

# Operating conditions for MAXIMATOR® - products

(Release: June 2012 Rev06)

The in following specified operating conditions apply to all MAXIMATOR® - products. Operating conditions which differ from these requirements have to be advised by the customer in writing before submitting an offer.

## Drive air quality

The drive air should correspond to ISO 8573-1, purity classes 2 / 4 / 3.

- Solid impurities: class 2
  - max. particles density with the particle size of  $0,1\mu < d \leq 0,5\mu = 100000/m^3$
  - max. particles density with the particle size of  $0,5\mu < d \leq 1,0\mu = 1000/m^3$
  - max. particles density with the particle size of  $1,0\mu < d \leq 5,0\mu = 10/m^3$
- Humidity content: class 4
  - Pressure dew point  $\leq 3^\circ C$
  - Residual moisture  $\leq 6g/m^3$
- Oil content: class 3
  - Total oil content  $\leq 1,0 mg/m^3$  detected at 1 bar absolutely and  $20^\circ C$

With the given compressed air quality an optimum lifetime of the seals and bushings is reached.

## Water quality

Besides the general characteristics of the water according to the requirements for potable water, the following recommendations can be given from practical experience to prevent corrosion and to reduce furring:

- ph-value 7 to 8,5
- the water has to be in balance of lime and carbon dioxide which means it shall not contain self aggressive iron carbon dioxide
- Carbonate hardness 6 to  $15^\circ dH$
- Chlorid content of  $< 100 mg/l Cl$  shall be reached
- Filter accuracy  $20 \mu m$
- Temperature  $14^\circ C$

## Power supply

- Nominal voltage: 230/400 V  $\sim \pm 10 \%$  according to DIN IEC 60038
- Power frequency: 48 bis 52 Hz
- Jumper during power failure: Failures or reductions up to 10 ms don't cause electrical disturbances of the system.

## Climatic environment

- Ambient temperature / Room temperature from  $4^\circ C$  to  $40^\circ C$  are ensured for the function of the system
- Air humidity (rel.):
  - Annual average 75 %
  - During 30 days 95 %
  - On the other days sometimes 85 % Switching cabinets, safety class IP 54 are available on request against additional price.

## Electric test

Systems and switching cabinets will be tested according to VDE0113 / DIN EN 60204 (if necessary VDE 0100 / IEC 60364).

## Test fluids

A special indication has to be made by the customer for test fluids which are specified or used by him. This holds also true for fluids which belong to an ex-safety class or explosive mixtures generated by a temperature control or if they have special characteristics or risks.

## Cycle times

The indicated times or cycles are based upon assumptions of our present state of knowledge. These times are indications for probable process duration but cannot be guaranteed by MAXIMATOR.

## Availability

1. "Availability" means that the system is ready during the promised availability period, with correct operation, to perform the functions described in the specification book and that the work parameters described can be called up.
2. The above availability commitment requires that (1) a maintenance contract is arranged with MAXIMATOR for the machine and (2) that the agreed maintenance steps are actually requested from MAXIMATOR and performed by MAXIMATOR.
3. Any reference to the availability commitment also requires that the system has been exclusively operated in accordance with our operating terms. In case of any doubt about the type and extent of operation performed, the operator must prove that qualified and inducted staff members have exclusively performed the operating steps described in the operating manual.
4. When calculating availability, the following times are to be applied as machine availability times: (1) maintenance periods within the availability time, (2) stoppages caused by incorrect operation, (3) stoppages caused by interruption to the medium supply (electricity, compressed air and water) and (4) stoppages caused by interruption to the supply of input materials.
5. If the operator refers to the availability commitment, he must prove with sealed and calibrated measuring equipment that the medium supply worked without interruptions and that the input material was available at all times in the required quantity. Furthermore, the operator is responsible for proving correct operation of the system. The operator must also prove the existence of a maintenance contract and the implementation of scheduled maintenance by MAXIMATOR.