

# APIEZON<sup>®</sup>



## APIEZON AP201

THE QUALITY VAPOUR BOOSTER PUMP FLUID FOR LONGER LIFE

APIEZON AP201 - FASTER PUMPDOWN - LONGER SERVICE LIFE - EASIER MAINTENANCE - REDUCED TOP UPS

### INTRODUCTION

Don't be deceived by imitation oils bearing the '201' mark; Apiezon AP201 is the original and best vapour booster pump fluid. Extensive tests have proved that it substantially outperforms other similar oils. Because of its superior quality, Apiezon AP201 saves you time and money - principally by reducing the number of oil changes, top ups and amount of cleaning time required, thereby cutting service costs and equipment downtime.

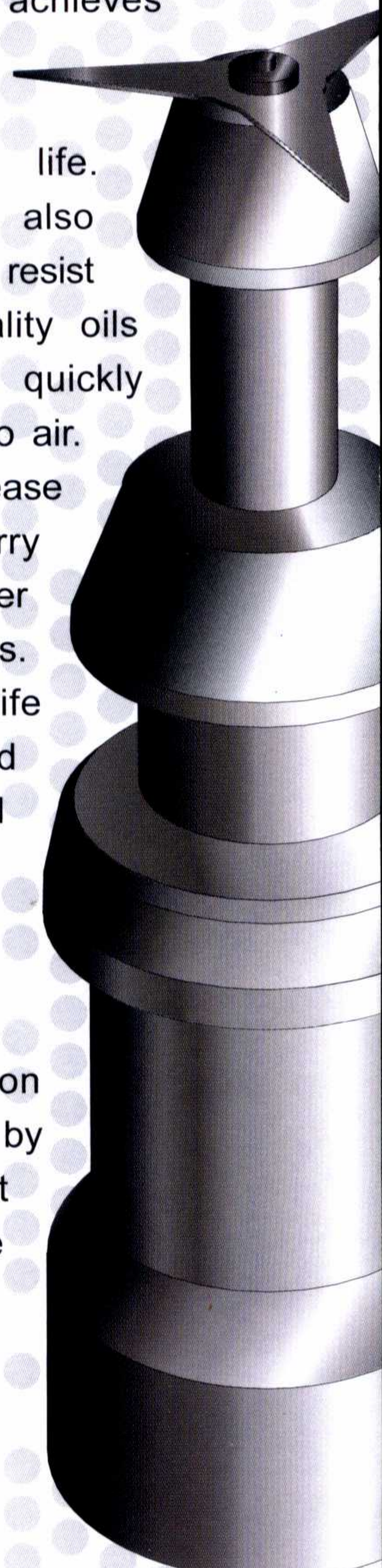
Since then it has given trouble-free service in a wide range of industrial vacuum processes. From vacuum metallurgy and vacuum distillation to vacuum metallisation and vacuum impregnation, the reliable nature of Apiezon AP201 has been acknowledged by engineers everywhere. Testimony to its exceptional quality is the fact that vapour booster pump manufacturers specify Apiezon AP201 and their warranties can

service life, easier maintenance and reduced top ups - a range of qualities that make Apiezon AP201 the most cost effective choice.

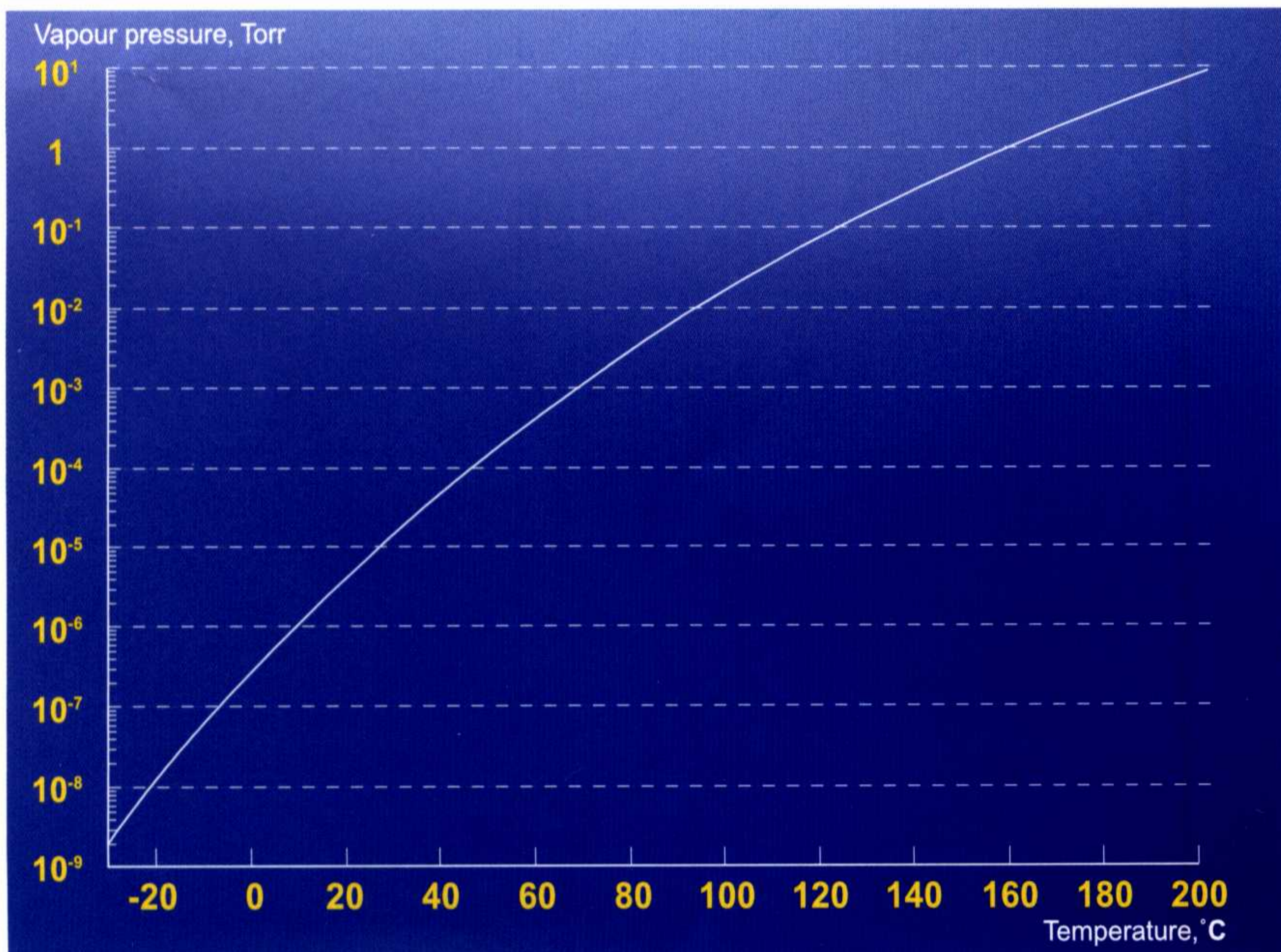
### SUPERIOR STABILITY

Possessing properties that are matched specifically to the vapour booster pump, Apiezon AP201 achieves the optimum boiler temperature, thus maximising heater life. Apiezon AP201 is also specially formulated to resist oxidation. Lower quality oils on the other hand, quickly oxidise on exposure to air. This leads to an increase in viscosity and tarry build-ups on the booster pump vanes and jets. Consequently the life of the oil is reduced and more time is needed to drain and clean the system during maintenance.

Furthermore, Apiezon AP201 is not effected by traces of moisture that may be present in the gases being pumped.



### VAPOUR PRESSURE OVER WORKING TEMPERATURE RANGE

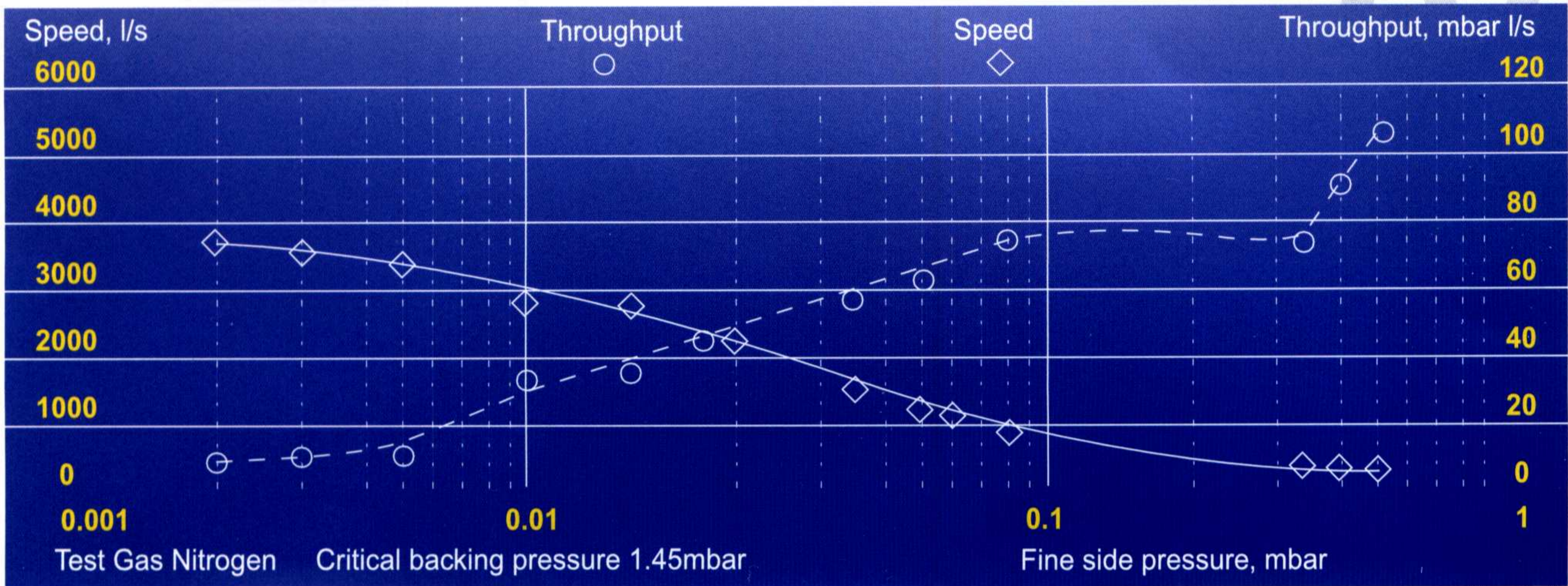


Apiezon AP201 was developed over 20 years ago specifically for use in vapour booster pumps to replace oils based on PCBs.

be invalidated by the use of any other fluids. The features that set Apiezon AP201 apart are its faster pumpdown times, longer

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**AP201 IN A TYPICAL BOOSTER PUMP**



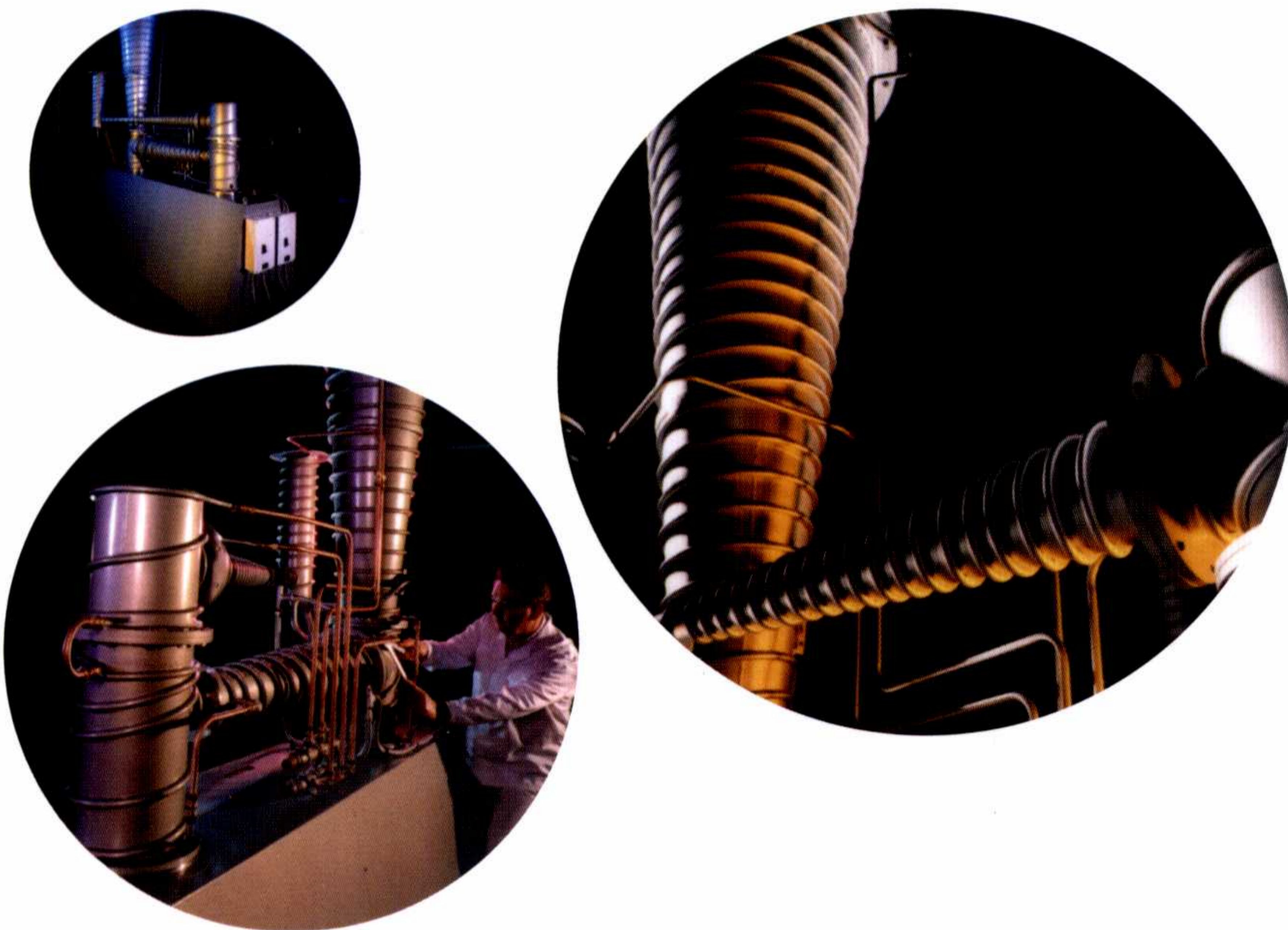
**PUMP PERFORMANCE**

In order to give the fast pumpdown times required on industrial systems, booster pumps must achieve a high pumping speed. Apiezon AP201

has been specifically designed to achieve these speeds. It also has a high critical backing pressure that allows the pump to be switched on sooner, so

minimising pumpdown time. The graph above shows the excellent throughput / pressure performance of Apiezon AP201 in a typical booster pump.

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**PRACTICAL EXPERIENCE**

Both laboratory and industrial trials have proven that the technological advantages of Apiezon AP201 give it a much longer service life than less expensive, lower quality oils.

**LABORATORY TRIAL**

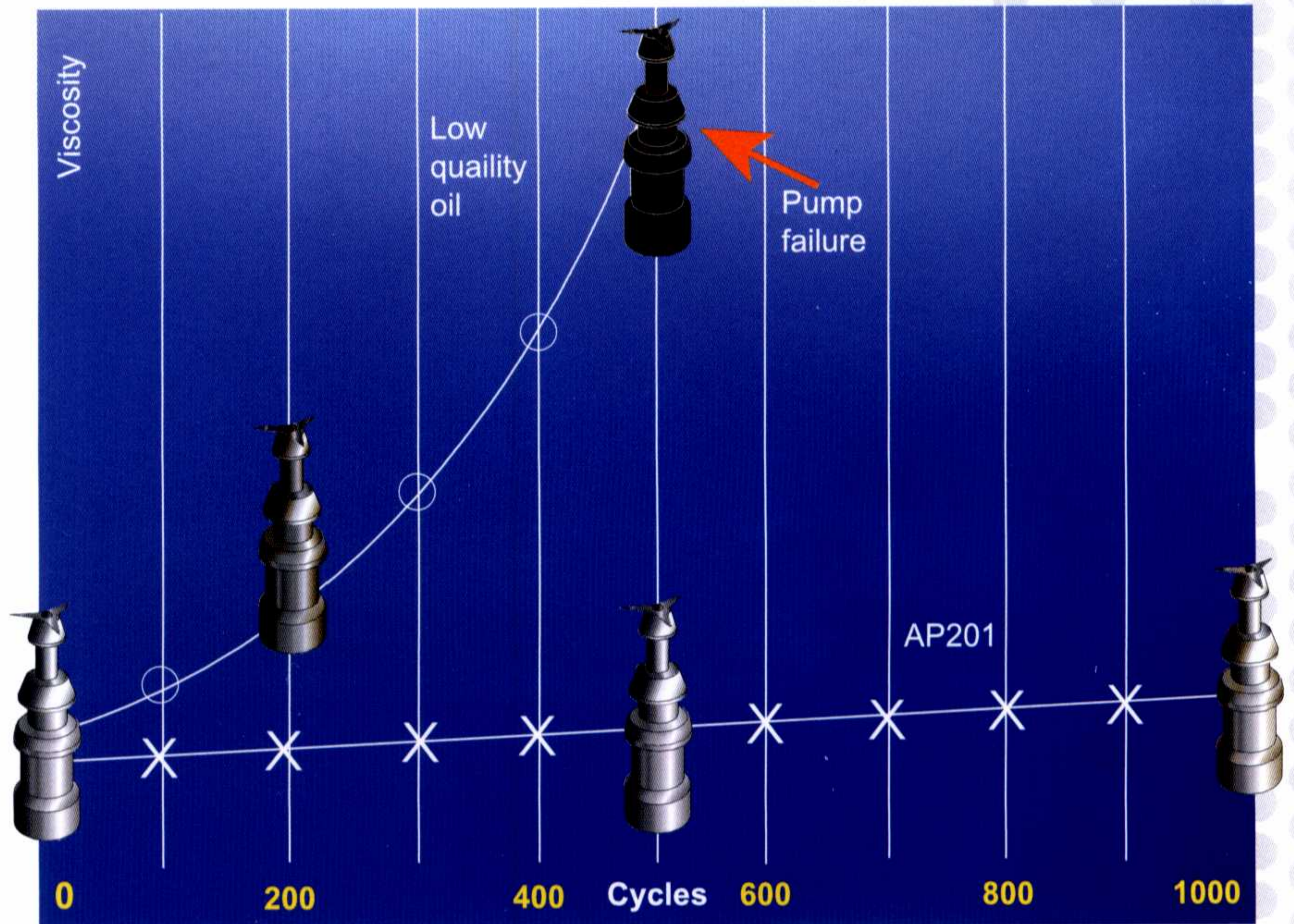
This longevity is clearly illustrated by a 'ruggedness test' in which oil in a diffusion pump is subjected to repeated cycles of 10 minutes of normal operation followed by a 5 minute period with the boiler heater off and the pump open to the atmosphere. The oil and the jets are examined frequently and the performance of the pump monitored.

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Cheaper oils rapidly deteriorate to show an increase in viscosity and darkening in colour. After 200 cycles the pump jets and body are covered with a tarry black deposit and after 500 cycles the deposits are so heavy that the pump fails to operate. With Apiezon AP201 the pump continues to operate for over 1000 cycles and throughout the test the oil stays clear. The pump jets and baffles remain free from tarry deposits thus ensuring easier and quicker pump cleaning and servicing.

**RUGGEDNESS COMPARISONS**



**INDUSTRIAL TRIAL**

The superiority of Apiezon AP201 has also been demonstrated in an independent industrial trial. A superalloy manufacturer had a vacuum system incorporating

2 mechanical pumps and 2 Edwards 30B5 vapour booster pumps on a vacuum induction melting furnace. One vapour booster pump was filled

with Apiezon AP201, the other with a competing fluid. The furnace was then operated in the normal manner with the pumps running for a total time of 1000 hours. At service time the pumps were dismantled and the results are shown. The vapour jet from the pump filled with Apiezon AP201, (shown on the left), remained much cleaner - therefore needing less time for servicing and cleaning. The picture on the right shows the other jet which was coated in carbonaceous deposits as a result of extensive oil oxidation and therefore required significantly more time to clean. A maintenance engineer also commented, "I don't remember having to top up the Apiezon pump at all, but we were always topping up the other one." Proof that Apiezon AP201 requires fewer top ups and ultimately less oil. This company now uses Apiezon AP201 exclusively in all its vapour booster pumps.



## TYPICAL PROPERTIES

Vapour pressure @ 20°C, torr		4x10 <sup>-6</sup>
Specific gravity @ 20°C		0.885
Viscosity, cS	@ 20°C	76
	@ 40°C	22
Flash point, °C		196
Fire point, °C		>200
Pour point, °C		-30
Boiling point, °C @ 1 torr		165
Autoignition point, °C		>320

## COST EFFECTIVE

The superior quality of Apiezon AP201 gives longer oil service life and reduces the frequency of oil changes and cleaning time - therefore cutting equipment down time and service costs. Furthermore, its technical properties ensure that fewer top ups are required and less total oil used. These factors make Apiezon AP201 the only cost effective choice of fluid for vapour booster pumps.

## THE ADVANTAGES OF APIEZON AP201

- Highly resistant to oxidation -
- Reduced carbonaceous and tarry deposits
  - Easier and faster servicing and cleaning
  - Reduced drainage time from reservoir
  - Longer service life of oil

Minimal volatile components -

- Better ultimate vacuum achieved faster
- Reduced top ups
- Reduced backstreaming

Recommended by Edwards -

- Developed in conjunction with Edwards specifically for their 30B5 and 18B4 vacuum pumps
- Pump warranty can be invalidated by use of other fluids

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## SERVICE ADVICE SUPPORT

Through our global distribution network, supplies of Apiezon AP201 are always close at hand and for your convenience Apiezon AP201 is available in 4 litre and 20 litre drums. We also offer an oil analysis service to help you determine if the oil is still performing satisfactorily or if it requires changing. To use the service, please contact the Apiezon Technical Helpline.



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