KAESER COMPRESSORS

www.kaeser.com

N Series

Initial pressure up to 13 bar – Final pressure up to 45 bar
Air delivery 0.28 - 18 m³/min

KAESER COMPRESSORS

Effective up to 45 bar

Why do we need a booster?

The ability to offer compressed air at various pressures makesit one of the most versatile energy sources available. Special applicationsrequire specifically tailored solutions in order to achieve optimum efficiency. Boosters are ideal for applications such as PET container production for example, where compressed air is required at a higher pressure than the standard works or control air at particular points in the manufacturing process. In such instances, it is more economical to use the existing works air and boost it to the higher pressure with a small local compressor, rather than to operate the whole compressed air system at the higher pressure. Regulating the pressure of a high pressure network to suit low-pressure applications (which account for most air usage) is simply a waste of money.

KAESER offers a comprehensive range of high performance reciprocating compressors that are able to boost compressed air from a screw compressor up to pressures as high as 45 $bar_{(g)}$. These machines are perfectly matched for use with KAESER KOMPRESSOREN's extensive range of screw compressors and SIGMA PET Air systems.

Continuous research and development

KAESER KOMPRESSOREN's strategy of continuous research and development ensures that every product provides exceptional performance and reliability. KAESER's wide range of boosters for example, features the very latest innovations in reciprocating compressor technology. These include newly designed compressor blocks with oil pumps and a high efficiency cooler, both of which are essential for optimised high pressure system operation. In addition, design details such as pressurised oil lubrication and intensive cylinder cooling allow up to 100 percent duty cycles.

Made in Germany!

KAESER compressor block

Designed and manufactured by KAESER, the high-pressure compressor blocks are available as two or three cylinder models and operate at low speed to ensure years of reliable and efficient service.

High quality cylinder

Every KAESER booster is equipped with super-precision cylinders, each finished by a special process to ensure minimum oil consumption and negligible wear for maximum durability.

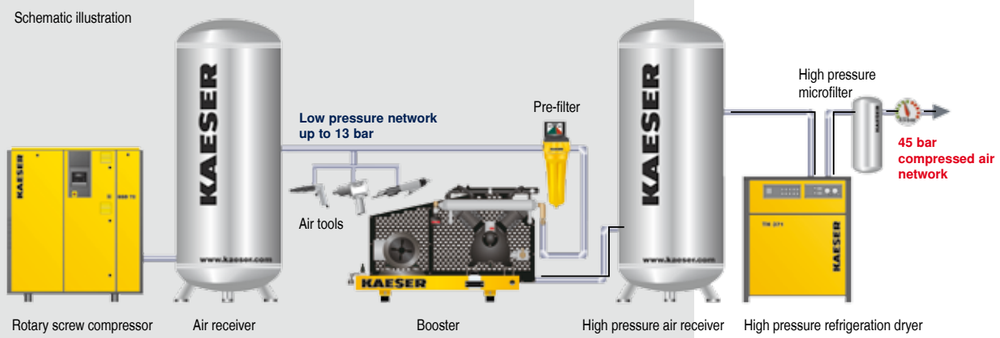
Low temperatures

Three-cylinder models are equipped with a fan-assisted after-cooler to ensure lowest possible compressed air outlet temperatures. A water-cooled after-cooler version is available to achieve even lower "Delta T" results.

Premium efficiency motor

High efficiency EU eff1 motors consume less power for greater output and are standard throughout the range of KAESER compressors. Their low operating temperature is an added advantage, especially in environments with a high ambient temperature.

Compressed air system with booster up to 45 bar



Further information is also available in our SIGMA PET AIR brochure: P-200

Select the best

It is not uncommon for a booster to achieve a maximum pressure of 40 bar, but this once standard figure can now only be considered as second best. KAESER booster systems are in a class of their own however, as they are the product of decades of experience in compressor system design and guarantee continuous delivery at 45 bar.

Versatile Range

N 60 G
to N 153 G, air-cooled

For lower demand

The smaller models in this range are best suited to applications where low volumes of air are needed at up to 40 bar pressure. These compressors are equipped with one- or two-cylinder compressor blocks and are driven by high efficiency motors with up to 4 kW capacity. The quality of these units is second to none as all compressor blocks are designed, manufactured and assembled by KAESER.

N 253 G
to N 502 G, air-cooled

Medium to large demand

When greater volumes of air are needed at pressures up to 45 bar then the larger of the KAESER booster models are the natural choice. The core of these “power houses” is the high-precision, two- or three-cylinder compressor block with specially finished high quality cylinders and premium efficiency eff1 electric motors providing capacities up to 45 kW. The manual (two-cylinder models) or automatic drive belt tensioning systems (three-cylinder models) ensure constant efficient power transmission for reliable and economic operation.

According to application, air-cooled or water-cooled aftercooler versions are available (N 253 G - N 502 only air-cooled, from N 753 G air- or water-cooled aftercooler).

Air-cooled versions (N 753 G - N 2001 G) are equipped with a separate fan-assisted aftercooler to keep the temperature differential between the inlet and compressed air (ΔT) within close tolerances.

To ensure optimum cooling performance with a ΔT value of only approximately 5 K even at high ambient temperatures, models N 753 to N 2001 can be equipped with a water-cooled compressed air aftercooler.

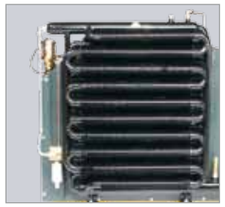
N 753 G
to N 2001 G, air-cooled or water-cooled aftercooler available

Optimum lubrication

Equipped with an oil pump and oil filters, the new continuous oil filtration system available for aftercooler models N 253 G to N 1400 G extends the oil change interval to 2000 operating hours.

Maximum safety

Oil pressure, cylinder head temperatures and air discharge temperatures are continuously monitored on models N 253 G to N 1400 G. The safety shut-down sequence is initiated via alarm signals.

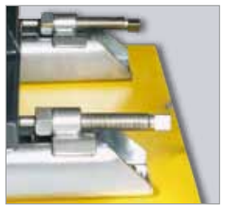


Efficient air cooler

Highly efficient and maintenance-free, the cooler on two-cylinder compressors achieves very low compressed air discharge temperatures.

Automatic belt tensioning

On models N 753 G to N 1400 G constant spring pressure on the motor swing-frame keeps the drive belt at the correct tension to ensure virtually maintenance-free power transmission.

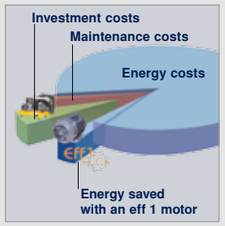


Manual belt tensioning

Quick and easy adjustment maintains optimum power transmission on single- and two-cylinder boosters.

KAESER COMPRESSORS

The N series sets the new standard



Premium efficiency motor

Eff1-rated motors consume less power for greater output and provide outstanding efficiency.

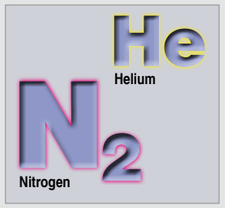
Anti-vibration mounts

For vibration-free and quiet operation the machine can be mounted either on rubber feet.

...or on anti-vibration mounts.

Low maintenance = Savings

The combination of the innovative forced lubrication system, precision machining and high quality components ensures minimal maintenance requirement.



Nitrogen/Helium compression

Upon request, modified versions of N-series systems are available for compression of nitrogen and helium.

Start-Control

The 'Start Control' provides reliable booster monitoring and control and also reduces the starting load.

Technical Specifications – Boosters

Model	Inlet pressure bar	Final pressure bar	Air delivery m³/min	Displacement l/min	Rated motor power kW	Theoretical inlet volume m³/min	No. of cylinders	Compressor speed Strokes per min	Sound pressure level Without enclosure dB(A)	Sound pressure level With enclosure dB(A)	Cooler type Air-cooled	Cooler type Air-cooled with separate fan	Cooler type Water-cooled	Max. dimensions air-cooled version W x D x H mm	Weight max. kg
N 60-G	5	25	0.28	60	2.2	0.36	1	1040	74	64	o	–	–	880 x 390 x 540	65
	7.5	35	0.39	60	2.2	0.51									
	10	35	0.52	60	2.2	0.66								1030 x 640 x 620	100
	13	35	0.69	60	2.2	0.84									
N 153-G	5	15	0.69	150	2.2	0.91	2	660	74	64	o	–	–	1370 x 710 x 820	200
	5	25	0.46	150	4										
	7.5	15	1.08	150	2.2	1.28									
	7.5	35	0.68	150	4										
	10	15	1.40	150	2.2	1.66								1620 x 1280 x 990	390
	10	40	0.93	150	4										
	13	25	1.60	150	4	2.12									
	13	40	1.3	150	4										
N 253-G	5	25	1.05	250	7.5	1.54	2	1120	76	66	o	–	–	1380 x 720 x 820	285
	7.5	20	1.57	250	7.5	2.18									
	7.5	35	1.41	250	11										
	10	25	2.30	250	7.5	2.82									
	10	45	1.93	250	11									1620 x 1280 x 990	475
	13	20	3.18	250	7.5	3.59									
	13	45	2.72	250	11										
N 351-G	5	25	1.55	350	11	2.19	2	910	77	67	o	–	–	1520 x 870 x 1000	390
	7.5	25	2.50	350	11	3.11									
	7.5	35	2.34	350	15										
	10	25	3.54	350	11	4.02								1940 x 1650 x 1130	660
	10	45	3.00	350	15										
	13	25	4.91	350	11	5.12									
	13	45	4.19	350	15										
N 502-G	5	15	2.3	500	11	2.94	2	970	77	62	o	–	–	1560 x 870 x 1000	460
	5	25	2.02	500	11										
	7.5	15	3.52	500	11	4.16									
	7.5	35	2.92	500	15										
	10	15	4.73	500	11	5.38								1940 x 1650 x 1130	730
	10	35	4.11	500	15										
	10	45	3.79	500	18.5										
	13	35	5.4	500	15	6.85									
	13	45	5.09	500	18.5										
N 753-G	5	25	4.73	1040	22	6.21	3	1300	79	70	o			1600 x 1040 x 1030	740
	7.5	35	6.93	1040	30	8.80		1300						2420 x 1600 x 1350	1100
	10	45	7.65	880	30	9.64		1100				o		2790 x 1010 x 1040	1080
	13	45	9.76	830	30	11.60		1040						3130 x 1600 x 1350	1600
													o	1990 x 990 x 1020	900
														2420 x 1600 x 1350	1260
N 1100-G	5	25	6.55	1490	30	8.95	3	1300	79	70	–	o		2790 x 1010 x 1040	1100
	7.5	35	9.26	1310	37	11.11		1140						3130 x 1600 x 1350	1620
	10	45	9.63	1080	37	11.86		940					o	1990 x 990 x 1020	900
	13	45	12.12	1000	37	13.97		870						2420 x 1600 x 1350	1260
N 1400-G	7.5	30	10.55	1490	45	12.7	3	1300	79	70	–	o		2790 x 1010 x 1040	1140
	10	35	14.2	1490	45	16.4		1300						3130 x 1600 x 1350	1660
	10	45	11.68	1310	45	14.4		1140					o	1990 x 990 x 1020	980
	13	45	14.34	1180	45	16.5		1030						2420 x 1600 x 1350	1340
N 2001-G	5	10	12.1	2290	30	13.7	3	1100	84 [2]	70	–	o		2790 x 1010 x 1040	1130
	5	25	9.02	1910	37	11.5		920						3130 x 1600 x 1350	1650
	7.5	25	11.1	1810	37	15.4		870					o	1990 x 990 x 1020	970
	10	25	15.4	1810	37	19.9		870						2420 x 1600 x 1350	1330

o Standard
o Optional
— Not available

*) Effective free air delivery, referenced to atmospheric inlet conditions at discharge pressure – Electrical connection: Compressor unit 400 V, 3 Ph, 50 Hz, solenoid valves 230 V, 1 Ph, 50 Hz, idling control and oil level monitoring standard from N 253-G models and up, optional for N 60-G and N 153-G in combination with control cabinet.

1) Sound pressure level as per ISO 2151 and basic standard ISO 9614-2, tolerance: ± 3 dB(A)
2) Sound power level 101db(A); sound power level as per ISO 2151 and basic standard ISO 9614-2, tolerance: ± 3 dB(A)

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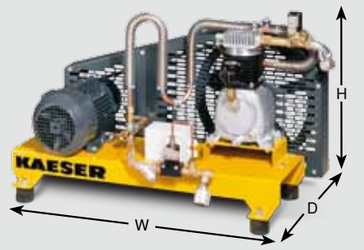
Dimensions

Width (W), Depth (D) and Height (H) – See adjacent table for details.



N 60 G to N 153 G, air-cooled

N 253 G to N 502 G, air-cooled

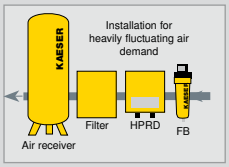
N 753 G to N 2001 G, water-cooled

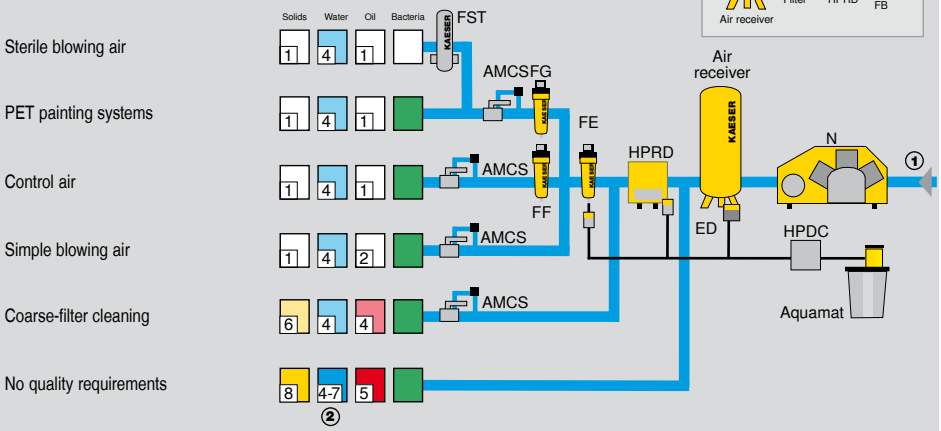
The **SIGMA PET AIR system** is a turnkey package.
See brochure P-200 for further details

Choose the required grade of treatment according to your field of application:

Air treatment using a refrigeration dryer (pressure dew point +3 °C)

Application examples: Selection of treatment classes to ISO 8573-1





① Compressed air supply from the low-pressure network: Solids 2, Water 4, Oil 3 required compressed air quality at booster inlet as per ISO 8573-1, otherwise a centrifugal water separator or air receiver with FC pre-filter necessary (particle separation>1 µm, remaining oil <1 mg/m³)

② Moisture dependent on pressure dew point, low-pressure network and the booster compression ratio

Explanation	
N	Booster
ED	ECO DRAIN
HPRD	High pressure refrigeration dryer
FE / FF	Microfilter
FG	Activated carbon filter
AMCS	Airmain charging system
HPDC	High pressure decompression chamber
Aquamat	Aquamat

Compressed air quality classes to ISO 8573-1(2010):

Solid particles / dust

Class	Max. particle count per m³ of a particle size with d [µm]*		
	0.1 ≤ d ≤ 0.5	0.5 ≤ d ≤ 1.0	1.0 ≤ d ≤ 5.0
0	e.g. Consult KAESER regarding pure air and cleanroom technology		
1	≤ 20,000	≤ 400	≤ 10
2	≤ 400,000	≤ 6,000	≤ 100
3	not defined	≤ 90,000	≤ 1,000
4	not defined	not defined	≤ 10,000
5	not defined	not defined	≤ 100,000
Class	**Particle concentration C_p [mg/m³]***		
6	$0 < C_p \leq 5$		
7	$5 < C_p \leq 10$		
X	$C_p > 10$		

Water

Class	Pressure dew point [°C]
0	e.g. Consult KAESER regarding pure air and cleanroom technology
1	≤ – 70 °C
2	≤ – 40 °C
3	≤ – 20 °C
4	≤ + 3 °C
5	≤ + 7 °C
6	≤ + 10 °C
Class	**Concentration of liquid water C_W [g/m³]***
7	$C_W \leq 0.5$
8	$0.5 < C_W \leq 5$
9	$5 < C_W \leq 10$
X	$C_W \leq 10$

Oil

Class	Total oil concentration (fluid, aerosol + gaseous) [mg/m³]*
0	e.g. Consult KAESER regarding pure air and cleanroom technology
1	≤ 0.01
2	≤ 0.1
3	≤ 1.0
4	≤ 5.0
X	> 5.0

*) At reference conditions 20 °C, 1 bar(a), 0% humidity

LGA InterCert
Certified QM/EM System
ISO 9001:2008 / ISO 14001:2004

KAESER COMPRESSORS
Built for a Lifetime!

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