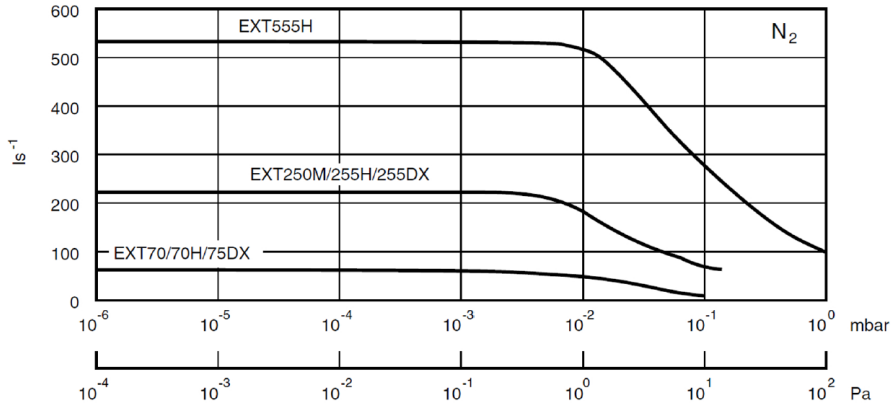
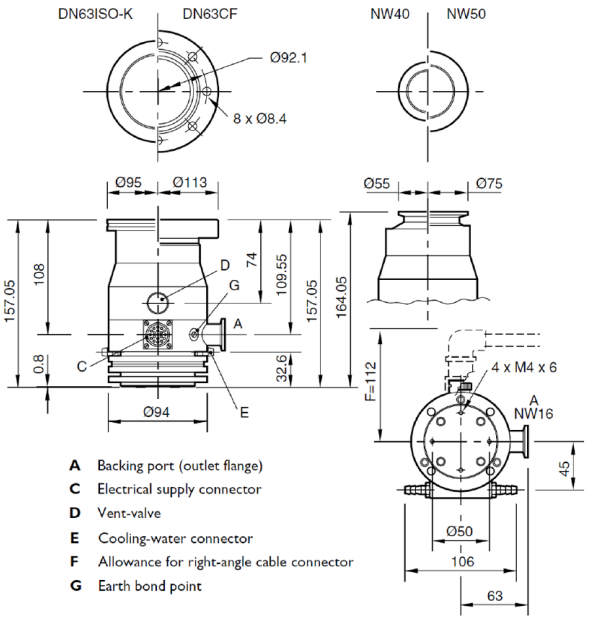
Edwards EXT-70, EXT-70H

Pumping Curves



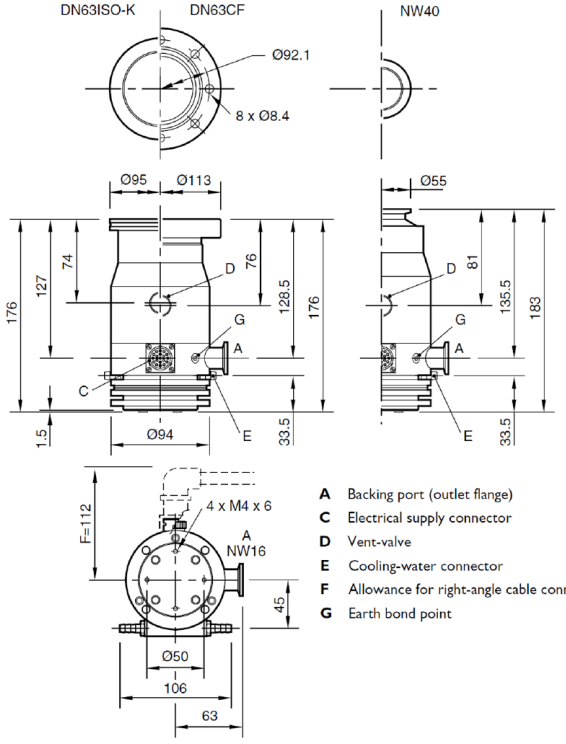
Dimensions

EXT-70



A Backing port (outlet flange)
C Electrical supply connector
D Vent-valve
E Cooling-water connector
F Allowance for right-angle cable connector
G Earth bond point

EXT-70H



A Backing port (outlet flange)
C Electrical supply connector
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E Cooling-water connector
F Allowance for right-angle cable connector
G Earth bond point

Edwards EXT-70, EXT-70H

Technical Specifications

EXT-70

Inlet flange	DN40NW, DN50NW, DN63CF or DN63ISO-K
Compression ratio	
N_2	$>1 \times 10^8$
He	6000
H_2	500
Outlet flange	DN16NW
Recommended backing pump*	E2M0.7
Vent-port	⅛ inch BSP female
Maximum continuous inlet pressure †	
water cooling at 15 °C, 40 °C ambient	3×10^{-2} mbar
air cooling at 35 °C ambient	1×10^{-2} mbar
free convection at 30 °C ambient	6×10^{-3} mbar
Nominal rotational speed	90000 rpm
Standby rotational speed	63000 rpm
Run-up time 90% speed	90 s
Cooling method	Free convection or forced air, or water
Maximum inlet flange temperature	100 °C
Ambient air temperature operating range	
with free convection cooling	0-30 °C
with forced air cooling	0-35 °C
Water temperature range (for water cooling)	10-20 °C
Minimum water flow rate (at 15 °C)	15 l h^{-1}
Operating attitude	Vertical and upright, through to horizontal
Noise level at 1 metre	<50 dB(A)
Maximum magnetic field	5 mT
Recommended Controller	EXC100 or EXC120
Quiescent electrical power	10 W

INLET FLANGE	DN40NW	DN50NW	DN63CF	DN63ISO-K
Pumping speed (l s^{-1})‡				
N_2	52	60	65	65
He	53	56	60	60
H_2	46	48	50	50
Ultimate pressure (mbar)**	$<5 \times 10^{-9}$	$<5 \times 10^{-9}$	$<5 \times 10^{-10}$	$<5 \times 10^{-9}$
Weight (kg)	1.4	1.4	3.4	1.5

* A larger backing pump may be required for maximum throughput.

† Above this inlet pressure, rotational speed drops to below nominal.

‡ Pumping speeds are without an inlet screen. Inlet screens are supplied fitted and reduce speed by about 10%.

** Ultimate pressure 48 hours after bakeout with 2 stage rotary pump.

EXT-70H

Inlet flange	DN40NW, DN63CF or DN63ISO-K
Outlet flange	DN16NW
Recommended backing pump*	E2M0.7
Vent-port	⅛ inch BSP female
Compression ratio	
N_2	$>1 \times 10^8$
He	4×10^5
H_2	3×10^4
Maximum continuous inlet pressure†	
water cooling at 15 °C	9×10^{-1} mbar
air cooling at 35 °C	9×10^{-2} mbar
free convection at 30 °C	9×10^{-3} mbar
Nominal rotational speed	90000 rpm
Standby rotational speed	63000 rpm
Run-up time 90% speed	90 s
Cooling method	Free convection or forced air, or water
Maximum inlet flange temperature	100 °C
Ambient air temperature operating range	
with free convection cooling	0-30 °C
with forced air cooling	0-35 °C
Water temperature range (for water cooling)	10-20 °C
Minimum water flow rate (at 15 °C)	15 l h^{-1}
Operating attitude	Vertical and upright, through to horizontal
Noise level at 1 metre	<50 dB(A)
Maximum magnetic field	5 mT
Recommended Controller (80 V)	EXC100 or EXC120
(24 V d.c.)	EXDC80 & TIC
Quiescent electrical power	10 W
Interstage pumping speed (Hi variants)	
N_2	6 l s^{-1}

INLET FLANGE	DN40NW	DN63CF	DN63ISO-K
Pumping speed (l s^{-1})‡			
N_2	52	65	65
He	53	60	60
H_2	46	50	50
Ultimate pressure (mbar)			
Rotary vane pump**	$<5 \times 10^{-9}$	$<5 \times 10^{-10}$	$<5 \times 10^{-9}$
Diaphragm pump††	$<5 \times 10^{-8}$	$<5 \times 10^{-8}$	$<5 \times 10^{-8}$
Weight (kg)	2.8	4.7	2.8

* A larger backing pump may be required for maximum throughput. A suitable diaphragm backing pump with ultimate <5 mbar may also be used.

† With backing pressure <0.1 mbar. Above this inlet pressure, rotational speed drops to below nominal.

‡ Pumping speeds are without an inlet screen. Inlet screens are supplied fitted and reduce speed by about 10%.

** Ultimate pressure 48 hours after bakeout with 2 stage rotary pump.

†† Using diaphragm pump with ultimate <5 mbar.