ATH 2804/3204 M/MT

Turbomolecular vacuum pumps

PFEIFFER
VACUUM+FAB SOLUTIONS

Part of the BUSCH GROUP

Maintenance-free

No wearing parts thanks to magnetic bearing technology, reduced particle contamination or build-up of residue in MT version

Quiet

Low noise and vibration levels, perfectly suited for vibration-sensitive applications in semiconductor manufacturing processes and analytical instrumentation

Flexible

Compatible with a variety of backing pumps, MT version with integrated heating system for demanding chemical conditions, best-in-class cooling water consumption

Accessories, spare parts and options

- Installation kit
- Cooling water valve
- Purge gas valve
- Handheld remote controller
- Inlet protection screen
- Heater unit
- Valve cable and coil
- Various inlet flange types
- Various user interfaces
- Temperature management system for corrosive process

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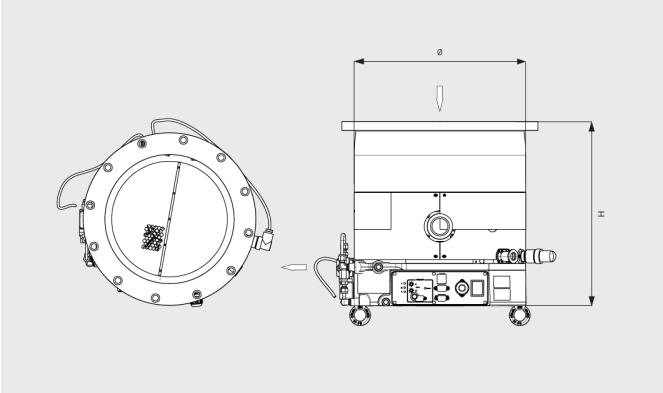
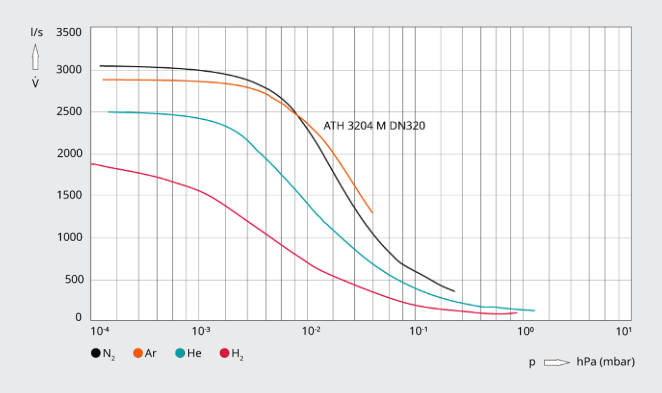
Dimensional drawing



Pumping speed



	ATH 2804 M	ATH 2804 MT	ATH 3204 M	ATH 3204 MT
Pumping speed N_2	2350 l/s	2350 l/s	3050 l/s	3050 l/s
Pumping speed Ar	2350 l/s	2350 l/s	2900 l/s	2900 l/s
Pumping speed He	2300 l/s	2300 l/s	2500 l/s	2500 l/s
Pumping speed H_2	1650 l/s	1650 l/s	1700 l/s	1700 l/s
Compression ratio (ISO 5302) N_2	$1 \cdot 10^9$ l/s	$1 \cdot 10^9$ l/s	$1 \cdot 10^9$ l/s	$1 \cdot 10^9$ l/s
Compression ratio (ISO 5302) Ar	$1 \cdot 10^9$ l/s	$1 \cdot 10^9$ l/s	$1 \cdot 10^9$ l/s	$1 \cdot 10^9$ l/s
Compression ratio (ISO 5302) He	$9 \cdot 10^4$ l/s	$9 \cdot 10^4$ l/s	$9 \cdot 10^4$ l/s	$9 \cdot 10^4$ l/s
Compression ratio (ISO 5302) H_2	$4.9 \cdot 10^3$ l/s	$4.9 \cdot 10^3$ l/s	$4.9 \cdot 10^3$ l/s	$4.9 \cdot 10^3$ l/s
Ultimate pressure	$< 1 \cdot 10^{-8}$ mbar	$< 1 \cdot 10^{-8}$ mbar	$< 1 \cdot 10^{-8}$ mbar	$< 1 \cdot 10^{-8}$ mbar
Max. forevacuum N_2	3.4 mbar	3 mbar	3.4 mbar	3 mbar
Max. forevacuum Ar	4.4 mbar	3.7 mbar	4.4 mbar	3.7 mbar
Max. inlet vacuum N_2	0.4 mbar	0.04 mbar	0.38 mbar	0.04 mbar
Max. inlet vacuum Ar	0.03 mbar	0.01 mbar	0.03 mbar	0.01 mbar
Max. inlet vacuum He	> 1.0 mbar	-	> 1.0 mbar	-
Max. inlet vacuum H_2	> 1.0 mbar	-	> 1.0 mbar	-

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	ATH 2804 M	ATH 2804 MT	ATH 3204 M	ATH 3204 MT
Gas throughput at final rotational speed N_2	> 5000 (cold) sccm	2000-2800 sccm	> 5000 (cold) sccm	2000-2800 sccm
Gas throughput at final rotational speed Ar	> 2500 (cold) sccm	700-1500 sccm	> 2500 (cold) sccm	700-1500 sccm
Gas throughput at final rotational speed He	> 5000 (cold) sccm	-	> 5000 (cold) sccm	-
Gas throughput at final rotational speed H_2	> 5000 (cold) sccm	-	> 5000 (cold) sccm	-
Recommended purge flow rate	50 sccm	50 sccm	50 sccm	50 sccm
Rotational speed	25000 rpm	25000 rpm	25000 rpm	25000 rpm
Rotational speed variable	15000 rmp to nominal speed	15000 rmp to nominal speed	15000 rmp to nominal speed	15000 rmp to nominal speed
Run-up time up to 90% of final rotational speed, with pressure exhaust < 0.1 mbar	< 8 min	< 8 min	< 8 min	< 8 min
Controller power supply	200-240 V, 50/60 Hz Single-phase	200-240 V, 50/60 Hz Single-phase	200-240 V, 50/60 Hz Single-phase	200-240 V, 50/60 Hz Single-phase
Max. power consumption for start-up	1200 W	1200 W	1200 W	1200 W
Nominal power (stand-by power)	160 W	590 W	160 W	590 W
Max. heating temperature	-	85 °C	-	85 °C
Max. bakeout temperature	120 °C	120 °C	120 °C	120 °C
Recommended cooling water flow rate	60 l/h	60 l/h	60 l/h	60 l/h
Cooling water temperature	15 - 40 °C	15-25 °C	15-40 °C	15-25 °C
Remote controller type	Pump mounted controller (OBC)	Pump mounted controller (OBC)	Pump mounted controller (OBC)	Pump mounted controller (OBC)
Recommended backing pump	ADP/ADS	ADP/ADS	-	-
Sound pressure level (ISO 2151) 1m distance at nominal speed	< 45 dB(A)	< 45 dB(A)	< 45 dB(A)	< 45 dB(A)
Vibration level at nominal speed	< 0.01 µm	< 0.01 µm	< 0.01 µm	< 0.01 µm
Dimensions (Ø x H)	371 x 471.3 mm	371 x 471.3 mm	371 x 399.3-481.3* mm	371 x 399.3-481.3* mm
Weight approx.	98 kg	101 kg	80-100 kg	103 kg
Gas inlet / outlet	DN 250 / DN 40 ISO-KF, DN 50 ISO-KF	DN 250 / DN 40 ISO-KF, DN 50 ISO-KF	DN 320 / DN 40 ISO-KF, DN 50 ISO-KF	DN 320 / DN 40 ISO-KF, DN 50 ISO-KF

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N_2 purge flange	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF
Stainless steel inlet screen (factory setting)	yes	yes	yes	yes
Permissible magnetic field (radial value) at 10 cm	5 mT	5 mT	5 mT	5 mT
On-board control option	Profibus, Remote, EtherCAT	Profibus, Remote, EtherCAT	Profibus, Remote, EtherCAT	Profibus, Remote, EtherCAT

* depending on flange variant

DO YOU WANT TO KNOW MORE?

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