PTN-3000 型 总氮分析仪

概　述：

派特科斯仪器采用化学发光检测原理，待测样品（或标样）被引入到高温裂解炉后，在 1000℃左右的高温下，样品被完全气化并发生氧化裂解，其中的氮化物定量地转化为一氧化氮(NO)。反应气由载气携带，经过膜式干燥器脱去其中的水份，进入反应室。亚稳态的一氧化氮在反应室内与来自臭氧发生器的 O^3 气体发生反应，转化为激发态的 NO_2^*。

当激发态的 NO_2^*跃迁到基态时发射出光子，光信号由光电倍增管按特定波长检测接收。再经微电流放大器放大、计算机数据处理，即可转换为与光强度成正比的电信号。在一定的条件下，反应中的化学发光强度与一氧化氮的生成量成正比，而一氧化氮的量又与样品中的总氮含量成正比，故可以通过测定化学发光的强度来测定样品中的总氮含量。

适用范围：适用于测定原油、馏分油、成品油，石油气、塑料、石油化工产品、食物以及水中的总氮含量。

符合标准：符合 SH/T0657、ASTM D4629、ASTM D5762、GB/T17674 等标准。

技术参数	
测量范围	0.2ppm/L～10000mg/L～百分含量
可测样品状态	固体、液体、气体（配相应进样器）
温度范围	室温～1100℃
控温精度	±1℃
重复性误差	0.2mg/L≤X＜1.0mg/L≤±0.2mg/L1.0mg/L ≤X＜100mg/LCv≤10%100mg/L≤X Cv≤5%

仪器成套性：主机（数据采集、控制系统）、温控裂解系统、自动进样器、操作软件、计算机（选配）、打印机（选配）等。

特点：

Windows 操作平台，人机对话，操作便捷。

微电流检测采用国内首创氮检测器，具有灵敏度高、噪声低、线性范围宽、抗干扰能力强等优点，是国内最先进的总氮含量分析仪。

标样校正可采取单点校正，方便、快速、准确。

派特科斯仪器采用国际流行电路和进口器件，整机性能优于国内同类产品，并可替代进口。

风扇自动控制技术，关机后无需有人值守。

先进的臭氧发生器采用高频低压元件，功耗低，效率高。比传统的高压发生系统更安全，能耗更低。

附 1：

关键部分为进口部件：

光电倍增管(日本)　　膜式干燥器（日本）

附 2：

序号	名称	单位	数量	规格	备注
1	主机	台	1		
2	进样器	台	1		液体
3	石英管	支	1		安装携带
4	标样	盒	3		
5	石英弯头	只	1		
6	膜式干燥器	只	1		
7	通讯电缆线	根	1		
8	电源线	根	2		
9	裂解炉电源线	根	1		
10	聚四氟乙烯管	米	8	Φ3	
11	硅胶管	厘米	各 20	Φ3，Φ5	
12	硅胶垫	只	50		
13	大夹子	只	1		
14	合格证	张	1		
15	保修卡	张	1		
16	说明书	本	1		
17	陶瓷环	套	2		
18	进样针	支	2		
19	保险丝	只	2	2A	
20	气路压帽	只	4		
21	热电偶	支	1		S 型
22	电脑	台	1		标配

PTN-3000 型 Total Nitrogen Analyzer

Overview:

PETECOS instruments use the principle of chemiluminescence detection. After the sample (or standard sample) to be measured is introduced into the high-temperature cracking furnace, at a high temperature of about 1000° C, the sample is completely vaporized and oxidatively cracked, and the nitrides in it are quantitatively converted into nitric oxide (NO). The reaction gas is carried by the carrier gas, passes through the membrane dryer to remove its moisture, and enters the reaction chamber. Metastable nitric oxide reacts with 03 gas from the ozone generator in the reaction chamber and is converted into excited state NO2*.

When the excited state NO2* transitions to the ground state, it emits photons, and the light signal is detected and received by the photomultiplier tube at a specific wavelength. After amplification by a microcurrent amplifier and computer data processing, it can be converted into an electrical signal proportional to the light intensity. Under certain conditions, the intensity of chemiluminescence in the reaction is proportional to the amount of nitric oxide produced, and the amount of nitric oxide is proportional to the total nitrogen content in the sample. Therefore, the total nitrogen content in the sample can be determined by measuring the intensity of chemiluminescence.

Scope of application: Suitable for determining the total nitrogen content of crude oil, distillate oil, refined oil, petroleum gas, plastics, petrochemical products, food and water.

Comply with standards: Comply with SH/T0657, ASTM D4629, ASTM D5762, GB/T17674 and other standards.

Technical parameters	
Measurement range	0.2ppm/L～10000mg/L～百分含量
Sample status	Solid, liquid, gas (with corresponding injector)
temperature range	Room temperature～1100℃
Temperature control accuracy	±1℃
Repeatability error	0.2mg/L≤X＜1.0mg/L≤±0.2mg/L1.0mg/L ≤X＜100mg/LCv≤10%100mg/L≤X Cv≤5%

Complete set of instruments: host (data acquisition, control system), temperature-controlled pyrolysis system, automatic sampler, operating software, computer (optional), printer (optional), etc.

Features:

Windows operating platform, human-machine dialogue, convenient operation.

Microcurrent detection adopts the first domestic nitrogen detector, which has the advantages of high sensitivity, low noise, wide linear range, and strong anti-interference ability. It is the most advanced total nitrogen content analyzer in China.

Standard sample calibration can adopt single-point calibration, which is convenient, fast and accurate.

PETECOS instruments adopt internationally popular circuits and imported components. The performance of the entire machine is superior to similar domestic products and can replace imported ones.

Automatic fan control technology eliminates the need for anyone to be on duty after shutting down.

Advanced ozone generators use high-frequency and low-voltage components, with low power consumption and high efficiency. It is safer and consumes less energy than traditional high-voltage generating systems.

Appendix 1:

The key parts are imported components:

Photomultiplier tube (Japan) Membrane dryer (Japan)