

EH MECHANICAL BOOSTER PUMP

THE INTELLIGENT CHOICE



The EH mechanical booster pumps feature the unique hydrokinetic drive, providing an efficient power transmission with benefits in economy, performance and compactness. The hydrokinetic drive provides pump down times cut by 50%, when compared with direct drive pumps, no bypass lines or pressure switches required, universal voltage motors, reduced capital and operating costs, air cooled motors – with water cooled options, and quiet, minimum vibration. The EH mechanical booster pumps, based on the simple Roots principle, remain the favorite pumps for applications where high pumping speeds over $3000 \text{ m}^3\text{h}^{-1}/1776 \text{ ft}^3\text{min}^{-1}$ are required in the pressure region of 0.01 to 50 mbar/0.0075 to 37.5 Torr. These must always be backed by another pump which can deliver against a high pressure differential to atmospheric pressure. Operating at relatively low pressures, the mechanical booster pump is not exposed to the same concentrations of corrosive process media as is the backing pump, which makes it highly reliable.



Features and Benefits

- Performance – fast pump down time due to unique hydrokinetic drive.
- Increased productivity – faster pump down time.
- More performance for less – larger displacement than equivalent competitor models.
- Stable operation – optimised clearances and after coolers.
- Simplicity – Continuous operation at all pressures.
- Simple installation – no need for pressure switches, bypass lines or variable frequency drives.
- Reliability – automatic overload protection, reliable shaft seal design.
- Safe operation – automatic overload protection.
- Robust operation even for harsh duties – proven shaft seal design to protect pumping mechanism and gearbox from cross-contamination.
- High uptime and low maintenance – internal evacuation of gearboxes extends shaft seal life.
- Reassurance.
- Peace of mind – industry proven with large installed base.

Applications

- Vacuum distillation.
- Vacuum packaging.
- Steel degassing.
- Thin film coating.
- Industrial freeze drying.
- Semiconductor processing.

Pump Range

EH

- EH250
- EH500
- EH1200
- EH2600
- EH4200
- PFPE Prepared
- EH250FX
- EH500FX
- EH1200FX
- EH2600FX
- EH4200FX

Performance Curves

EH250 Mechanical Booster Pump

EH250



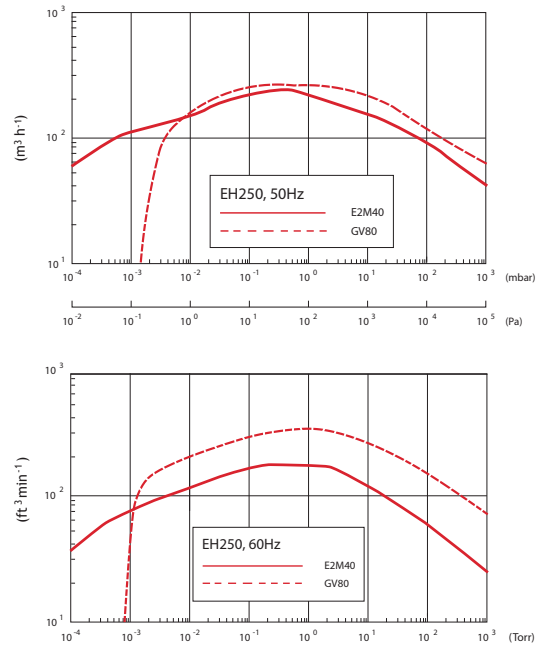
Displacement	
50 Hz	310 m ³ h ⁻¹ 185 ft ³ min ⁻¹
60 Hz	375 m ³ h ⁻¹ 220 ft ³ min ⁻¹

Ordering information

Product description	Order no:
EH250 HC IE3 Asia 50 Hz 200 V 50 Hz	A30105934
EH250 HC IE3 EU/CN 50 Hz 380-400 V 50 Hz	A30105945
EH250 HC IE3 Asia 60 Hz 200 V 60 Hz, 380 V 60 Hz	A30106934
EH250 HC IE3 US 60 Hz 230/460 V 60 Hz	A30106946
EH250 FX IE3 Asia 50 Hz 200 V 50 Hz	A30107934
EH250 FX IE3 EU/CN 50 Hz 380-400 V 50 Hz	A30154936
EH250 FX IE3 Asia 60 Hz 200 V 60 Hz, 380 V 60 Hz	A30108934
EH250 FX IE3 US 60 Hz 230/460 V 60 Hz	A30108946
EH250C 460 V 3-ph 60 Hz 3 hp	NRA997000
EH250T4 220-240/380-415 V 3ph 50 Hz 2.2 kW	NRA996000

Please note that Fomblin® must be purchased separately with PFPE-prepared pumps. Fomblin YVac 16/6 is appropriate

EH250 Performance Curve



EH500 Mechanical Booster Pump

EH500



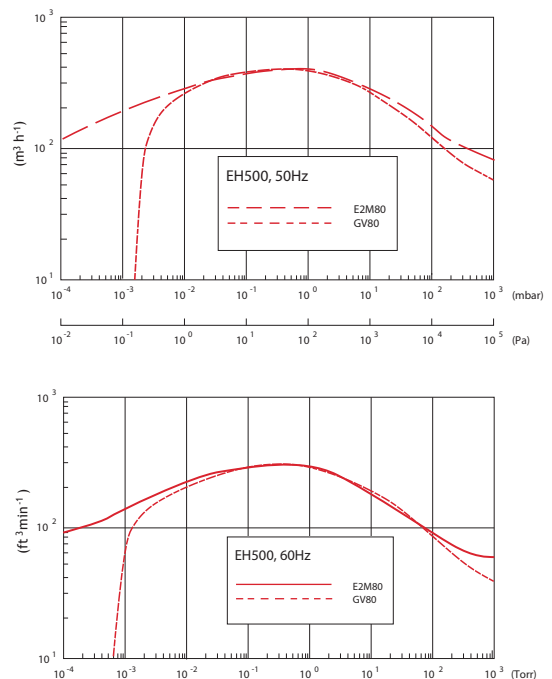
Displacement	
50 Hz	505 m ³ h ⁻¹ 300 ft ³ min ⁻¹
60 Hz	605 m ³ h ⁻¹ 335 ft ³ min ⁻¹

Ordering information

Product description	Order no:
EH500 HC IE3 Asia 50 Hz 200 V 50 Hz	A30205934
EH500 HC IE3 EU/CN 50 Hz 380-400 V 50 Hz	A30205945
EH500 HC IE3 Asia 60 Hz 200 V 60 Hz, 380 V 60 Hz	A30206934
EH500 HC IE3 US 60 Hz 230/460 V 60 Hz	A30206946
EH500 FX IE3 Asia 50 Hz 200 V 50 Hz	A30207934
EH500 FX IE3 EU/CN 50 Hz 380-400 V 50 Hz	A30207945
EH500 FX IE3 Asia 60 Hz 200 V 60 Hz, 380 V 60 Hz	A30208934
EH500 FX IE3 US 60 Hz 230/460 V 60 Hz	A30208946
EH500C 460 V 3-ph 60 Hz 3 hp	NRA999000
EH500T3 220-240/380-415 V 3ph 50 Hz 2.2 kW	NRA998000

Please note that Fomblin® must be purchased separately with PFPE-prepared pumps. Fomblin YVac 16/6 is appropriate

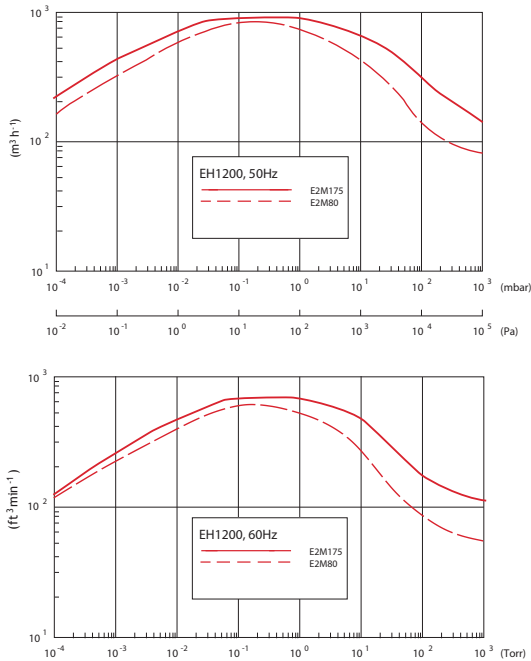
EH500 Performance Curve



EH1200 Mechanical Booster Pump

EH1200 Performance Curve

EH1200



Displacement	
50 Hz	1195 m^3/h^{-1}
	715 $\text{ft}^3/\text{min}^{-1}$
60 Hz	1435 m^3/h^{-1}
	845 $\text{ft}^3/\text{min}^{-1}$



Ordering information

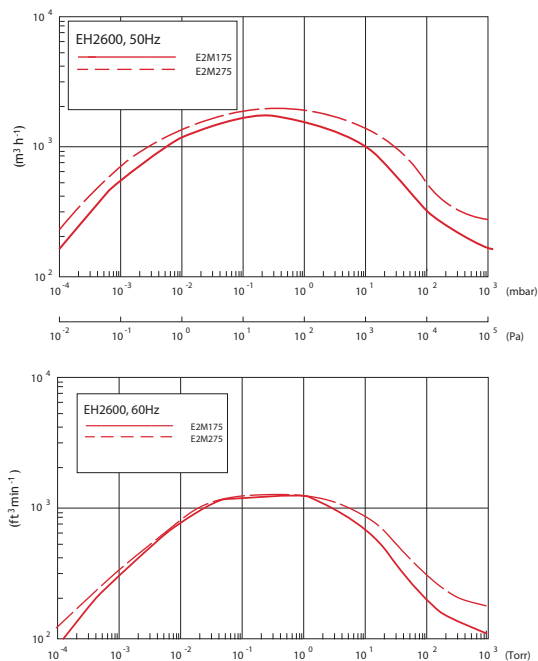
Product description	Order no:
EH1200 HC IE3 Asia50 Hz 200 V50 Hz	A30505934
EH1200 HC IE3 EU/CN50 Hz 380-400 V50 Hz	A30505945
EH1200 HC IE3 Asia60 Hz 200 V60 Hz, 380 V60 Hz	A30506934
EH1200 HC IE3 US60 Hz 230 / 460 V60 Hz	A30506946
EH1200 FX IE3 Asia50 Hz 200 V50 Hz	A30507934
EH1200 FX IE3 EU/CN50 Hz 380-400 V50 Hz	A30507945
EH1200 FX IE3 Asia60 Hz 200 V60 Hz, 380 V60 Hz	A30508934
EH1200 FX IE3 US60 Hz 230 / 460 V60 Hz	A30508946
EH1200C 230/460 V 3-ph 60 Hz 4 hp	A30556982
EH1200T4 380-415 V 3ph 50 Hz 3 kW	A30557900

Please note that Fomblin® must be purchased separately with PFPE-prepared pumps. Fomblin YVac 16/6 is appropriate

EH2600 Mechanical Booster Pump

EH2600 Performance Curve

EH2600



Displacement	
50 Hz	2590 m^3/h^{-1}
	1525 $\text{ft}^3/\text{min}^{-1}$
60 Hz	3110 m^3/h^{-1}
	1830 $\text{ft}^3/\text{min}^{-1}$



Ordering information

Product description	Order no:
EH2600 HC IE3 Asia50 Hz 200 V50 Hz	A30705934
EH2600 HC IE3 EU/CN50 Hz 380-400 V50 Hz	A30705945
EH2600 HC IE3 Asia60 Hz 200 V60 Hz, 380 V60 Hz	A30706934
EH2600 HC IE3 US60 Hz 230 / 460 V60 Hz	A30706946
EH2600 FX IE3 Asia50 Hz 200 V50 Hz	A30707934
EH2600 FX IE3 EU/CN50 Hz 380-400 V50 Hz	A30707945
EH2600 FX IE3 Asia60 Hz 200 V60 Hz, 380 V60 Hz	A30708934
EH2600 FX IE3 US60 Hz 230 / 460 V60 Hz	A30708946
EH2600C 230/460 V 3-ph 60 Hz 15 hp	A30756982
EH2600T3 380-415 V 3ph 50 Hz 11 kW	A30741935
EH2600T4 380-415 V 3ph 50 Hz 11 kW	A30779900

Please note that Fomblin® must be purchased separately with PFPE-prepared pumps. Fomblin YVac 16/6 is appropriate

Performance Curves

EH4200 Mechanical Booster Pump

EH4200



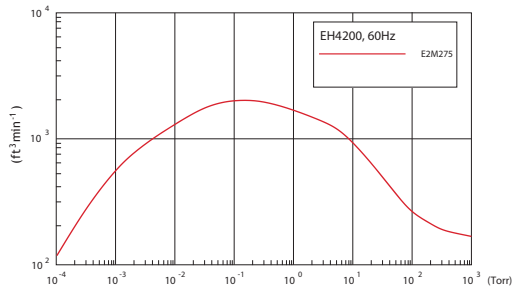
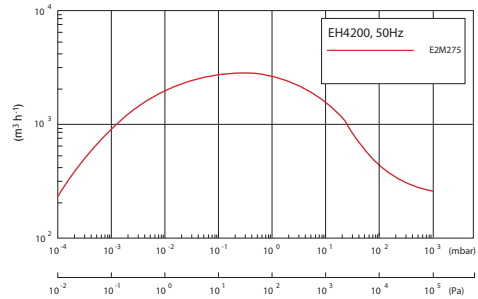
Displacement

50 Hz	4140 m ³ h ⁻¹ 2440 ft ³ min ⁻¹
60 Hz	4940 m ³ h ⁻¹ 2935 ft ³ min ⁻¹

Ordering information

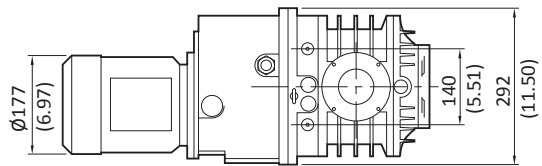
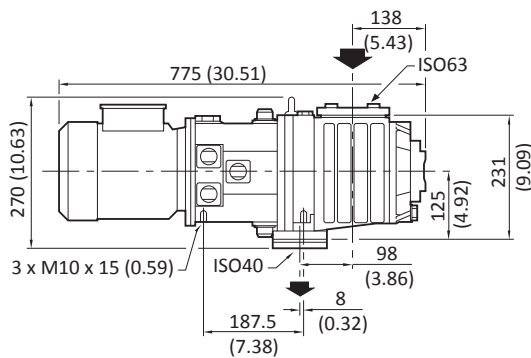
Product description	Order no:
EH4200 HC IE3 Asia 50 Hz 200 V 50 Hz	A30905934
EH4200 HC IE3 EU/CN 50 Hz 380-400 V 50 Hz	A30905945
EH4200 HC IE3 Asia 60 Hz 200 V 60 Hz, 380 V 60 Hz	A30906934
EH4200 HC IE3 US 60 Hz 230/460 V 60 Hz	A30906946
EH4200 FX IE3 Asia 50 Hz 200 V 50 Hz	A30907934
EH4200 FX IE3 EU/CN 50 Hz 380-400 V 50 Hz	A30907945
EH4200 FX IE3 US 60 Hz 230/4 60 V 60 Hz	A30908946
EH4200 FX IE3 Asia 60 Hz 200 V 60 Hz, 380 V 60 Hz	A30908934
EH4200C 230/460 V, 3-ph, 60 Hz, 15 hp	A30956982
EH4200T3 380-415 V, 3-ph, 50 Hz, 11 kW	A30941935
EH4200T4 380-415 V, 3ph, 50 Hz, 11 kW	A30979900

EH4200 Performance Curve

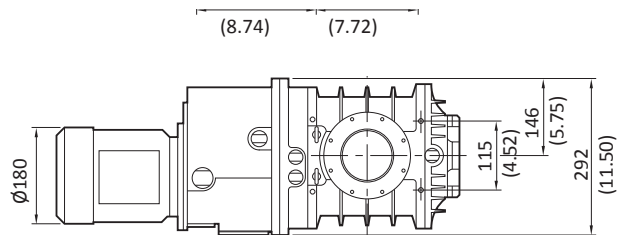
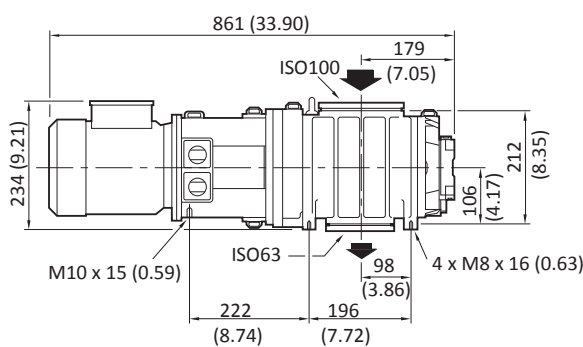


Dimensions

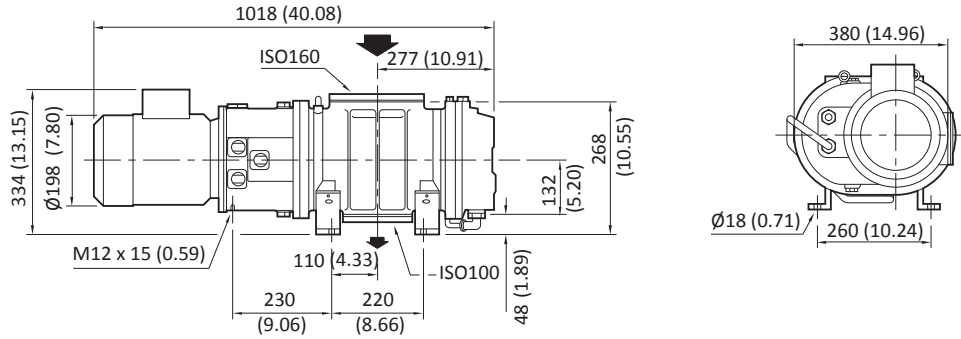
EH250 dimensions



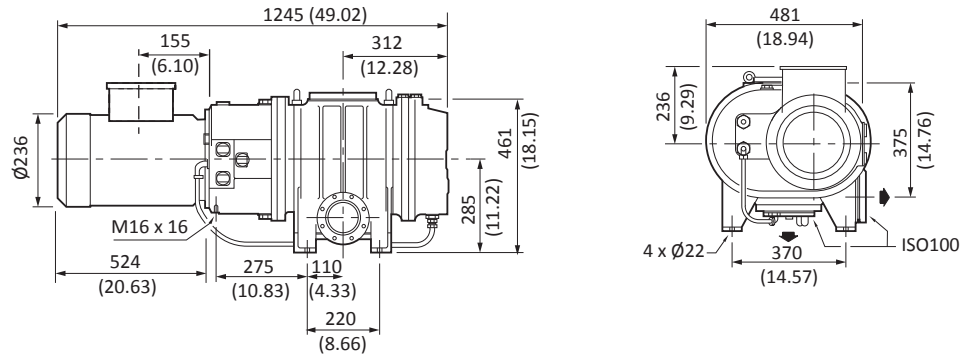
EH500 dimensions



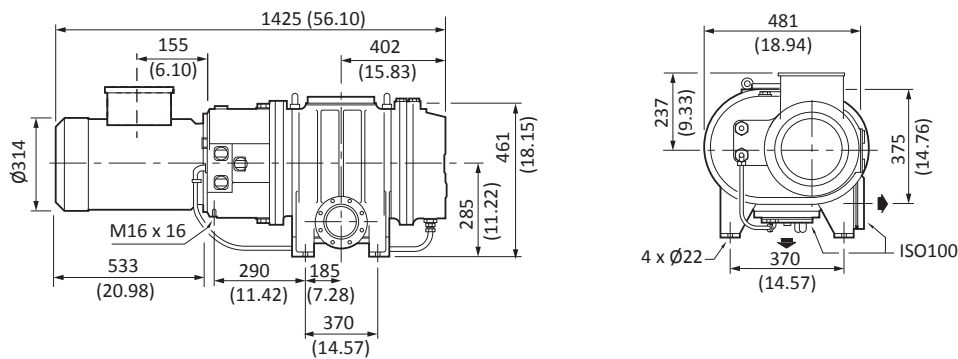
EH1200 dimensions



EH2600 dimensions



EH4200 dimensions



Technical Data



	Units	EH250	EH500	EH1200	EH2600	EH4200
Displacement (swept volume)						
50 Hz	m ³ h ⁻¹ /ft ³ min ⁻¹	310/185	505/300	1195/715	2590/1525	4140/2440
60 Hz	m ³ h ⁻¹ /ft ³ min ⁻¹	375/220	605/335	1435/845	3110/1830	4985/2935
Effective pumping speed with backing pump						
E2M40	m ³ h ⁻¹ /ft ³ min ⁻¹	240/141	350/206	840/495	-	-
E2M80	m ³ h ⁻¹ /ft ³ min ⁻¹	274/161	400/236	840/495	-	-
E2M175	m ³ h ⁻¹ /ft ³ min ⁻¹	-	440/259	930/548	1750/1031	-
E2M275	m ³ h ⁻¹ /ft ³ min ⁻¹	-	460/271	1020/601	1900/1119	3100/1825
Pressure differential across pump +						
50 Hz	mbar/Torr	0-180/0-140	0-110/0-83	0-90/0-68	0-120/0-90	0-70/0-52
60 Hz	mbar/Torr	0-150/0-115	0-90/0-68	0-75/0-56	0-67/0-50	0-50/0-38
Inlet connection		ISO63	ISO100	ISO160	ISO160	ISO250
Outlet connection		ISO40	ISO63	ISO100	ISO100	ISO100
Rotational speed						
50 Hz	rpm	0-2900 rpm				
60 Hz	rpm	0-3500 rpm				
Operating continuous inlet pressure	mbar/Torr	0-1000 mbar/0-760 Torr				
Maximum outlet pressure	mbar/Torr	1000 mbar/760 Torr				
Recommended backing pumps		GV80, E2M40, E2M80, ES100, 212J	GV80, E2M80, ES100, ES200, ES300, 212J, 412J	GXS160, GXS250, E2M80, E2M175, ES200, ES300, ES630, 212J, 412J, IDX1000, IDX1300	GXS250, GXS400, E2M175, E2M275, ES300, ES630, 412J, IDX1000, IDX1300	GXS450, E2M275, ES300, ES630, 412J, IDX1000, IDX1300
Electrical supply voltage, 3-ph						
50 Hz		200 V/380-400 V				
60 Hz		200 V/380 V/230 V/460 V				
Motor power						
Hydrocarbon	kW/hp	2.2/3		3/4		11/15
PFPE	kW/hp	2.2/3		3/4		11/15
ATEX	kW	2.2		3		11
Explosion proof		3		4		15
Ambient temperature range						
Operating	°C/F	5 to 40/40 to 104				
Storage	°C/F	-10 to 80/14 to 176				
Maximum operating humidity	RH	90%				
Cooling method		Air cooled	Air cooled	Water cooled+	Water cooled	Water cooled
Recommended oil						
Standard version		Ultragrade 20				
PFPE version		Fomblin® YVAC 16/6				
Oil capacity						
Gear case	litre	-	-	1.25	3.5	3.5
Coupling cover	litre	1.5		2.4	6.5	6.5 l
Shaft seal reservoir	litre	0.125		1.5		
Weight	kg/lb	75/165	85/187	151/332	339/746	409/900

+ Depends on pressure

Service, Spares and Accessories

EH Accessories

Product description	Order no:
Inlet Mesh Assy ISO63 EH250	A60041569
Inlet Mesh Assy ISO100 EH500	A60041029
Inlet Mesh Assy ISO160 EH1200/2600	A60041570
Inlet Mesh Assy ISO250 EH4200	A60041571
OLM500 oil level monitor*	A50434000

* Not suitable for ATEX boosters

Fomblin® YVAC16/6

Product description	Order no:
Fomblin® YVAC16/6	
1 kg	H11306019
5 kg	H11306020

Ultragrade Oil

Product description	Order no:
Ultragrade 20 Oil (1 litre)	H11024015
Ultragrade 20 Oil (12 x 1 litre)	H11024012
Ultragrade 20 Oil (4 litre)	H11024013
Ultragrade 20 Oil (4 x 4 litre)	H11024011

Service kits

Product description	Order no:
Spares Kit Con C&O EH/QMB250/500A	A30151815
Spares Kit Module EH/QMB250/500A	A30151820
Spares Kit Shim EH/QMB250/500A	A30151825
Spares Kit Con C&O EH/QMB1200	A30551815
Spares Kit Module EH/QMB1200	A30551820
Spares Kit Con C&O EH/QMB26/4200	A30751815
Spares Kit Module EH/QMB26/4200	A30751820
Spares Kit Shim EH/QMB12/26/4200	A30751825
Spares Kit Con C&O EH/QMB26/4200	A30751815
Spares Kit Module EH/QMB26/4200	A30751820
Spares Kit Shim EH/QMB12/26/4200	A30751825

