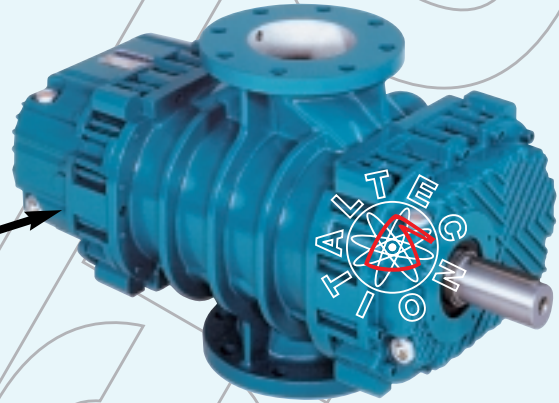
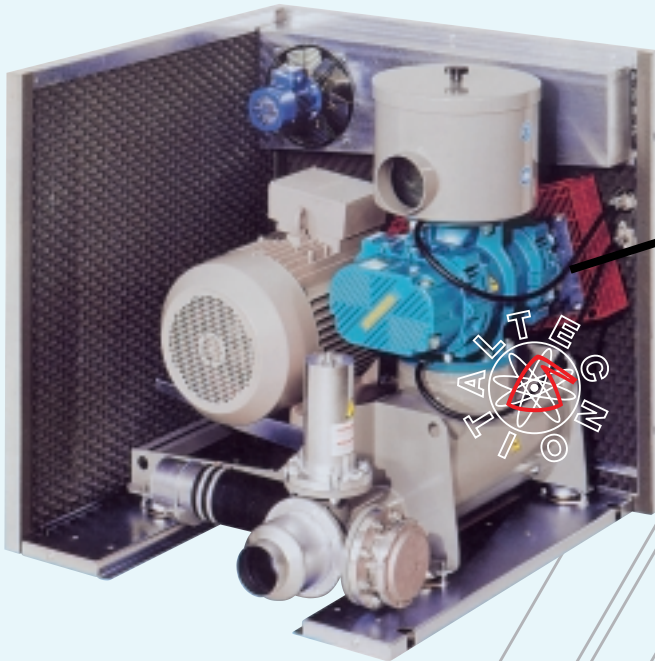




Positive displacement rotary blower

ROBOX (INTEGRATED COMPRESSION GROUP)



RBS is the new innovative positive displacement rotary blower especially designed for application in ROBOX packages.

The Blower is equipped with special profile, three lobe rotors which, together with a new design of the Low Pulse system, reduce residual pulsations of the conveyed gas below 2% of the operating pressure.

Oversized shafts allow higher working pressures and higher rotation speeds.

Reinforced bearings, in particular the one placed on the drive shaft and positioned closer to the rotor, help in coping with high V-belt drive loads.

ROBOX is an integrated compression package for conveying low pressure gases, equipped with the RBS positive displacement rotary lobes blower, driven by an electric motor through a special V-belt transmission, and complete with all necessary accessories. ROBOX packages perform up to 150 m³/min capacity and fit up to 250 kW motors. For higher capacities and up to 250 kW motor installed power, GRB packages with standard V belt drive transmission are available, whereas for installed power over 250 kW, CRB packages, with direct drive or gearbox, are used.

BLOWER

The heart of ROBOX is the innovative RBS blower especially designed to suit this special compression unit.

INLET SILENCER

Inlet silencer consists of a patented, adjustable device that can be tuned in order to reduce the noise at blower basic frequency

through the sound waves interference phenomenon, and of an absorptive device fading the noise frequencies over 500 Hz.

The filter is positioned inside the silencer, before the blower inlet port, avoiding pollution of conveyed gas even in case the absorbing material is damaged.

In GRB, CRB packages, the silencer is with a broad band resonance chamber, without sound absorbing material.

DISCHARGE SILENCER

Discharge silencer consists of a cross flow resonance chamber, cutting noise frequencies over 500 Hz, connected in series to a patented adjustable device reducing the noise at blower's basic frequency through the interference phenomenon of sound waves.

Discharge silencer has been especially designed to reduce pressure losses in the conveyed gas flow.



The absence of deadening material prevents the gas pollution and guarantees steady, efficient operation of the silencer throughout time. The silencer body is a part of the base-plate, common to the blower and to the driving motor. In GRB, CRB packages, silencer is a broad frequency band resonance type without sound absorbing material.

DRIVE

V-belt drive is designed with a special patented device, supporting the motor on swinging brackets, which reduces loads on blower's and motor's bearings, assuring and keeping automatically the correct belt tension during operation, with no need of periodical adjusting. Brackets can be easily adjusted to suit different motor sizes. In GRB packages V-belt drive is adjusted through a standard slide rails tensioning device suitable for motors up to 250 kW. In CRB packages drive is direct through standard flexible coupling or through gearbox to suit motor power up to 500 kW.

ELECTRIC MOTOR

ROBOX is designed for three phases, B3 type, IEC norm motors with minimum IP 55 protection.

SAFETY VALVE

The safety valve limits the operating diffe-

rential pressure value of the blower.

It is made of G200 galvanized cast iron to make it weather-proof.

CHECK VALVE

The valve prevents counter rotation of the blower when it is stopped under load. It is provided with a new disc in heat resistant rubber, reinforced with metallic core, that grants free gas flow through its full open passage section, reducing pressure losses and avoiding disc clattering under low flow conditions.

UNLOADING VALVE

The valve, available upon request, allows direct gas discharge during start-up, in particular when using star-delta starters. Operation is fully automatic and does not require electric actuator. Electrical control can be provided upon request, in case of special running cycles.

NOISE ENCLOSURE

Noise enclosure allows to meet the most stringent noise specifications. It is provided with self supporting galvanized steel panels coated with polyurethane self extinguishing sound absorbing material. Side panels shield the package down to ground level assuring the highest noise reduction effect. Two galvanized steel bars form the ROBOX supporting base and the enclosure lifting frame during ROBOX positioning on site.

Size	RPM		P1 (mbar)		P1/P2 (mbar) MAX	P1/P2 MAX	T1 (°C)		T2 (°C) MAX	T2-T1 (°C) MAX
	MAX	MIN	MAX	MIN			MAX	MIN		
10					800					110
20	4700	1200	P0+50	P0-500	600	2	50	-25	130	90
30					1000					110
40	4400	1000	P0+100	P0-500	800	2	50	-25	130	90
41					600					70
55					1000					130
65	4800	900	P0+100	P0-500	1000	2	50	-25	150	110
66					700					90
75					1000				150	130
85	3800	700	P0+100	P0-500	1000	2	50	-25	(2)	110
86					700					90
95					1000				150	130
105	3000	550	P0+100	P0-500	1000	2	50	-25	(2)	110
106					700					90
115					1000				150	130
125	2400	450	P0+100	P0-500	1000	2	50	-25	(2)	110
126					700					90
135					1000				150	130
145	1800	350	P0+100	P0-500	1000	2	50	-25	(2)	110
155					700					90
165					1000				150	130
175	1500	300	P0+100	P0-500	1000	2	50	-25	(2)	110
205					1000				150	110
225	1200	250	P0+100	P0-500	7000	2	50	-25	(2)	90

P0 Atmospheric pressure

P1 Blower absolute inlet pressure

P2 Blower absolute outlet pressure

T1 Blower inlet temperature

T2 Blower outlet temperature

Note:

(1) Resonance phenomena in the plant are possible when speed or rotation is close to the minimum one

(2) 160° C for blowers IR-F

