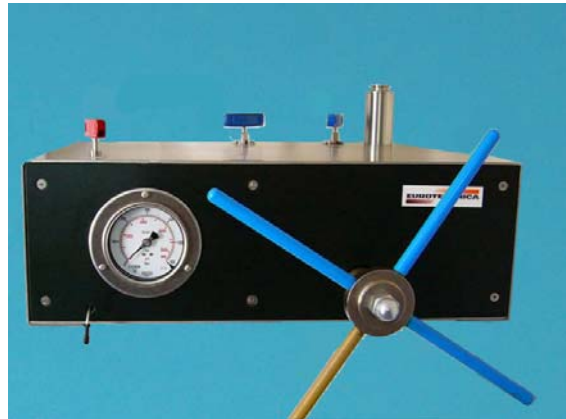


Accessory Options for High Pressure View Chambers Interfacial Tension / Contact Angles at High Pressure



HP3250 Liquid Pressure Variation Device

- 1 Manual driven piston
- 1 Liquid supply tank
- 1 Extra valve 1/8"
- 1 Pressure gauge



The liquid pressure variation device is recommended for independent pressurization of the surrounding liquid. This device is delivered as a stand alone device and can be used to upgrade existing HP3230 units. It can be equipped with a gas booster (air driven) for providing pressurized gas.

HP3260 Micro Dosing System for High Viscous Systems for direct adaptation to existing high pressure view chamber HP3230

Piston volume approx 2 ml

The micro dosing system is attached directly to the top of the view chamber by fixing it to the top high pressure connection.

Especially in case of high viscous, hazardous or aggressive liquids the micro dosing system is recommended.

It can be combined with the sample holder set which contains glass containments that prevents the aggressive liquid from contaminating the complete view chamber.

HP3270 Digital Pressure and Temperature Acquisition System for HP3230/HP3230LL

- 1 thermocouple type K with cable and plug NiCr-Ni
- 1 pressure transducer 100MPa with adapter 1/4" high pressure
- 1 digital indication display (19" rack)
- 1 connection cable serial port
- 1 adapter serial bus to USB
- 1 software CD - data recorder and driver for graphical display and recording data.



The digital pressure and temperature acquisition system is adapted to the HP3230 by connecting the pressure transducer directly to a connection at the top of the view chamber. For reading out the temperature the plug of the thermocouple already being provided with the standard system is connected to the recording box. A PC for data acquisition is not included.

HP3280 Small Horizontal Motion Device for HP3230/HP3230LL

1 stainless steel slide
movable approx 8 mm within high-pressure view cell

The horizontal sliding device is designed for placing two to three drops of liquid on a solid surface under pressurized conditions. Upgrading usually has to be carried out at the manufacturer's site. This option should be ordered together with a HP3230/HP3230LL unit.

HP3290 Spare Part Set for HP3210/HP3210LL

4 window seals
2 backup rings
2 windows
1 spare needle 1/16" outer diameter
1 spare needle 1/32" outer diameter
2 rupture disks
1 thermocouple type K, 0.5 mm
5 pair of sleeves and gland nuts for 1/8" tubing
5 pair of sleeves and gland nuts for 1/16" tubing
1 capillary cutter



This spare part set is recommended for a one to two years term under normal operating conditions for HP3210/HP3210LL.

HP3291 Spare Part Set for HP3220H/HP3220LLH

2 window seals
1 spare needle 1/16" outer diameter, Hastelloy C
1 spare needle 1/32" outer diameter, Hastelloy C
1 spare sealing packing pressure generator
2 rupture disks, Hastelloy C
1 thermocouple type K
5 pair of sleeves and gland nuts for 1/8" tubing, Hastelloy C
5 pair of sleeves and gland nuts for 1/16" tubing, Hastelloy C
1 capillary cutter



The spare part set is recommended for a one year term under normal operating conditions for HP3220H/HP3220LLH.

HP3292 Spare Part Set for HP3230/HP3230LL

- 2 window seals
- 1 spare needle 1/16" outer diameter
- 1 spare needle 1/32" outer diameter
- 1 spare sealing packing PG, PTFE
- 2 rupture disks
- 1 thermocouple type K
- 5 pair of sleeves and gland nuts for 1/8" tubing
- 5 pair of sleeves and gland nuts for 1/16" tubing
- 1 capillary cutter



The spare part set is recommended for a one year term under normal operating conditions for HP3230/HP3230LL.

HP3293 Repair and Maintenance Set for HP3220H/HP3220LLH

- 4 window seals
- 2 sapphire windows, Hastelloy C
- 2 spare needles 1/16" outer diameter, Hastelloy C
- 2 spare needles 1/32" outer diameter, Hastelloy C
- 2 rupture disks, Hastelloy C
- 1 thermocouple type K
- 1 PT100 for heating control
- 1 valve (passage) 1/8", Hastelloy C
- 1 3-way valve 1/8", hastelloy C
- 5 pair of sleeves and gland nuts for 1/8" tubing, Hastelloy C
- 5 pair of sleeves and gland nuts for 1/16" tubing, Hastelloy C
- 1 capillary cutter
- 1 grease press



This repair set is recommended for normal to frequent use when the operator needs to be able to exchange parts rapidly in case of failure or minor alterations in order to ensure maximum flexibility and availability of the equipment HP3220H/HP3220LLH.

HP3294 Repair and Maintenance Set for HP3230/HP3230LL

- 4 window seals
- 2 sapphire windows
- 2 spare needles 1/16" outer diameter
- 2 spare needles 1/32" outer diameter
- 2 rupture disks
- 1 thermocouple type K
- 1 PT100 for heating control
- 1 valve (passage) 1/8"
- 1 3-way valve 1/8"
- 5 pair of sleeves and gland nuts for 1/8" tubing
- 5 pair of sleeves and gland nuts for 1/16" tubing
- 1 capillary cutter



This repair set is recommended for normal to frequent use when the operator needs to be able to exchange parts rapidly in case of failure or minor alterations in order to ensure maximum flexibility and availability of the equipment HP3230/HP3230LL.

HP3295 Tool Set for HP3230/HP3230LL

wrench 36 mm
wrench 17 mm
wrench 13 mm
wrench 10 mm
wrench 1/2"
allen wrench 4 mm
allen wrench 1/8"
anti-seize grease, 50 ml
various stainless steel – screws (mm)
capillary cutter



The tool set is recommended especially for countries where inch-type tools are common.

HP3296 Sample Holder Set for HP3220H/HP3220LLH/HP3230/HP3230LL

1 pair of tweezers (long, bended)
1 glass-dish for collecting drop liquid
2 cuvettes (rectangular shaped) for handling aggressive liquids
2 cuvettes (round shaped) for handling aggressive liquids
2 rock sample holder "normal sessile drop"
2 rock sample holder "captive bubble"



The sample holder set contains different glass containments that prevent the aggressive liquid from contaminating the complete view chamber. If the surrounding liquid is aggressive, it can be filled into a cuvette, which is placed inside the view chamber. The needle sticks inside the cuvette containing the surrounding liquid.

Rock sample holders are provided made of teflon for placing solid samples at different heights within the chamber. Special materials and design upon request.