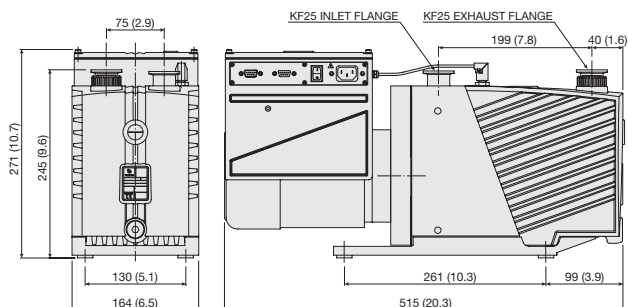
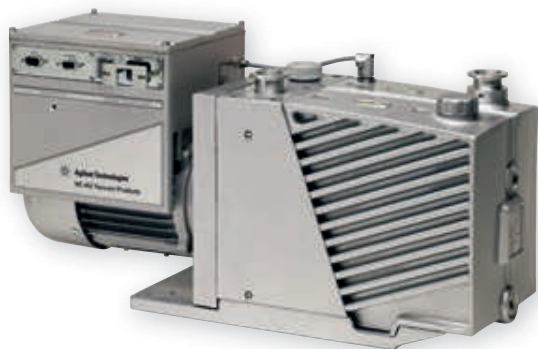


AGILENT ROTARY VANE PUMP MODELS

▶ Agilent HS 452



Dimensions: millimeters (inches)

The first rotary vane pumps with truly “smart” capabilities.

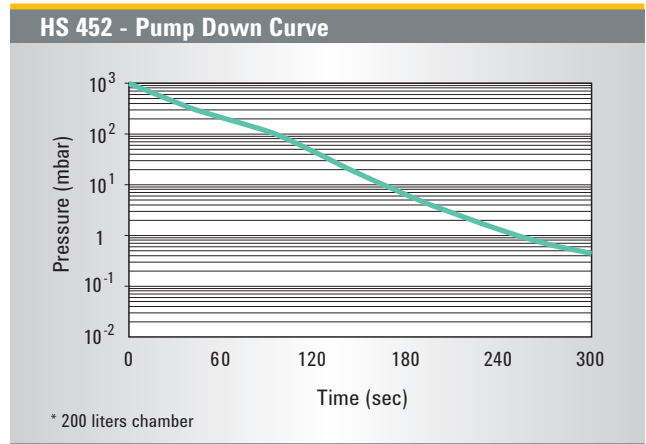
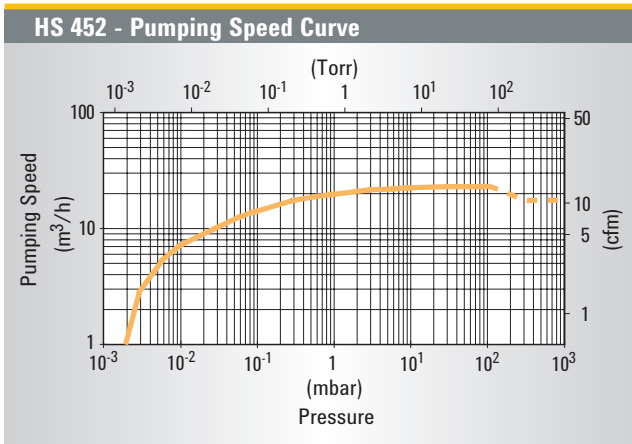
- Agilent’s HS 452 and HS 652 pumps employ an innovative frequency inverter technology that delivers optimal and consistent performance while encompassing the worldwide range of voltage and frequency conditions.
- Operating with low power requirements, the microprocessor controlled frequency inverter, combined with a 3-phase motor, is an efficient driving unit capable of delivering the high starting torque required of a dual-stage oil pump.
- HS 452 and HS 652 technology solves the common problems inherent in traditional single-phase motors. Smart Pumps start with inrush current about 7 times lower than that of equivalent traditional pumps.
- Unlike traditional pumps, Smart Pump’s software driven startup procedure recognizes faulty pumps within seconds, and so avoids uncontrolled load conditions. The result is very easy pump integration.
- The 3-phase inverter output is constant and independent of single-phase input frequencies and voltages. Motor efficiency and power factors remain optimal and as a result motor and pump work easy to drive the pump. Pump performance can be tailored by setting the rotational speed for specific applications. The software monitors and logs pump parameters making it possible to perform pump and system diagnostics.

Technical Specifications

| | |
|--|----------------------------------|
| Free air displacement | 27 m ³ /h (16 cfm) |
| Pumping speed* | 22 m ³ /h (13 cfm) |
| Ultimate total pressure* | 2 × 10 ⁻³ mbar |
| Ultimate total pressure with gas ballast* | 1 × 10 ⁻² mbar |
| Operating voltage | 100-120/200-240 V ±10%, 50/60 Hz |
| Inverter maximum output power | 780 W |
| Nominal rotation speed | 2000 rpm |
| Weight | 33 kg (73 lbs) |

* According to PNEUROP 6602

ROTARY VANE PUMPS



Ordering Information

| Pump | Part Number |
|---|-------------|
| HS 452 Smart Pump 1 phase worldwide motor | 9499360 |
| IP44 accessory connector Kit | 9499367 |

| Accessories | Part Number |
|---|-------------|
| NW25 oil exhaust filter | 9499392 |
| Oil return kit | 9499376 |
| Oil drain extension | 9499375 |
| Rotary vane fluid, DS19 type, 1 liter | 9499390 |
| European plug power cable 2 meters 1 ph | 9499396 |
| USA plug power cable 2 meters 1 ph | 9499397 |
| UK plug power cable 2 meters 1 ph | 9499398 |
| Minor maintenance kit | 9499371 |
| Major maintenance kit | 9499382 |

Application Note

Steady state high gas load applications exploit the major benefits of the smart technologies. When operated at pressures lower than the auto-tuning pressure, the HS 452 and HS 652 outperform the equivalent traditional DS 402 and DS 602 pumps by 10% at 60 Hz and by 30% at 50 Hz.

The Smart Pumps can run below auto-tuning pressure at their full speed of 2000 rpm. As shown in the pumping speed curve

at top right, the HS 452 has an auto-tuning pressure of 100 mbar while the HS 652 has an auto-tuning pressure of 40 mbar. Despite the lower power requirements of 780 W max, the Smart Pumps deliver good performance in the roughing phase. Fast cycling or inrush applications need to be evaluated on a case by case basis with our application engineers.