

# Instruction Manual

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STP Series Turbomolecular Pumps  
STP-A2203C3  
(First Edition - a)

This Manual has extracted difference of the STP-A2203 series and the STP-A2203C3. For the "Safety Precautions", installation, operation and maintenance, read the STP pump Instruction Manual (A), STP- A2203 series Instruction Manual (B), and STP control unit Instruction Manual (C).

Keep this Manual in a place where you can quickly access it at any time.



Jan. 2008

## **INTRODUCTION**

Thank you very much for purchasing Edwards' turbomolecular pump.

The turbomolecular pump is designed to be installed in the vacuum equipment to exhaust gases from it.

This manual covers all items necessary to ensure safe installation, operation and maintenance of the following series of the STP-A2203C3 turbomolecular pump:

- | Model Name    | Specification   |
|---------------|---|
| • STP-A2203C3 | High-throughput type, chemical specific* <sup>1</sup> |

For the specifications of other models of the STP-A2203C3 pump, contact Edwards.

In this manual, the above STP pump series is collectively referred to as the "STP pump".

This Manual picks up the points of difference between the STP-A2203 Series and the STP-A2203C3. For the "Safety Precautions", installation, operation and maintenance, read the STP-A2203 Series Instruction Manual (B)".

The difference is as follows:

- Maximum flow rate: Ar 3.04 Pa m<sup>3</sup>/sec (1,800 SCCM)

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\*<sup>1</sup> Chemical specific: STP pump with anti-corrosive treatment (responding to chlorine, fluorine or other system gases)

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## STP-A2203C3 Instruction Manual (excerpt)

### 1 Specifications

#### 1.1 Specifications for the STP Pump

Table 1.1 Specifications for the STP Pump

Items		Specifications
Flange size	Inlet port	ISO250F
	Outlet port	KF40
	Purge port	KF10
Pumping speed * <sup>1</sup>	N <sub>2</sub> L/s	2,200
	H <sub>2</sub> L/s	1,700
Compression ratio* <sup>1</sup>	N <sub>2</sub>	>10 <sup>8</sup>
	H <sub>2</sub>	2.5×10 <sup>4</sup>
Ultimate pressure * <sup>1</sup>	Pa (Torr)	10 <sup>-6</sup> (10 <sup>-8</sup> order)
Allowable backing pressure	Pa (Torr)	400 (3)
Maximum gas flow rate <Ar>* <sup>1</sup> * <sup>2</sup>	Pa m <sup>3</sup> /sec (SCCM)	3.04 (1,800)
Purge flow rate<N <sub>2</sub> >	Pa m <sup>3</sup> /sec (SCCM)	8.45×10 <sup>-2</sup> (50) to 1.69×10 <sup>-1</sup> (100)
Usable exhaust gas		Chlorine or fluorine system gases * <sup>3</sup>
Rated speed	rpm	27,000 (Speed range 13,500~27,000)
Starting time	min	7
Stopping time	min	8
Baking temperature	°C	<120
Lubricating oil		Not necessary
Mounting position		Free
Cooling method		Water cooling
Cooling water	Temperature °C	5 to 25
	Flow rate L/min	2
	Pressure MPa	<0.3
Cooling water fitting		Rc1/4 (ISO Standard)
Material for fitting		Stainless steel
Ambient temperature range	°C	0 to 40
Storage temperature range	°C	-25 to 55
Recommended backing-pump	L/min	>1,300
Mass	kg	61

The values shown in the table are typical.; They are not guaranteed.

\*<sup>1</sup> : Pumping speed, compression ratio, ultimate pressure and maximum gas flow are measured via a Edwards method. (Ultimate pressure is measured after baking.)

\*<sup>2</sup> : The maximum gas flow rate is measured under the following conditions.

- Backing pump: Dry pump, maximum pumping speed is 1,300L/min.
- N<sub>2</sub> purge gas flow rate: 50 sccm.
- Ar is vacuumed continuously.

When using the STP pump under different conditions, the maximum gas flow rate may change. In this case, contact Edwards.

\*<sup>3</sup> : If you use the following gases, contact Edwards.

- Gasses including alkaline metal, except "Li".
- Gasses including "Ga", "Hg", "In" and "Sn".
- HBr gas

1.2 External Appearance of the STP Pump

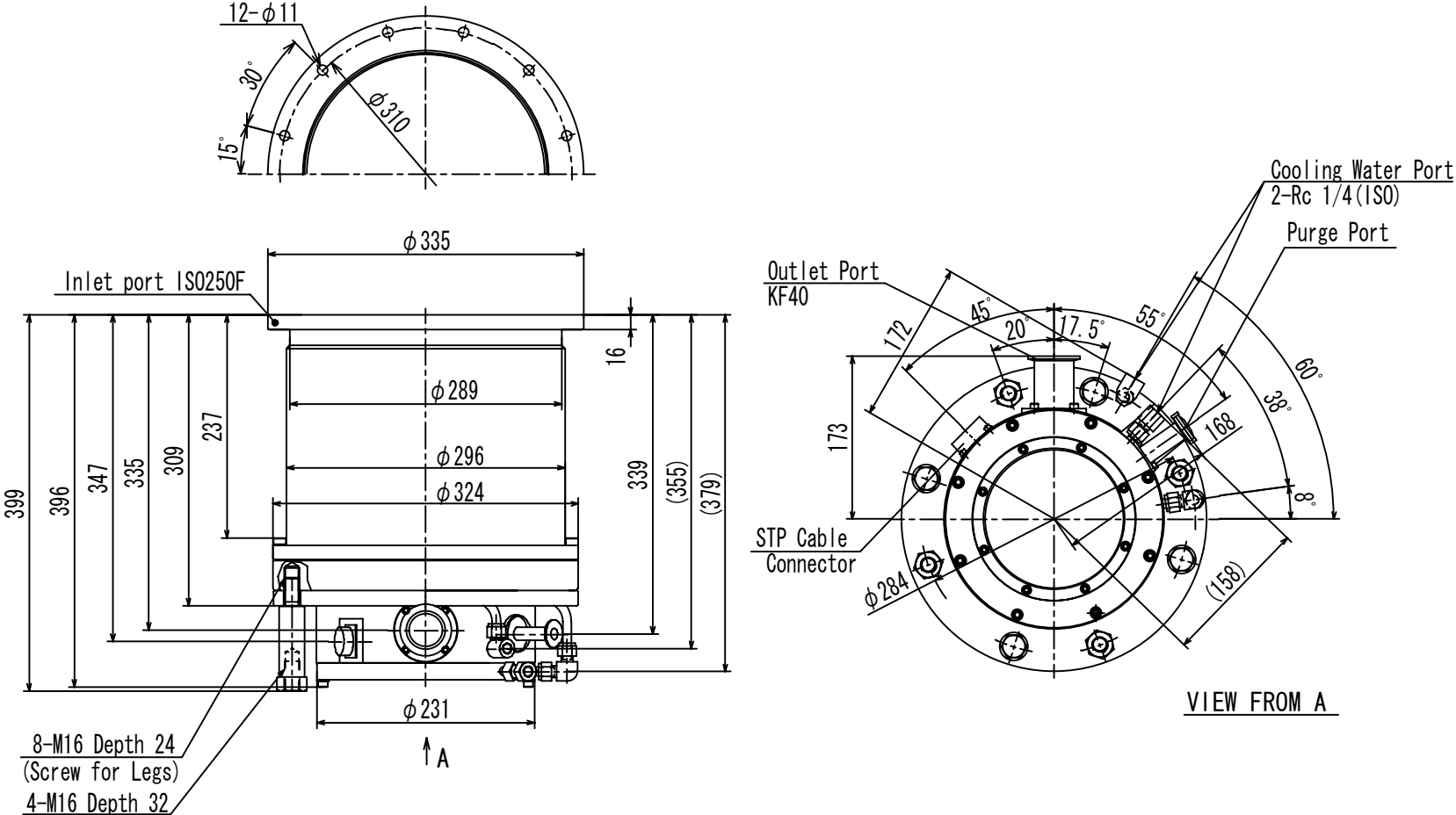


Figure 1.1 External Appearance of the STP Pump (STP-A2203C3)

For more information, contact the nearest Service Office.

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