

TECHNICAL INFO

VIALE SISTEMI PRODUCTS

FORCE COUPLE

The data reported in our catalogue are real, as we reckoned the factoring of the gearbox's efficiency. Said data must be equal or superior to the force couple necessary for the use.

As the gearmotor is subjected to a continuous load, it is opportune to act at the moment of the choice of the model, considering the correct coefficient (the service factor*) to be appraised on the real conditions of usage.

THE SERVICE FACTOR

PARAMETERS

The essential parameters in order to choose the right gearmotor are:

- Torque Nm
- Service factor* "f"
- Project torque = Nm x f
- Shaft speed [rpm]
- Gear train reduction ratio
- Gearmotor efficiency

The installation engineer/operator will have to consider also the following information:

- Type of vent or system to be driven
- Temperature
- Altitude
- Vent dimensions (length, weight, type)
- Rack's position (refer to the Technical Info on the optimal position for the racks) – setting of the gearmotor (this is important in order for the gearmotor to remain well lubricated).
- Vent's length and tube's thickness

SUGGESTIONS

| SERVICE FACTOR "f" | | | |
|--------------------|------|-------|--------|
| Duration h/d | <2 h | 2-8 h | 8-12 h |
| Starters/h <10 | 0,9 | 1 | 1,25 |
| Starters/h >10 | 1 | 1,25 | 1,5 |

DUTY SERVICE

Duty represents the relationship between the operating and rest times or the repeatable operation at different loads, including starting, electrical braking and no-load running. Basic duty type for motors designed according to IEC 72-1 is the S1 continuous.

S1: Continuous service: continuous operation at load over sufficient time for thermal equilibrium to be reached.

S2: Short-Time Service: allows a sufficient rest period between the constant load operations, in order for the motor to cool down at medium temperature.

S3: Intermittent Periodic Service*: sequence of identical duty cycles, each including a period of constant load operation and a rest period. Starting current doesn't affect the temperature rise. Maximum operating time to be specified.

(*) No thermal equilibrium reached during the load time.

ALL VIALE SISTEMI MOTORS ARE PER S1 STANDARD (CONTINUOUS SERVICE) THEREFORE THEY DO NOT NEED LONG DOWN TIME IN ORDER TO RETURN TO THE THERMAL BALANCE NECESSARY TO THEIR OPTIMAL FUNCTIONING.

INFLUENCE OF TEMPERATURE AND ALTITUDE ON MOTOR POWER

The powers indicated are meant for standard use at altitudes below 1000m above sea level and a room temperature ranging between +5° C and +40° C. For temperatures over 40° C and altitudes, ref. to Table [1] and [2], decreasing PN power by the indicated percentages.

| T°C | 40 | 45 | 50 | 55 | 60 |
|------|-----|----|----|----|----|
| PN % | 100 | 96 | 92 | 87 | 82 |

| Altitude | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 |
|----------|------|------|------|------|------|------|------|------|
| PN % | 100 | 98 | 95 | 92 | 88 | 84 | 80 | 74 |