



ATH 1603 M, DN 250 ISO-F, External drive electronics, Water cooled, Non-heated

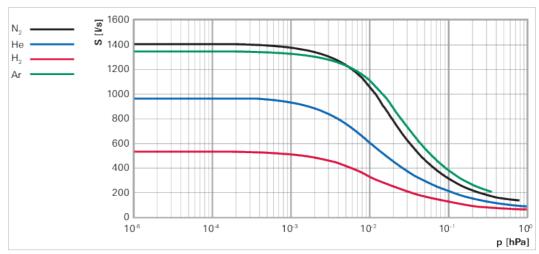
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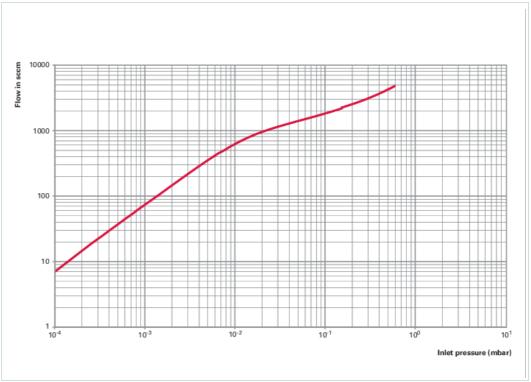




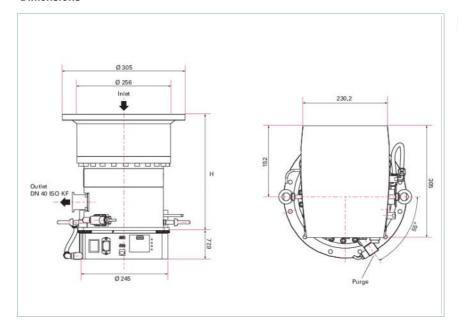
ATH 1603 M, DN 250 ISO-F, External drive electronics, Water cooled, Non-heated

- 5-axis magnetically levitated turbopump with drag stage for a pump speed of up to 1400 l/s for $\rm N_2$
- DN 250 ISO-F inlet flange
- Operation with Magpower external drive electronics
- Installation in any orientation
- Water cooled, Non-heated
- CE marked and ROHS compliant





Dimensions



H 317.2 mm

Bearing Magnetically Levitated Compression ratio for Ar	Technical Data	ATH 1603 M, DN 250 ISO-F, External drive electronics, Water cooled, Non-heated
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Bearing	Magnetically Levitated
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Compression ratio for Ar	> 1 · 10 ⁸
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Compression ratio for H ₂	> 5 · 10 ²
Cooling method	Compression ratio for He	> 4 · 10 ⁴
Cooling water consumption 1 l/m Cooling water temperature 15-25 °C Cooling water temperature max. 40 °C 104 °F 313 K Electronic drive unit External drive electronics Flange (in) DN 250 ISO-F Flange (out) DN 40 ISO-KF Fore-vacuum max. for N_2 1.7 hPa 1.27 Torr 1.7 mbar Gas throughput for Ar 20.3 hPa l/s 15.22 Torr l/s 20.3 mbar l/s Gas throughput for H2	Compression ratio for N ₂	> 1 · 10 ⁸
Cooling water temperature $15-25 ^{\circ}\text{C}$ Cooling water temperature max. $40 ^{\circ}\text{C} 104 ^{\circ}\text{F} 313 \text{K}$ Electronic drive unit $\text{External drive electronics}$ Flange (in) $DN 250 \text{SO-F}$ Flange (out) $DN 40 \text{SO-KF}$ Fore-vacuum max. for N_2 $1.7 \text{hPa} 1.27 \text{Torr} 1.7 \text{mbar}$ Gas throughput for Ar $20.3 \text{hPa} $	Cooling method	Water
Cooling water temperature max. 40 °C 104 °F 313 K Electronic drive unit External drive electronics Flange (in) DN 250 ISO-F Flange (out) DN 40 ISO-KF Fore-vacuum max. for N_2 1.7 hPa 1.27 Torr 1.7 mbar Gas throughput for Ar 20.3 hPa l 's 15.22 Torr l 's 20.3 mbar l 's Gas throughput for He > 67.6 hPa l 's > 50.7 Torr l 's > 67.6 mbar l 's Gas throughput for N ₂ 67.6 hPa l 's > 50.7 Torr l 's 67.6 mbar l 's Gas throughput for N_2 67.6 hPa l 's 50.7 Torr l 's 67.6 mbar l 's Interfaces Via External drive electronics Mounting orientation in any orientation Operating voltage 200-240 V AC, 50/60 Hz Power consumption at ultimate pressure 300 W Pumping speed for Ar 1350 l 's Pumping speed for N_2 540 l 's Pumping speed for N_2 1400 l 's Rotation speed n 2 39,000 rpm 39,000 min-1 Run-up time 6 min Separate electronic drive unit YES Ultimate pressure 40 °C 10-9 hPa < 4.5 · 10-9 Torr < 6 · 10-9 mbar	Cooling water consumption	1 l/m
Electronic drive unit External drive electronics Flange (in) DN 250 ISO-F Flange (out) DN 40 ISO-KF Fore-vacuum max. for N_2 1.7 hPa 1.27 Torr 1.7 mbar Gas throughput for Ar 20.3 hPa /s 15.22 Torr /s 20.3 mbar /s Gas throughput for H2 > 67.6 hPa /s > 50.7 Torr /s > 67.6 mbar /s Gas throughput for H2 > 67.6 hPa /s > 50.7 Torr /s > 67.6 mbar /s Gas throughput for N_2 67.6 hPa /s 50.7 Torr /s 67.6 mbar /s Interfaces Via External drive electronics Mounting orientation in any orientation Operating voltage 200-240 V AC, 50/60 Hz Power consumption at ultimate pressure 300 W Pumping speed for Ar 1350 /s Pumping speed for N_2 540 /s Pumping speed for N_2 1400 /s Rotation speed ± 2 % 39,000 rpm 39,000 min ⁻¹ Run-up time Separate electronic drive unit YES Ultimate pressure N_1 Source electronics N_2 Source electronic drive unit YES Ultimate pressure N_2 Source electronic N_2 Source electronic drive unit YES Ultimate pressure N_2 Source electronic N_2 Source electronic drive unit YES Ultimate pressure N_2 Source electronic N_2 Source electro	Cooling water temperature	15-25 °C
Flange (in) DN 250 ISO-F Flange (out) DN 40 ISO-KF Fore-vacuum max. for N_2 1.7 hPa 1.27 Torr 1.7 mbar Gas throughput for Ar 20.3 hPa /s 15.22 Torr /s 20.3 mbar /s Gas throughput for H2 > 67.6 hPa /s > 50.7 Torr /s > 67.6 mbar /s Gas throughput for He > 67.6 hPa /s > 50.7 Torr /s > 67.6 mbar /s Gas throughput for N2 67.6 hPa /s > 50.7 Torr /s > 67.6 mbar /s Gas throughput for N2 67.6 hPa /s > 50.7 Torr /s > 67.6 mbar /s Gas throughput for N2 67.6 hPa /s > 50.7 Torr /s > 67.6 mbar /s Gas throughput for N2 67.6 hPa /s > 50.7 Torr /s > 67.6 mbar /s Gas throughput for N2 67.6 hPa /s > 50.7 Torr /s > 67.6 mbar /s Gas throughput for N2 67.6 hPa /s > 50.7 Torr /s > 67.6 mbar /s Gas throughput for N2 67.6 mbar /s < 60.10 Gas throughput /s > 67.6 mbar /s < 67.6 mbar /s > 67.6 mbar /s < 67.6 mbar /s > 67.6 mbar /s > 67.6 mbar /s > 67.6 mbar /s < 67.6 mbar /s > 67.6 mbar /s < 67.	Cooling water temperature max.	40 °C 104 °F 313 K
Flange (out) DN 40 ISO-KF Fore-vacuum max. for N_2 1.7 hPa 1.27 Torr 1.7 mbar Gas throughput for Ar 20.3 hPa I/s 15.22 Torr I/s 20.3 mbar I/s Gas throughput for H2 > 67.6 hPa I/s > 50.7 Torr I/s > 67.6 mbar I/s Gas throughput for N2 67.6 hPa I/s > 50.7 Torr I/s > 67.6 mbar I/s Gas throughput for N2 67.6 hPa I/s > 50.7 Torr I/s > 67.6 mbar I/s Interfaces Via External drive electronics Mounting orientation in any orientation Operating voltage 200-240 V AC, 50/60 Hz Power consumption at ultimate pressure 300 W Pumping speed for Ar 1350 I/s Pumping speed for H2 540 I/s Pumping speed for N2 1400 I/s Rotation speed \pm 2 % 39,000 rpm 39,000 min -1 Run-up time < 6 min Separate electronic drive unit YES Ultimate pressure < 6 \cdot 10^9 hPa < 4.5 \cdot 10^9 Torr < 6 \cdot 10^9 mbar	Electronic drive unit	External drive electronics
Fore-vacuum max. for N_2	Flange (in)	DN 250 ISO-F
Gas throughput for Ar $20.3 \text{ hPa l/s} \mid 15.22 \text{ Torr l/s} \mid 20.3 \text{ mbar l/s}$ Gas throughput for H2 $> 67.6 \text{ hPa l/s} \mid > 50.7 \text{ Torr l/s} \mid > 67.6 \text{ mbar l/s}$ Gas throughput for He $> 67.6 \text{ hPa l/s} \mid > 50.7 \text{ Torr l/s} \mid > 67.6 \text{ mbar l/s}$ Gas throughput for N2 $67.6 \text{ hPa l/s} \mid > 50.7 \text{ Torr l/s} \mid > 67.6 \text{ mbar l/s}$ Interfaces $Via \text{ External drive electronics}$ Mounting orientation $in \text{ any orientation}$ Operating voltage $200\text{-}240 \text{ V AC}, 50/60 \text{ Hz}$ Power consumption at ultimate pressure 300 W Pumping speed for Ar 1350 l/s Pumping speed for H2 970 l/s Pumping speed for He 970 l/s Rotation speed $\pm 2\%$ $39,000 \text{ rpm} \mid 39,000 \text{ min}^{-1}$ Run-up time $< 6 \text{ min}$ Separate electronic drive unit YES Ultimate pressure $< 6 \cdot 10^{-9} \text{ hPa} \mid < 4.5 \cdot 10^{-9} \text{ Torr} \mid < 6 \cdot 10^{-9} \text{ mbar}$	Flange (out)	DN 40 ISO-KF
Gas throughput for H_2 > 67.6 hPa l/s > 50.7 Torr l/s > 67.6 mbar l/s Gas throughput for He	Fore-vacuum max. for N ₂	1.7 hPa 1.27 Torr 1.7 mbar
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Gas throughput for Ar	20.3 hPa l/s 15.22 Torr l/s 20.3 mbar l/s
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Gas throughput for H ₂	> 67.6 hPa l/s > 50.7 Torr l/s > 67.6 mbar l/s
$\begin{array}{llllllllllllllllllllllllllllllllllll$	Gas throughput for He	> 67.6 hPa l/s > 50.7 Torr l/s > 67.6 mbar l/s
$\begin{array}{llllllllllllllllllllllllllllllllllll$	Gas throughput for N ₂	67.6 hPa l/s 50.7 Torr l/s 67.6 mbar l/s
$\begin{array}{llllllllllllllllllllllllllllllllllll$	Interfaces	Via External drive electronics
Power consumption at ultimate pressure 300 W Pumping speed for Ar 1350 l/s Pumping speed for H $_2$ 540 l/s Pumping speed for He 970 l/s Pumping speed for N $_2$ 1400 l/s Rotation speed \pm 2 % 39,000 rpm 39,000 min $^{-1}$ Run-up time	Mounting orientation	in any orientation
$\begin{array}{llllllllllllllllllllllllllllllllllll$	Operating voltage	200-240 V AC, 50/60 Hz
$\begin{array}{llllllllllllllllllllllllllllllllllll$	Power consumption at ultimate pressure	300 W
Pumping speed for He 970 l/s Pumping speed for N ₂ 1400 l/s Rotation speed \pm 2 % 39,000 rpm 39,000 min ⁻¹ Run-up time	Pumping speed for Ar	1350 l/s
$\begin{array}{llllllllllllllllllllllllllllllllllll$	Pumping speed for H ₂	540 l/s
Rotation speed \pm 2 % 39,000 rpm 39,000 min ⁻¹ Run-up time < 6 min Separate electronic drive unit YES Ultimate pressure < $6 \cdot 10^{-9}$ hPa < $4.5 \cdot 10^{-9}$ Torr < $6 \cdot 10^{-9}$ mbar	Pumping speed for He	970 l/s
Run-up time < 6 min Separate electronic drive unit YES Ultimate pressure < $6 \cdot 10^{-9}$ hPa < $4.5 \cdot 10^{-9}$ Torr < $6 \cdot 10^{-9}$ mbar	Pumping speed for N ₂	1400 l/s
Separate electronic drive unit YES Ultimate pressure $< 6 \cdot 10^{-9} \text{ hPa} \mid < 4.5 \cdot 10^{-9} \text{ Torr} \mid < 6 \cdot 10^{-9} \text{ mbar}$	Rotation speed ± 2 %	39,000 rpm 39,000 min ⁻¹
Ultimate pressure $< 6 \cdot 10^{-9} \text{ hPa} < 4.5 \cdot 10^{-9} \text{ Torr} < 6 \cdot 10^{-9} \text{ mbar}$	Run-up time	< 6 min
	Separate electronic drive unit	YES
Weight 34 kg 74.96 lb	Ultimate pressure	< 6 · 10 ⁻⁹ hPa < 4.5 · 10 ⁻⁹ Torr < 6 · 10 ⁻⁹ mbar
• •	Weight	34 kg 74.96 lb

Order number	
ATH 1603 M	Y2662100

Accessories	
Electronic controllers	
Magpower controller	120917
Inlet screen	
Aluminum inlet screen kit for DN250	111640
Stainless inlet screen kit for DN250 - M 5	108762
Interconnecting cable (pump to Magpower	
external drive electronics)	
Interconnecting cable (pump to Magpower	
external drive electronics), L = 1.0 m	A215300-010-C6-D
Interconnecting cable (pump to Magpower	A245200 400 C6 D
external drive electronics), L = 10.0 m	A215300-100-C6-D
Interconnecting cable (pump to Magpower external drive electronics), L = 20.0 m	A215300-200-C6-D
Interconnecting cable (pump to Magpower	A210000 200 00 B
external drive electronics), L = 3.5 m	A215300-035-C6-D
Interconnecting cable (pump to Magpower	
external drive electronics), L = 5.0 m	A215300-050-C6-D
Mounting kits	
Mounting bolts for ISO-F (for ATH 1600 M, DN	
200/250) with centering ring	110675
Mounting bolts for ISO-F (for ATH 500 M,	
DN160; ATH 1600 M, DN 200/250; ATH 2300	
M, ATH 2800 M, ATH 2804 M, DN 250) without centering ring	110676S
Power cord	1100700
Power cord 2.5 m Europe standard 200 - 240 V	
AC	A328405
Power cord 2.5 m US standard 200 - 240 V AC	A331729
Valve cable (external drive electronics to	
venting valve)	
Valve cable (Magpower external drive	
electronics to venting valve), L = 1.0 m	A462403-010
Valve cable (Magpower external drive	A 400 400 400
electronics to venting valve), L = 10.0 m	A462403-100
Valve cable (Magpower external drive electronics to venting valve), L = 20.0 m	A462403-200
Valve cable (Magpower external drive	7.102.100.200
electronics to venting valve), L = 3.5 m	A462403-035
Valve cable (Magpower external drive	
electronics to venting valve), L = 5.0 m	A462403-050
Venting valves and other accessories	
Air venting valve (for OBC V4 and Magpower)	114280
Dust filter	106229
Purge valve 50 sccm	111921S
Water inlet valve 24 V DC	108668

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