



ATH 2804 M AND ATH 3204 M

Compact, magnetically levitated turbopumps in the pumping speed class of 3,000 l/s



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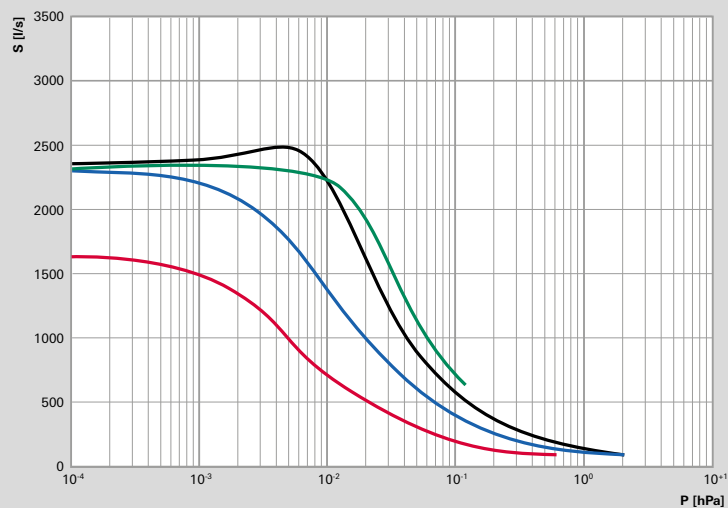
| | |
|-----------------------------------|---|
| High gas throughput | The new ATH M pumps offer a gas throughput of over 5,000 sccm of nitrogen for non-heated applications. They also allow the highest throughput on the market with up to 1,500 sccm of argon and a pump operating temperature of 65 °C in corrosive applications. |
| High temperature operation | The pumps operate at high temperatures up to 85 °C (MT version) for use in the most aggressive applications with by-product deposition sensitive processes. |
| Compact | The newest generation of ATH M pumps includes integrated drive electronics to ensure a small footprint and easy plug-and-play installation. The total height of the DN 320 flange model is less than 400 mm. Due to the new electronics, the pumps can be started and stopped within 8 minutes. |
| 5-axis magnetic levitation | Active magnetically levitated bearings enable wear-free, low vibration operation with an automatic out-of-balance compensation. They are maintenance-free and require no lubrication. Continuous rotor stability is assured for reliable performance. |
| Energy saving | Low power consumption at nominal speed and the lowest cooling water consumption (1 l/min) of their class also characterize the new ATH M pumps. |

Customer benefits

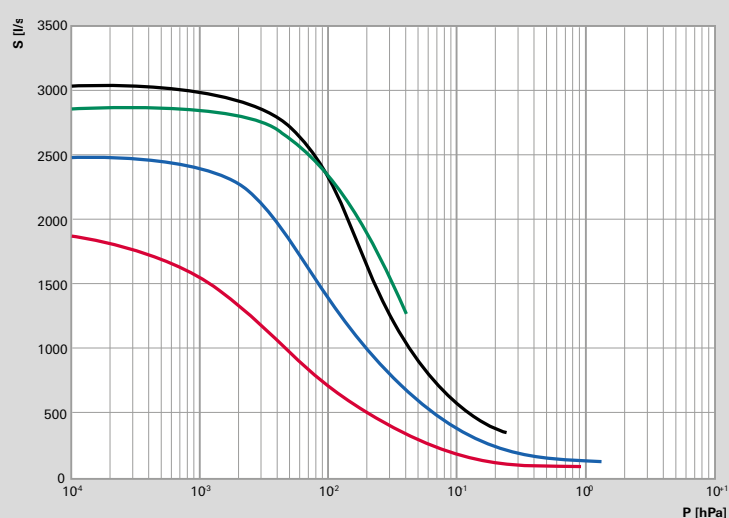
- High gas throughput and high temperature operation required in harsh applications
- Tolerates exhaust pressure up to 3.4 mbar
- Low vibration operation with an automatic out-of-balance compensation
- Compact foot print to save variable space in a tool
- Integrated drive electronics for a wide range of applications
- Simple installation and easy start-up
- Energy saving – low electricity and cooling water consumption

Pumping speed

ATH 2804 M/MT



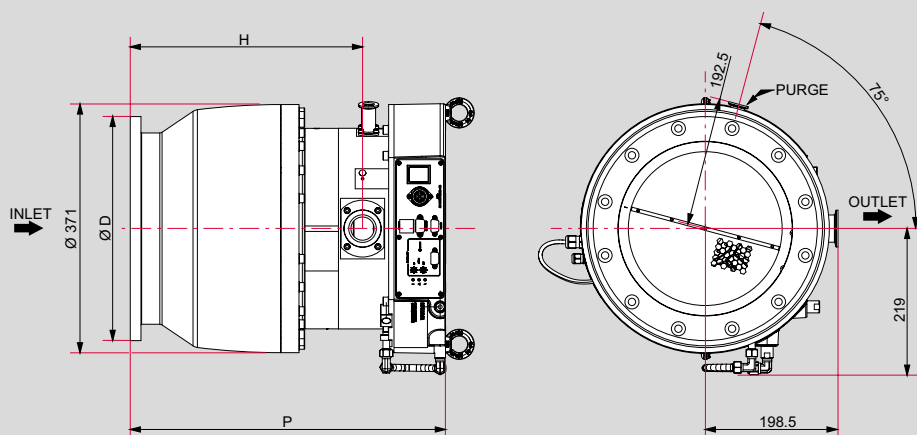
ATH 3204 M/MT



N_2 —
 He —
 H_2 —
 Ar —

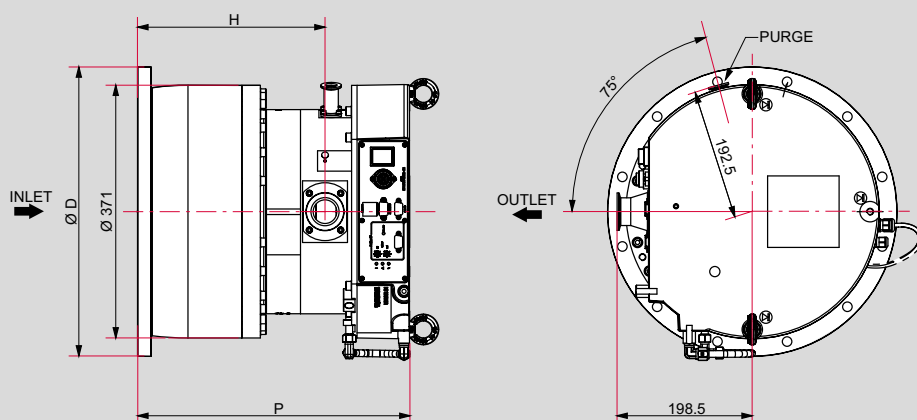
Dimensions

ATH 2804 M/MT



| | ATH 2804 M | ATH 2804 MT |
|---|------------|-------------|
| D | 335 mm | 335 mm |
| H | 347 mm | 300 mm |
| P | 471 mm | 471 mm |

ATH 3204 M/MT

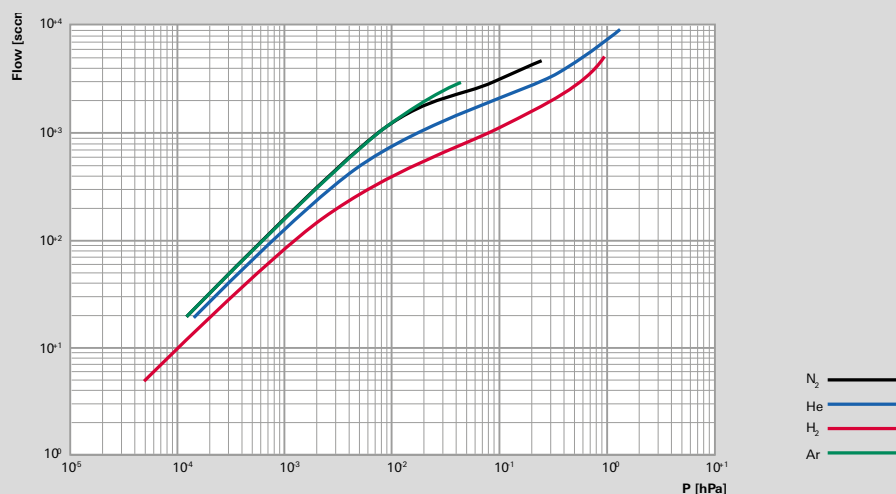


| | ATH 3204 M | ATH 3204 MT |
|---|------------|-------------|
| D | 425 mm | 425 mm |
| H | 275 mm | 228 mm |
| P | 400 mm | 400 mm |

Dimensions in mm

Gas throughput

ATH 2804 M/MT /
ATH 3204 M/MT



Technical data

| | ATH 2804 M/MT | ATH 3204 M/MT |
|--|--------------------------------------|----------------|
| Flange (in) | DN 250 ISO-F | DN 320 ISO-F |
| Flange (out) | DN 40 / 50 ISO-KF | |
| Pumping speed for N ₂ | 2,350 l/s | 3,050 l/s |
| Pumping speed for Ar | 2,350 l/s | 2,900 l/s |
| Pumping speed for He | 2,300 l/s | 2,500 l/s |
| Pumping speed for H ₂ | 1,650 l/s | 1,700 l/s |
| Rotation speed $\pm 2\%$ | 25,000 min ⁻¹ | |
| Run-up time | < 8 min | |
| Gas throughput at full rotational speed for Ar | 41.6 hPa l/s / 2,500 sccm | |
| Gas throughput at full rotational speed for H ₂ | > 100 hPa l/s / > 6,000 sccm | |
| Gas throughput at full rotational speed for He | > 100 hPa l/s / > 6,000 sccm | |
| Gas throughput at full rotational speed for N ₂ | 83.3 hPa l/s / 5,000 sccm | |
| Compression ratio for N ₂ | > 1 · 10 ⁸ | |
| Compression ratio for Ar | > 1 · 10 ⁹ | |
| Compression ratio for He | 9 · 10 ⁴ | |
| Compression ratio for H ₂ | 4.9 · 10 ³ | |
| Fore-vacuum max for N ₂ | 3.4 hPa | 3 hPa |
| Ultimate pressure according to PNEUROP | < 6 · 10 ⁻⁹ hPa | |
| Weight ¹⁾ | 98 kg (101 kg) | 80 kg (103 kg) |
| Cooling method | Water | |
| Cooling water consumption | 1 l/min | |
| Cooling water temperature | 15–25 °C | |
| Interfaces | Remote | |
| Protection categorie | IP 54 | |
| Sound pressure level | ≤ 45 dB (A) | |
| Bearing | 5 axe magnetically levitated | |
| Electronic drive unit | Integrated drive electronics | |
| Mounting orientation | in any orientation | |
| Operating voltage | 220–240 V AC; 50/60 Hz, single phase | |
| Power consumption at ultimate pressure ¹⁾ | < 160 W (590 W) | |

¹⁾ Values in brackets = MT version

Order numbers

| Order number | ATH 2804 | ATH 3204 |
|--------------|--------------|--------------|
| M version | TMAAA662015A | TMAAAC62015A |
| MT version | TMAAA6661101 | TMAAAC661101 |

