

## SOFT-START THROTTLE, SERIES 31.1

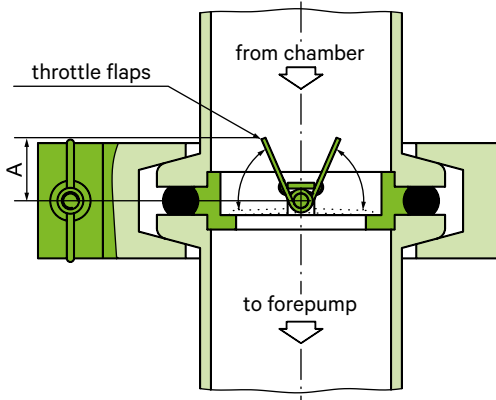
to reduce the gas flow in pump forelines.



Protection device against

- turbulence in piping and chambers
- particle contamination in vacuum systems
- movement of substrates caused by turbulence

### FUNCTIONAL PRINCIPLE



Soft-start throttle valves consist of two halves of throttle flaps supported on a common axis and maintained in the open position by a spring. The axis is held in an ISO-KF centering ring that is formed as a body with valve seat.

When mounting them between two ISO-KF flanges (instead of a centering ring), the open flaps must be orientated against the air flow in the vacuum line. When the roughing system goes into operation, a strong air flow occurs in the forevacuum line, which immediately closes the valve and reduces the pipe section by about 99%. When reaching a differential pressure of approx. 15 mbar, the valve opens abruptly and leaves the pipe section nearly unobstructed for further pumping.

### TECHNICAL DATA

| DN (nominal I.D.) |      | Dimensions |      | Open section  |      |                 |        |
|-------------------|------|------------|------|---------------|------|-----------------|--------|
|                   |      | A          |      | throttle open |      | throttle closed |        |
| mm                | inch | mm         | inch | mm            | inch | mm              | inch   |
| 16                | 5/8  | 6.20       | 0.24 | 90            | 0.14 | 4               | 0.006  |
| 25                | 1    | 9          | 0.35 | 200           | 0.31 | 5.50            | 0.0085 |
| 40                | 1½   | 14.30      | 0.56 | 570           | 0.88 | 8               | 0.012  |
| 50                | 2    | 19.90      | 0.78 | 1190          | 1.84 | 10.50           | 0.016  |

|                           |                               |  |
|---------------------------|-------------------------------|--|
| Behavior                  | Fast closing<br>Opening       | when pumping is started<br>at $\Delta p$ approx. 15 mbar <sup>1)</sup> |
| Temperature <sup>2)</sup> |                               | ≤ 150 °C   |
| Mounting position         |                               | any  |
| Lifetime                  |                               | 100 000 cycles   |
| Material                  | Centering ring<br>Inner parts | EN AW-6082 (3.2315)<br>AISI 304 (1.4301), AISI 303 (1.4305)            |
| Seal                      |                               | FKM (Viton®)   |

<sup>1)</sup> Depending on system configuration.

<sup>2)</sup> Maximum values: depending on operating conditions and sealing materials.

### ORDERING INFORMATION

| DN (nominal I.D.) |      | Ordering numbers |
|-------------------|------|------------------|
| mm                | inch |                  |
| 16                | 5/8  | 31124-KASO-0001  |
| 25                | 1    | 31128-KASO-0001  |
| 40                | 1½   | 31132-KASO-0001  |
| 50                | 2    | 31134-KASO-0001  |