

# Liquid Ring Compressors Single Stage and Two Stage







The GARO line is Gardner Denver Nash's new line of liquid ring compressor products. It expands the capacity and pressure ranges of our previous compressors to meet the ever-growing requirements of our customers.

Found primarily in petroleum refineries and chemical plants, these rugged and reliable compressors handle highly toxic, explosive and corrosive gases in applications such as flare-gas, chlorine and Vinyl Chlorine Monomer (VCM) recovery. The GARO line, available in single and two-stage designs, comes in: cast iron, stainless steel, carbon steel, spheroidal cast iron, 316 stainless steel, duplex stainless steel, and Hastelloy or Titanium on selected models.

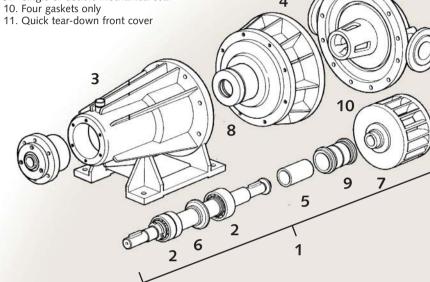
Together with the NASH HP-9, the 14 new GARO models form the NASH core high pressure compressor product line, which provides compression greater than 15 bar abs. Low pressure compressors are available to 3 bar abs. and 34,000 m<sup>3</sup>/h. As a result, NASH will have the widest pressure and capacity ranges of liquid ring compressors available worldwide.

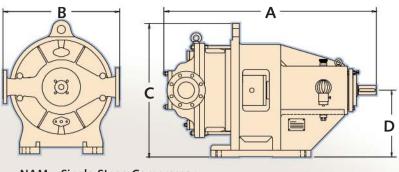
Gardner Denver Nash will carry the GARO line exclusively for the Americas, China, and most of Western Europe excluding Italy, Portugal and Spain, under the agreement with GARO.

## **Liquid Ring Compressors**

#### **NAM & NAB Models**

- Rotor assembly axially removable
- Oil lubricated ball bearings
- Bearing-frame carbon steel
- Easily replaceable casing
- Shaft sleeve up to the bearing frame
- Shaft in AISI 630 (DIN 1.4542 EN10088)
- Fully shrouded, one piece, overhung impeller in all units
- One shaft sealing area only
- Single or double mechanical seal 9

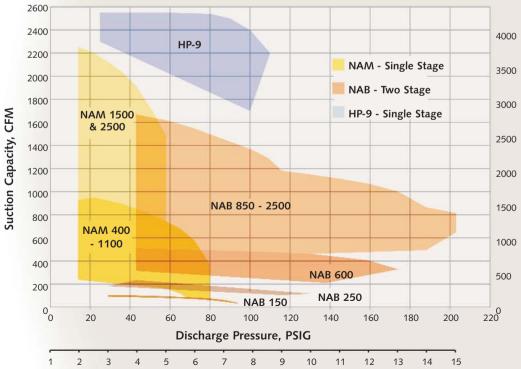




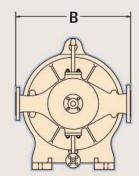
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Pump	А		В		с		D		Gas Inlet Flange		Gas Discharge Flange	
Model	ANSI (inches)	ISO (mm)	ANSI (inches)	ISO (mm)	ANSI (inches)	ISO (mm)	ANSI (inches)	ISO (mm)	ANSI (inches)	ISO (mm)	ANSI (inches)	ISO (mm)
NAM 400	46.46	1180	27.56	700	31.5	800	15.75	400	4	100	3	80
NAM 600	49	1245	27.56	700	31.5	800	15.75	400	4	100	3	80
NAM 850	50.17	1274	27.56	700	31.5	800	15.75	400	4	100	3	80
NAM 900	57.59	1463	27.17	690	31.5	800	15.75	400	6	150	4	100
NAM 1100	53.25	1353	29.53	750	31.5	800	15.75	400	6	150	4	100
NAM 1500	75	1905	35.43	900	38.58	980	19.69	500	8	200	6	150
NAM 2500	77.94	1980	39.37	1000	42.52	1080	22.05	560	10	250	6	150
NAB 150	39.56	1005	17.72	450	20.27	515	9.84	250	2-1/2	65	1-1/2	40
NAB 250	41.47	1053	24.8	630	28.29	718	14.35	364	3	76	2	51
NAB 600	53.92	1370	27.56	700	31.5	800	15.75	400	4	100	3	80
NAB 850	54.59	1387	27.56	700	31.5	800	15.75	400	4	100	3	80
NAB 1100	64.63	1642	35.43	900	34.55	878	15.75	400	6	150	4	100
NAB 1500	73.82	1844	39.37	1000	40.16	1020	19.69	500	8	200	6	150
NAB 2500	91.34	2320	39.37	1000	44.1	1120	22.05	560	10	250	6	150
HP-9	62	1575	54	1372	40	1016	20	762	10	254	10	254

### Performance



Discharge Pressure, bar abs.

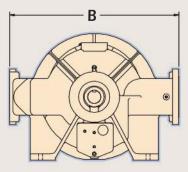


Suction

Capacity,

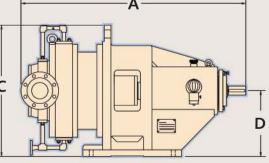
m³/h

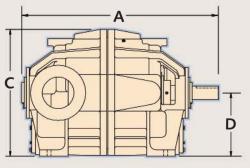
**NAB - Two Stage Compressor** 



## **Installation Dimensions**

NAM - Single Stage Compressor





HP-9 - Single Stage Compressor



Gardner Denver Nash is a Division of Gardner Denver, Inc.. Our NASH and elmo history provides more than 100 years of experience as the world's leading supplier of liquid ring pumps, compressors and vacuum systems.

#### **Other NASH Products**

2BV	Compact liquid ring vacuum pumps built for serious cost savings Use up to 50 percent less water than other liquid ring pumps Monoblock and pedestal designs available Capacity of 7 to 595 m³/h with vacuum to 33 mbar abs	
Vectra	Liquid ring vacuum pumps and compressors Available in feature rich budget designs (XL or GL) Designed to handle high back pressure requirements Capacity of 195 to 4,860 m³/h with vacuum to 31 mbar abs	
2BE3/P2620	Large liquid ring vacuum pumps with superior corrosion resistance Top discharge capability which eliminates need for trench Self-recirculating seal water, reducing need for external seal water source Capacity of 6,800 to 39,000 m <sup>3</sup> /h with vacuum to 33 mbar abs	
TC/TCM	Integral 2 stage liquid ring pumps with improved performance at vacuum levels down to 27 mbar abs Designed to handle large amounts of liquid carryover without difficulty Capacity of 170 to 3,740 m <sup>3</sup> /h with vacuum to 27 mbar abs	
Steam Jet Ejector	Sizes range from 1'' to 78'' inlets Capacities range from 34 m³/h to 34,000 m³/h Multi-stage system pressures as low as 0.001 mbar	

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