance and can be exchanged from the outside of the blower.

Built-in flow meter

TurboMAX has an integral flow meter that constantly monitors the air flow and can be used as a flow signal with an accuracy of +-3%, in some cases eliminating the need for independent flow meters.

Bearings

The bearings are of airfoil bearing type, resulting in a simple structure utilizing the physics and characteristics of the air. An air curtain generated by the rotor's revolution serves as non-contact hydrodynamic pressure for the levitation of both the journal side as well as the thrust side of the rotating assembly. The bearings have been subjected to thousands of iteration on/off tests showing no significant wear, making it suitable for most wastewater treatment plant (WWTP) applications, and offering a substantial life span.

Sound

The blower is supplied with sound enclosure as standard with sound pressure level to noise levels according to ISO 3744, with or without background noise. Official values according to below table:

Noise Level (WIMES standard and ISO 3744)

Model Size MAX	20~50	75~100	150	200	250	300	400	500D
Model [kW]	15~37	56~75	112	150	190	225	300	375
Noise [dB(A)]	68	74	76	78	80	84	85	85

Flow control

Flow control is done by an integrated variable frequency drive (VFD) to allow for a very wide operating range on both pressure and flow. The blower is easily adaptable to future state conditions of increased system pressure while still maintaining efficiency.

Testing

Every blower is factory tested according to ASME PTC-10 or ISO 5389 standard. Special duty points can be tested by request prior delivery.

Installation

Installation is simple and the blowers are delivered as a plug-and-play machine. Special consideration is always needed for ventilation and ambient temperatures to accommodate local conditions. The unit is compact, does not require a concrete foundation, no need for lifting devices, and the floor does not have to be entirely level or flat due to the adjustable feet. The TurboMAX blower package is delivered with IP52 class protection. IP 54 with outdoor enclosure.

Internal controller and communication options

Siemens S7-1200 PLS, CPU1214C
Option-MODBUS RTU
Option-Profibus DP
Standard-ProfiNET

Cooling air quality

Permitted chemical vapors according to IEC 60721-3-3 class 3C2

Sulphur dioxide (SO2)	0,3 / 1,0
Hydrogen sulphide (H2S)	0,1 / 0,5
Chlorine (Cl)	0,1 / 0,3
Hydrogen chlorine (HCl)	0,1 / 0,5
Hydrogen fluoride (HF)	0,01 / 0,03
Ammonia (NH3)	1,0 / 3,0
Ozone (O3)	0.05 / 0,1
Nitrogen oxides (NOx)	0,5 / 1,0

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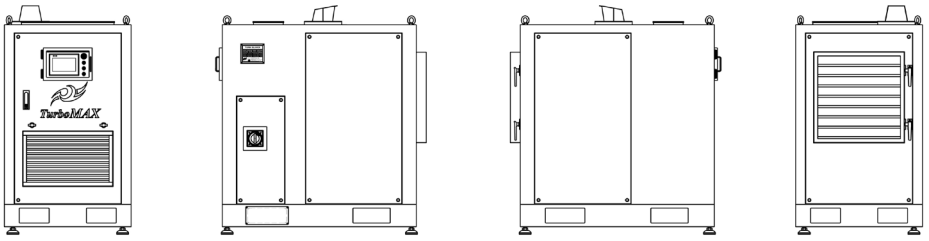
All measurements and data is for guidance only. For correct selection and sizing please contact your nearest Xylem office or Xylem distributor.

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Technical data and range

Dis. Pressure [kgf/cm²]		MAX20	MAX30	MAX50	MAX75	MAX100	MAX150	MAX200	MAX250	MAX300	MAX400	MAX500D	MAX600D	MAX800D
		Air Flow [m³/h] - 1atm, 20°C, RH 0%, air Flow Tolerance: ±5%												
	HP	20	30	50	75	100	150	200	250	300	400	500	600	800
	kW	15	22	37	56	75	112	150	190	225	300	375	450	600
0,3		1080	1560	2820	4560	6420	7800	10440	14580	15480	20880	29160	30960	41760
0,4		960	1380	2580	4080	5160	7320	9840	13020	14520	19680	26040	29040	39360
0,5		840	1200	2280	3300	4440	6780	8880	11700	13500	17760	23400	27000	35520
0,6		720	1080	1980	2940	3960	6240	7920	9600	12000	15840	19200	24000	31680
0,7			840	1560	2640	3480	5520	6960	8700	10800	13920	17400	21600	27840
0,8				1380	2400	3240	4920	6480	8100	9720	12960	16200	19440	25920
0,9				1260	2220	3000	4140	5520	6840	8220	11040	13680	16440	22080
1,0				1140	1860	2520	3720	5160	6240	7500	10320	13080	15000	20640
1,1						2280	3420	4560	5700	6840	9600		13680	
1,2						2220	3360	4500	5520	6720	8700		13440	
1,3				900	1380	2100	3180	4200		6360			12720	
1,5				840	1200	1920	2880	3840		5760			11520	

Blower data is for guidance only



FRONT SIDE RIGHT SIDE LEFT SIDE REAR SIDE

Model	Enclosure Dimension [mm] W	L	H	Weight [kg/lbs]
MAX20-MAX40	800	1100	1050	350/772
MAX50-C040	900	1500	1350	630/1389
MAX50	800	1100	1050	350/772
MAX75	900	1500	1350	630/1389
MAX85-C070	900	1500	1700	730/1609
MAX100-C040S1	900	2100	1700	900/1984
MAX100	900	1500	1700	730/1609
MAX115-C150	900	2350	1700	950/2094
MAX150-C06 to MAX150C100	900	2100	1700	900/1984
MAX150-C150	900	2350	1700	950/2094
MAX200-C040S1	1100	2300	1950	1400/3086
MAX200-C060 to MAXC200-C100	1000	2100	1900	1150/2535
MAX200-C120 MAX200-C150	1000	2300	1900	1250/2756
MAX250-C060S1	1100	2300	1950	1400/3086
MAX300-C040T1	1600	2000	2050	1700/3748
MAX300-C060 to MAX300-C120	1600	1900	2050	1600/3527
MAX400-C060T1 to MAX400-C070T1	1600	2000	2050	1700/3748
MAX400-C080S1 to MAX400-C100	1600	1900	2050	1700/3748
MAX500-C060T1 MAX500-C080T1	1600	2300	2050	1950/4299
MAX500D-C060S1 to MAX500D-C100S1	1900	2500	2000	3300/7275
MAX600D-C060S1 to MAX600D-C120S1	2200	2800	2250	3650/8047
MAX800D-C060T1 to MAX800D-C070T1	2200	3100	2100	3800/8378
MAX800D-C080S1	2200	3000	2250	3800/8378

For larger sizes please contact your nearest Xylem office

Ambient conditions

Ambient temperature range	-10°C ~ 40°C (14°F -104°F) (Higher ambient temperatures on request)
Atmospheric pressure range	90 kPa ~ 110 kPa (13.05 psia ~ 15.95 psia)
Maximum relative humidity	95%, non-condensing, non-corrosive, no dripping water
Maximum altitude	1,000 m (3,280 feet) above sea level

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