

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.



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.

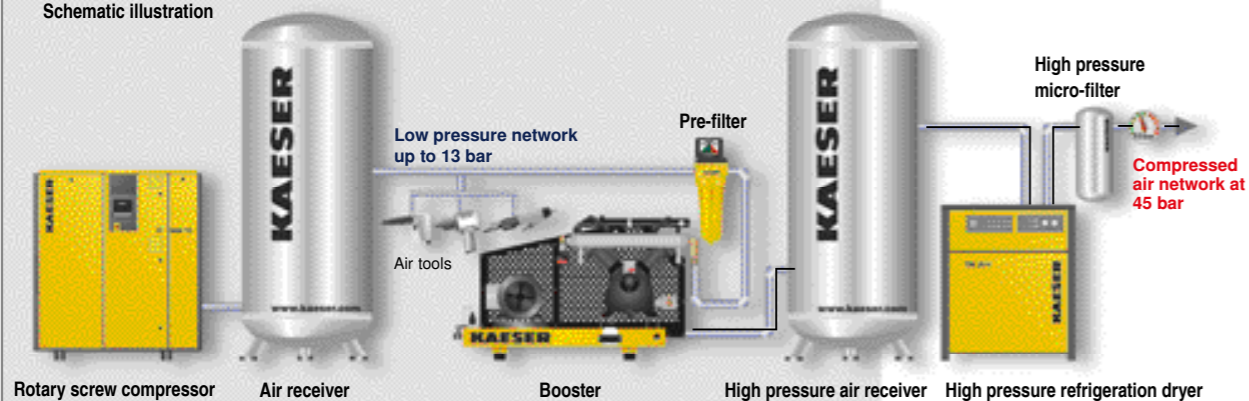


Premium efficiency motor

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

Schematic illustration



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 up to N 153 G, air-cooled

Low 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 up 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" 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.

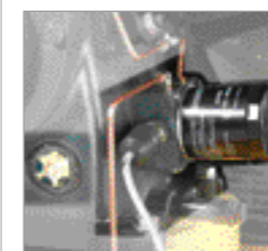
According to application, air-cooled or water-cooled after-cooler versions are available (N 253 G – N 502 only air-cooled, from N 753 G air- or water-cooled after-cooler).

Air-cooled versions (N 753 G - N 2001 G) are equipped with a separate fan-assisted after-cooler 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 after-cooler.



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



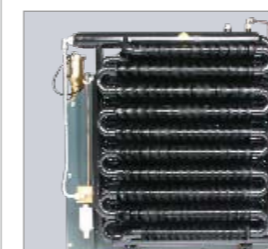
Optimum lubrication

Equipped with an oil pump and oil filters, the new continuous oil filtration system available for after-cooler 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.



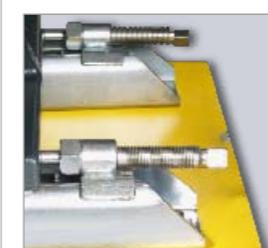
Efficient air cooler

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



Automatic belt tensioning

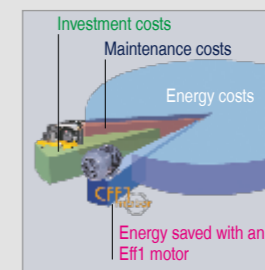
On models N 753 G to N 1400 G constant spring pressure on the motor swing-frame keeps the drive belt at the correct tension to ensure virtually maintenance-free power transmission.



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 ①

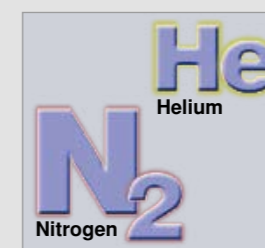


... or on anti-vibration mounts ②



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

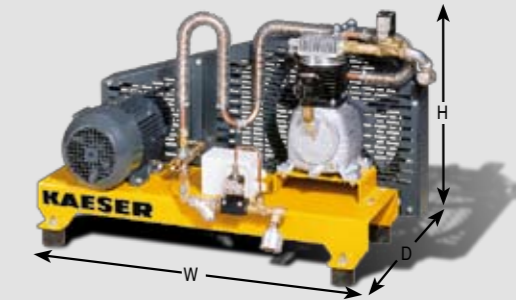
Model	Inlet pressure	Final pressure	Delivery	Displacement	Rated motor power	Theoretical inlet volume	No. of cylinders	Compressor speed	Sound pressure level	
	bar	bar	m ³ /min	l/min	kW	m ³ /min		Strokes per min	Without enclosure dB(A)	With enclosure dB(A)
N 60-G	5	25	0.28	60	2.2	0.36	1	1040	74	64
	7.5	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	
	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	20	1.80	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	
	7.5	20	1.57	250	7.5					
	7.5	35	1.41	250	11	2.18				
	10	20	2.41	250	7.5					
	10	40	2.05	250	11	2.82				
	13	20	3.18	250	7.5					
	13	45	2.72	250	11	3.59				
N 351-G	5	25	1.55	350	11	2.19	2	910	77	
	7.5	25	2.50	350	11					
	7.5	35	2.34	350	15	3.11				
	10	25	3.54	350	11					
	10	40	3.20	350	15	4.02				
	13	25	4.91	350	11					
	13	45	4.19	350	15	5.12				
N 502-G	5	15	2.3	500	11	2.94	2	970	78	
	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	40	3.95	500	18.5	6.85				
	13	35	5.4	500	15					
13	45	5.09	500	18.5						
N 753-G	5	25	4.73	1040	22	6.21	3	1300	80	70
	7.5	35	6.93	1040	30	8.80		1300	80	
	10	45	7.65	880	30	9.64		1100	80	70
								1040	80	
	13	45	9.76	830	30	11.60				70
N 1100-G	5	25	6.82	1490	30	8.95	3	1300	81	
	7.5	35	9.26	1310	37	11.11		1140		71
	10	45	9.63	1080	37	11.86		940	80	
	13	45	12.12	1000	37	13.97		870		70
N 1400-G	7.5	30	10.5	1490	45	12.7	3	1300	80	
	10	35	14.2	1490	45	16.4		1300		70
	10	45	11.7	1310	45	14.4		1140	82	
	13	45	14.3	1180	45	16.5		1030		72
N 2001-G	5	10	12.1	2290	30	13.7	3	1100	85	
	5	25	9	1910	37	11.5		920		75
	7.5	20	13.4	1810	37	15.4		870	84	
	10	20	17.9	1810	37	19.9		870		74

● Standard ○ Optional — Not available *) Effective delivery related to atmospheric inlet conditions at final pressure – Power supply: Compressor 400 V, 3 Ph, 50 Hz, Solenoid valves 230 V, 1 Ph, 50 Hz, standard from N 253-G with idle control and oil level monitoring, optional on N 60-G and N 153-G with switch cabinet.

	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	65
				1030 x 640 x 620	100
●	—	—		1370 x 710 x 820	200
				1620 x 1280 x 990	390
●	—	—		1380 x 720 x 820	285
				1620 x 1280 x 990	475
●	—	—		1520 x 870 x 1000	390
				1940 x 1650 x 1130	660
●	—	—		1560 x 870 x 1000	460
				1940 x 1650 x 1130	730
○				1600 x 1040 x 1030	740
				2420 x 1600 x 1350	1100
	○			2790 x 1010 x 1040	1080
				3130 x 1600 x 1350	1600
		○		1990 x 990 x 1020	900
				2420 x 1600 x 1350	1260
—	○			2790 x 1010 x 1040	1100
				3130 x 1600 x 1350	1620
		○		1990 x 990 x 1020	900
				2420 x 1600 x 1350	1260
—	○			2790 x 1010 x 1040	1140
				3130 x 1600 x 1350	1660
		○		1990 x 990 x 1020	980
				2420 x 1600 x 1350	1340
—	○			2790 x 1010 x 1040	1130
				3130 x 1600 x 1350	1650
		○		1990 x 990 x 1020	970
				2420 x 1600 x 1350	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

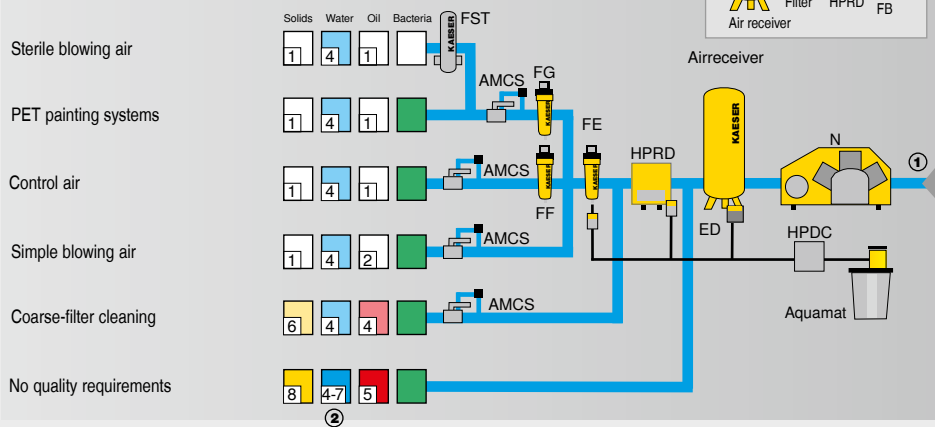


The SIGMA PET AIR system is a complete turnkey package. See brochure P-200 for further details

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

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

Examples: Selection of treatment classes to ISO 8573-1



Explanation:

N = Booster

ED = ECO DRAIN

Electronic level-controlled condensate drain

HPRD = High pressure refrigeration dryer

FE=Micro-filter 0.01 ppm

Separates aerosol oils and solid particles >0.01 µm, Aerosols ≤ 0.01 mg/m³

FF=Micro-filter 0.001 ppm

Separates aerosol oils and solid particles > 0.01 µm, Remaining oil aerosol content ≤ 0.001 mg/m³

FG=Activated carbon filter

For adsorption of oil vapours, oil vapour content 0.003 mg/m³

AMCS=Air-main charging system

To ensure constant system pressure

HPDC= High pressure decompression chamber

Aquamats=Condensate treatment system

Degree of filtration:

Class ISO 8573-1	Solid particles ¹⁾		Humidity ²⁾	Total oil content ³⁾
	Max. particle size µm	Max. particle concentration mg/m ³	Pressure dew point (x= liquid water ing/m ³)	mg/m ³
0	e.g. Consult KAESER regarding pure air and cleanroom technology			
1	0.1	0.1	≤ - 70	≤ 0.01
2	1	1	≤ - 40	≤ 0.1
3	5	5	≤ - 20	≤ 1
4	15	8	≤ + 3	≤ 5
5	40	10	≤ + 7	–
6	–	–	≤ + 10	–
7	–	–	x ≤ 0.5	–
8	–	–	0.5 < x ≤ 5	–
9	–	–	5 < x ≤ 10	–

¹⁾ As per ISO 8573-1:1991 (The specification for particle content is not measured as per ISO 8573-1:1991, as the limits defined therein for Class 1 are to be applied to 'Clean Rooms')

²⁾ As per ISO 8573-1:2001

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

Contaminants:

+	Solids	-
+	Water/condensate	-
+	Oil	-
+	Bacteria	-



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