



## USES :

TOP INDUSTRIE syringe pumps are specially designed for accuracy. They are able to work at constant flow rate from 0,4 mm<sup>3</sup>/min to 200 cm<sup>3</sup>/min. at constant pressure or with a preset volume. Pressure can reach up to 7000 bar. TOP INDUSTRIE high pressure syringe pumps are widely used in the fields of catalysis, rock mechanics and supercritical fluids. The pumps are controlled by a control and data acquisition system that runs with Labview. They can provide constant flow rate on large volumes without pulsation.

## FEATURES :

- Command driven pressure generation
- Volume : 3 cm<sup>3</sup> to 900 cm<sup>3</sup>
- Pressure : 200 to 7000 bar
- Flow rate : 0.1mm<sup>3</sup> to 200 cm<sup>3</sup>/mn
- Fluid : liquid, oil, water, corrosive medium, CO<sub>2</sub>, supercritical, H<sub>2</sub>S, diverse gases ...
- Built-in pump with Brushless servomotor
- Motor power : 330 W / 230V

- Speed: 1 to 4000 turns/min with 216/1 reduction.
- Material which comes into contact with fluids : stainless steel, hastelloy, inconel ...
- Security switches for end of run
- Rapid external connectivity ; RS 232 / 485, profibus ...
- Visualisation of end of run captors
- Visualisation of piston position

## OTHER OPTIONS :

- Temperature measurement
- Double jacket for heating/cooling
- Continous injection system obtained by coupling two pumps.

## SYSTEM CONTROL AND DATA ACQUISITION :

- Automatic control of pressure, constraints or displacement
- Control of pressure security, end of run
- Data Acquisition
- Management of measurement parameters.

## LOW PRESSURE :

MODEL	PHMP 200-200	PHMP 100-500	PHMP 50-500	PHMP 35-1000	PHMP 50-100
PRESSURE bar	200	500	500	1000	1000
PISTON Ø mm	46	34	24	20	24
STROKE mm	120	120	120	120	120
VOLUME ml	200	100	50	35	50
MINIMAL FLOW ml/mn	0,0015	0,00082	0,00041	0,00028	0,00041
MAXIMAL FLOW ml/mn	61.4	33.5	16.7	11.6	16.7



# HIGH PRESSURE SYRINGE PUMPS

## HIGH PRESSURE :

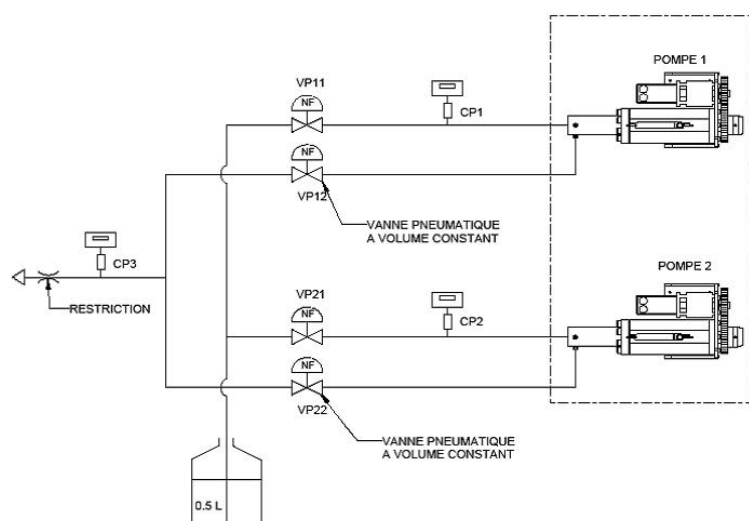
MODEL	PHMP 24-2000	PHMP 13-3000	PHMP 06-4000	PHMP 03-7000
PRESSURE bar	2000	3000	4000	7000
PISTON Ø mm	16	12	8	6
STROKE mm	120	120	120	120
VOLUME ml	24	13	6	3
MINIMAL FLOW ml/mn	0,00018	0,0001	0,00007	0,00003
MAXIMAL FLOW ml/mn	7,4	4,8	2,9	1,4
PRECISION FLOW	+/- 0.05%FS	+/- 0.05%FS	+/- 0.05%FS	+/- 0.05%FS
PRECISION PRESSURE	+/- 0.25%FS	+/- 0.25%FS	+/- 0.25%FS	+/- 0.25%FS

## HIGH VOLUMES :

MODEL	PHMP H900-400	PHMP H600-600	PHMP H350-1000	PHMP H250-1500
PRESSURE bar	400	600	1000	1500
PISTON Ø mm	80	65	50	42
STROKE mm	185	185	185	185
VOLUME ml	900	600	350	250
MINIMAL FLOW ml/mn	0,005	0,0032	0,002	0,0014
MAXIMAL FLOW ml/mn	60	40	24	17
PRECISION FLOW	+/- 0.05%FS	+/- 0.05%FS	+/- 0.05%FS	+/- 0.05%FS
PRECISION PRESSURE	+/- 0.25%FS	+/- 0.25%FS	+/- 0.25%FS	+/- 0.25%FS

## CONTINUOUS INJECTION :

PMHP pumps allow continuous injection without pulsation thanks to a double pump system. The injection is transferred from one pump to another progressively and automatically in order to ensure constant flow



In view of possible technological advances in our production methods, the products described in this manual are liable to be modified without prior notice.

