# Bearing calculation description

## Flowchart

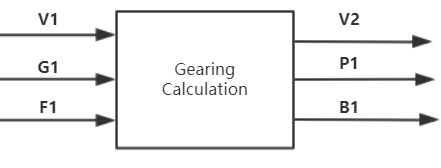


Figure Gearing component flowchart

Unique identifiers

|  |  |
| --- | --- |
| Unique ID | Long Name |
| V1 | Input from user-interface sub-system |
| G1 | Input from motor component |
| V2 | Output to user-interface sub-system |
| P1 | Output to propellor component |
| B1 | Output to bearing component |
| F1 | Feedback from propeller |

## Table of limits

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Interaction | Symbol | Min. | Max. | Unit |
| -> V1 | | | | |
| *Input from user-interface sub-system* | | | | |
| Gearing friction coefficient |  |  |  |  |
| Gearing transmission ratio |  | 0,1 | 10 | # |
| Gearing index circle pressure angle |  | 15 | 25 |  |
| Gearing index circle diameter of driving wheel |  | 0 | - | m |
| Gearing addendum radius |  | 0 | **-** | m |
| Gearing dedendum radius |  | 0 | - | m |
| Gearing tooth number |  | 0 | **-** | **-** |
| Gearing tooth width |  | 0 | R | m |
| Gearing modulus |  | 0 | - | - |
| Gearing immersion depth |  | 0 | R | m |
| Gearing lubricant viscosity |  | 0 | **-** | **-** |
| Gearing lubricant density |  | 0 | - |  |
| -> G1 | | | | |
| *Data from motor calculation* | | | | |
| Motor torque output |  | 0 | 3500 | Nm |
| Motor rotation speed ouput |  | 0 | 2200 | rpm |
| <- V2 | | | | |
| *Output to user-interface sub-system* | | | | |
| Power loss |  | 0 | 8400 | W |
| <- P1 | | | | |
| *Output to propellor component* | | | | |
| Gearing rotation speed output |  | 0 | 2200 | rpm |
| <- B1 | | | | |
| *Output to bearing component* | | | | |
| Gearing power output |  | 0 | 8400 | W |
| Gearing torque output |  | 0 | 3500 | Nm |
| Gearing rotation speed output |  | 0 | 2200 | rpm |
| <- F1 | | | | |
| Feedback from propeller | | | | |
| Rotation speed |  | 0 | 1000 | rpm |
| Torque |  | 0 | 50 | Nm |