

N Series

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



Why do we need a booster?

The ability to offer compressed air at various pressures makes it one of the most versatile energy sources available. Special applications require 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.

Effective up to 45 bar

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.



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



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.

EFF1 motor



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.



Δ T = 6-7 Kelvin



EFF1 motor

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



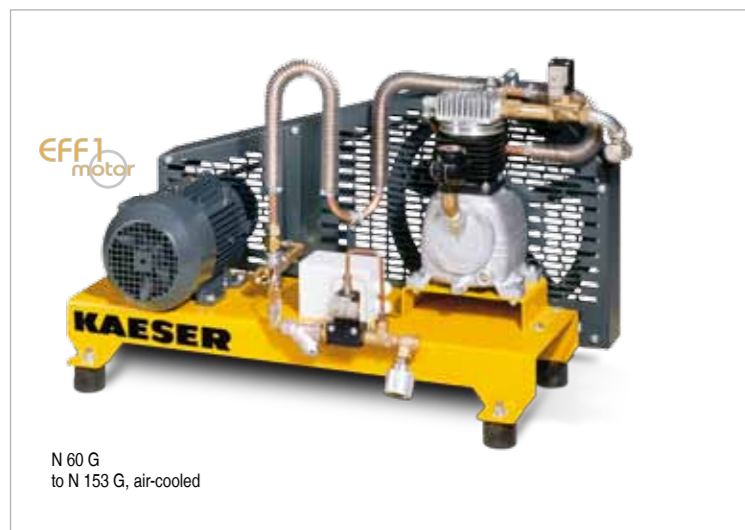
Further information is also available in our SIGMA PET AIR brochure: P-200



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



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.



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.



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.



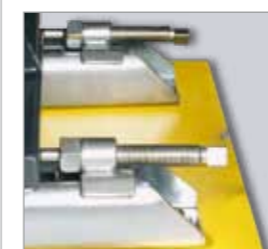
Efficient air cooler

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



Automatic belt tensioning

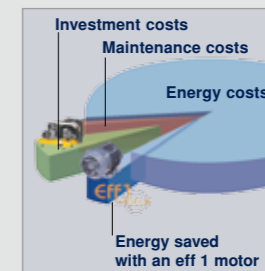
On models N 753 G to N 1400 G constant spring pressure on the motor swing-frame keeps the drive belt at the correct tension to ensure virtually maintenance-free power transmission.



Manual belt tensioning

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

The N series sets the new standard



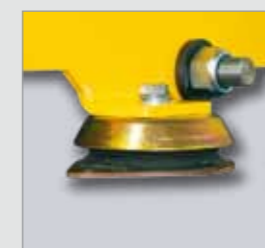
Premium efficiency motor

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.

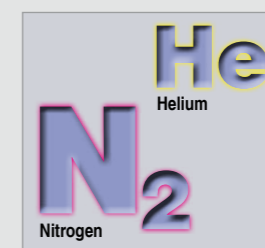


...or on anti-vibration mounts.



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.

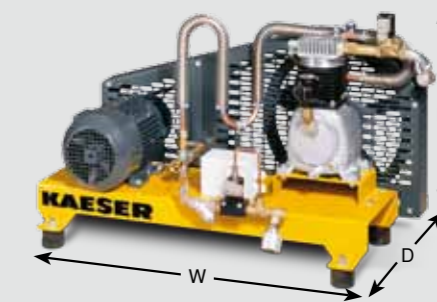
Technical Specifications – Boosters

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)	With enclosure dB(A)
N 60-G	5	25	0.28	60	2.2	0.36	1	1040	74	64
	7.5	35	0.39	60	2.2	0.51				
	10	35	0.52	60	2.2	0.66				
	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
	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				
	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
	7.5	20	1.57	250	7.5					
	7.5	35	1.41	250	11	2.18				
	10	25	2.30	250	7.5					
	10	45	1.93	250	11	2.82				
	13	20	3.18	250	7.5					
	13	45	2.72	250	11					
N 351-G	5	25	1.55	350	11	2.19	2	910	77	67
	7.5	25	2.50	350	11					
	7.5	35	2.34	350	15	3.11				
	10	25	3.54	350	11					
	10	45	3.00	350	15	4.02				
	13	25	4.91	350	11					
	13	45	4.19	350	15					
	N 502-G	5	15	2.3	500	11				
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				
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
	7.5	35	6.93	1040	30					
	10	45	7.65	880	30	9.64				
	13	45	9.76	830	30					
N 1100-G	5	25	6.55	1490	30	8.95	3	1300	79	70
	7.5	35	9.26	1310	37					
	10	45	9.63	1080	37	11.86				
	13	45	12.12	1000	37					
N 1400-G	7.5	30	10.55	1490	45	12.7	3	1300	79	70
	10	35	14.2	1490	45					
	10	45	11.68	1310	45	14.4				
	13	45	14.34	1180	45					
N 2001-G	5	10	12.1	2290	30	13.7	3	1100	84 ²⁾	70
	5	25	9.02	1910	37					
	7.5	25	11.1	1810	37	15.4				
	10	25	15.4	1810	37					

Cooler type			Max. dimensions air-cooled version W x D x H mm	Weight max. kg
Air-cooled	Air-cooled with separate fan	Water-cooled		
●	-	-	880 x 390 x 540 1030 x 640 x 620	65 100
●	-	-	1370 x 710 x 820 1620 x 1280 x 990	200 390
●	-	-	1380 x 720 x 820 1620 x 1280 x 990	285 475
●	-	-	1520 x 870 x 1000 1940 x 1650 x 1130	390 660
●	-	-	1560 x 870 x 1000 1940 x 1650 x 1130	460 730
○	○	○	1600 x 1040 x 1030 2420 x 1600 x 1350 2790 x 1010 x 1040 3130 x 1600 x 1350 1990 x 990 x 1020 2420 x 1600 x 1350	740 1100 1080 1600 900 1260
-	○	○	2790 x 1010 x 1040 3130 x 1600 x 1350 1990 x 990 x 1020 2420 x 1600 x 1350	1100 1620 900 1260
-	○	○	2790 x 1010 x 1040 3130 x 1600 x 1350 1990 x 990 x 1020 2420 x 1600 x 1350	1140 1660 980 1340
-	○	○	2790 x 1010 x 1040 3130 x 1600 x 1350 1990 x 990 x 1020 2420 x 1600 x 1350	1130 1650 970 1330

Dimensions

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



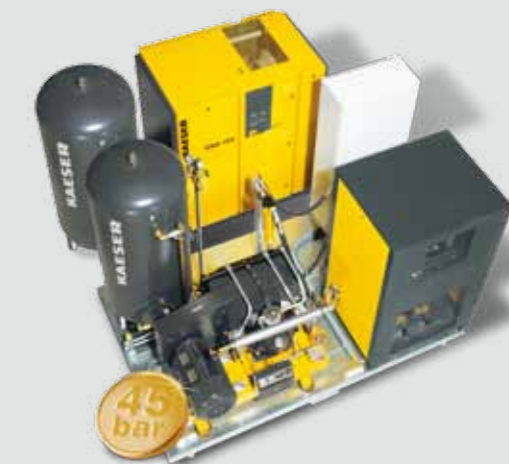
N 60 G to N 153 G,
air-cooled



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

- Standard
- Optional
- Not available

¹⁾ 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.

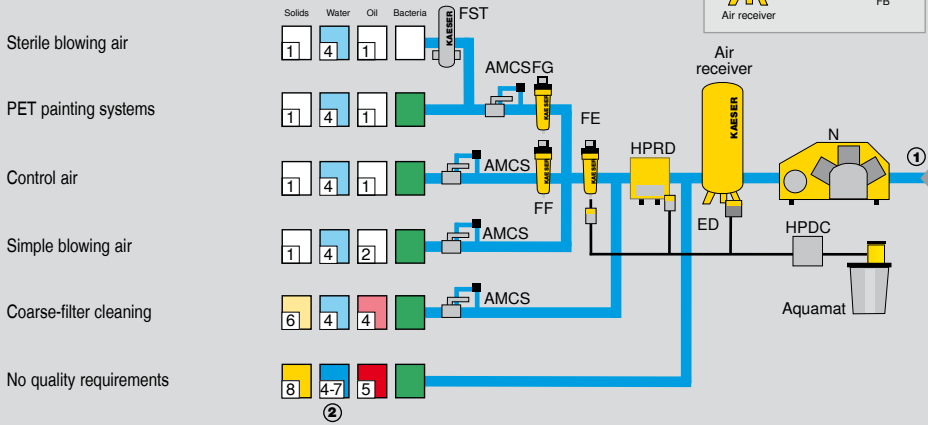
²⁾ Sound pressure level as per ISO 2151 and basic standard ISO 9614-2, tolerance: ± 3 dB(A)

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

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; 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
Particle concentration C _p [mg/m³]*			
6	0 < C _p ≤ 5		
7	5 < C _p ≤ 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
Concentration of liquid water C _w [g/m³]*	
7	C _w ≤ 0.5
8	0.5 < C _w ≤ 5
9	5 < C _w ≤ 10
X	C _w ≤ 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

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