Electrical Parameters

The following parameters define a solenoid :

Tension (V) : volts
Frequency : 50 Hz, 60 Hz direct current etc.
Power consumption (w) : watts (VA) volt ampere

Intensity (A) : ampere at inrush holding
Resistance (R) : ohms
Impedance (Z) : ohms
Max. temperature of the coil
when continuously energized.

Alternating current

$U=Z \cdot I \quad I=\frac{U}{Z}$ $P = U \cdot I \cos \varphi$ (Watt)

$P = U \cdot I$ (VA)

$\cos \varphi = \frac{R}{Z}$

$Z = \sqrt{R^2+L^2\omega^2}$

L = inductance
ω= pulsation

Fig. 7

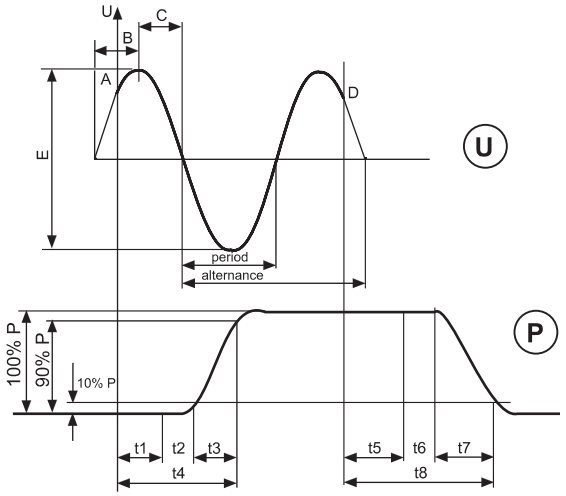
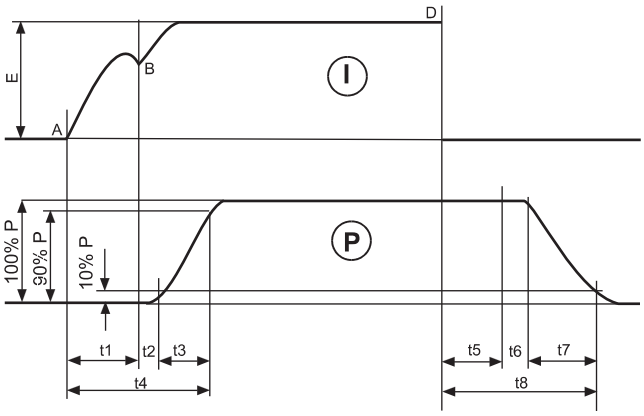


Fig. 7a



Response time

U	Voltage	E1	Plunger
I	Current	t2	Moving parts valve
E	Max. voltage	t3	Increase pressure
P	Pressure	t4	Response time at energizing
A	Switch ON	t5	t5 = t1, t6 = t2
B	Increasing current	t7	Pressure fall
C	Decreasing current	t8	Response time at de-energizing
D	Switch OFF		