

# Расчёт параметров двигателя

## Коэффициенты

| Параметр       | Значение |
|----------------|----------|
| g_c            | 0.86     |
| sigma_intake   | 0.99     |
| sigma_cc       | 0.955    |
| sigma_1        | 0.99     |
| sigma_2        | 0.935    |
| phi_c1         | 0.99     |
| phi_c2         | 0.99     |
| effk_gas       | 0.995    |
| effk_comp_full | 0.81     |
| effk_fan_full  | 0.92     |
| a              | 0.03     |
| effk_hpt_full  | 0.91     |
| effk_lpt_full  | 0.92     |
| ksi_take       | 0.1      |
| g_air_back     | 0.07     |
| z              | 0.5      |

## Скорости и диаметры

| Параметр | Значение |
|----------|----------|
| cB       | 220.0    |
| cBX      | 175.0    |
| cKND     | 180.0    |

|      |       |
|------|-------|
| cB2  | 204.0 |
| cK   | 145.0 |
| cG   | 155.0 |
| MHPT | 0.5   |
| MLPT | 0.4   |
| dB   | 0.475 |
| dHPC | 0.575 |

## Прочие параметры

| Параметр               | Значение |
|------------------------|----------|
| DcpDivHvyhHighPressure | 13.0     |
| DcpDivHvyhOther        | 3.0      |
| F1                     | 0.3      |
| P0                     | 101325.0 |
| T0                     | 288.0    |
| ro0                    | 1.225    |

## Предрасчёт

| Параметр   | Значение           |
|------------|--------------------|
| expected_P | 282958.29000000004 |
| m          | 5.3                |
| TGfull     | 1701.5428          |
| TKfull     | 869.2308255572699  |
| PiK_full   | 34.7929            |

## Params

| Параметр       | Значение             |
|----------------|----------------------|
| q_T            | 0.024523688093977633 |
| LB2            | 62902.69393222388    |
| TB2*           | 350.42298123800015   |
| PiB*           | 1.893472513740667    |
| LK             | 611173.8230676597    |
| LKND           | 108239.80521337978   |
| PiKND*         | 2.6829587093230014   |
| TKND*          | 395.21933893410727   |
| PiKVD*         | 12.968108632868      |
| LKVD_adiabatic | 419330.2385405399    |
| effk_HPC*      | 0.833767897287148    |

## BX-BX

| Параметр | Значение           |
|----------|--------------------|
| TBX*     | 288.0              |
| TBX      | 272.7560975609756  |
| PBX*     | 101325.0           |
| PBX      | 83763.2546928748   |
| roBX     | 1.0700330181381792 |

## B-B

| Параметр | Значение           |
|----------|--------------------|
| TB*      | 288.0              |
| TB       | 263.90841214534595 |

|     |                    |
|-----|--------------------|
| PB* | 100311.75          |
| PB  | 73886.38485787228  |
| roB | 0.9755045228994514 |

## КНД-КВД

| Параметр | Значение           |
|----------|--------------------|
| cpLPC*   | 1014.5316387556911 |
| kLPC*    | 1.394484562198368  |
| PKND*    | 269132.2833099316  |
| TKND     | 379.2513795515206  |
| PKND     | 232622.21171979638 |
| roKND    | 2.1371849863350825 |

## К-К

| Параметр | Значение           |
|----------|--------------------|
| cpHPC*   | 1116.6608238333279 |
| kHPC*    | 1.3459244931850078 |
| PK*      | 3490136.686575     |
| LKVD     | 502934.01785427995 |
| TK       | 858.4733065831889  |
| PK       | 3325061.6913856645 |
| roK      | 13.495563248592571 |

## Г-Г

| Параметр | Значение          |
|----------|-------------------|
| cpGas*   | 1297.970548404956 |

|        |                    |
|--------|--------------------|
| kGas*  | 1.2857437120775599 |
| RGas*  | 288.4610044635438  |
| PG*    | 3333080.535679125  |
| TG     | 1692.2879675118809 |
| PG     | 3252279.870487956  |
| roG    | 6.696251364427866  |
| tTGorr | 1659.2316432349385 |
| tcpMix | 1278.556337491833  |
| kMix   | 1.2912125883099592 |
| RMix   | 288.3581710029914  |

## ТВД-ТВД

| Параметр    | Значение           |
|-------------|--------------------|
| LTVD        | 505703.40744538925 |
| TTVD*       | 1258.6224790963622 |
| PiTVD*      | 3.85743520525805   |
| PTVD*       | 864066.4997135455  |
| kMixTVDfull | 1.3032507285876778 |
| RMixTVDfull | 288.3581710029914  |
| TTVD        | 1212.6551590335462 |
| PTVD        | 736386.4954225766  |
| kMixTVD     | 1.3055839354953795 |
| RMixTVD     | 288.3581710029914  |
| roTVD       | 2.1058926772230784 |
| cTVD        | 337.8369858169952  |

## ТНД-ТНД

| Параметр    | Значение           |
|-------------|--------------------|
| LTND        | 444055.87151025713 |
| TTND*       | 890.1640682814241  |
| PiTND*      | 4.958694615843902  |
| PTND*       | 174252.8158424399  |
| kMixTNDfull | 1.3287990043778393 |
| RMixTNDfull | 288.3581710029914  |
| TTND        | 855.0227400743182  |
| PTND        | 148076.63470596384 |
| kMixTND     | 1.3320755784060474 |
| RMixTND     | 288.3581710029914  |
| roTND       | 0.6005879414612658 |
| cTND        | 286.54273459681184 |

## C1-C1

| Параметр | Значение           |
|----------|--------------------|
| TC1*     | 890.1640682814241  |
| kMixC1   | 1.3287990043778393 |
| RMixC1   | 288.3581710029914  |
| cc1t     | 543.7943425297685  |
| cc1      | 538.3563991044708  |
| sigmaC1  | 0.9865904081353153 |
| GDF1     | 0.5425201426662686 |
| PiC1*    | 1.7025441666322774 |
| PiCr*    | 1.849876773629186  |
| cc1_docr | 499.7165023187573  |

|            |                     |
|------------|---------------------|
| PC1*       | 171916.1567007207   |
| PC1        | 101325.0            |
| kMixC1ave  | 1.359238789580879   |
| cpMixC1ave | 1090.8323026204723  |
| RMixC1ave  | 288.300539267228    |
| TC1        | 775.7025776885042   |
| roC1       | 0.45308107582016155 |

## B2-B2

| Параметр | Значение           |
|----------|--------------------|
| PB2*     | 170529.975         |
| cpB2     | 1009.8630757593426 |
| kB2      | 1.3970323144511378 |
| TB2      | 330.1201050440338  |
| PB2      | 138227.43188544194 |
| roB2     | 1.458949864515005  |

## C2-C2

| Параметр | Значение           |
|----------|--------------------|
| TC2*     | 350.42298123800015 |
| PC2*     | 159445.52662500003 |
| kC2      | 1.3982323074637448 |
| sigmaC2  | 0.986222700883188  |
| GDF2a    | 0.5287821436545032 |
| GDF2b    | 0.5361691058023356 |
| PiC2*    | 1.5955878916504318 |

|        |                    |
|--------|--------------------|
| Pi2Cr* | 1.8911379894351767 |
| cpC2   | 1007.6848731782733 |
| TC2    | 307.6287142452054  |
| PC2    | 101325.0           |
| roC2   | 1.147645730516547  |

## Основные параметры двигателя

| Параметр | Значение               |
|----------|------------------------|
| P_spec   | 325.9474313003409      |
| Gair     | 868.1102006883774      |
| Gair1    | 137.7952699505361      |
| Gair2    | 730.3149307378413      |
| Ggas     | 137.0406600731124      |
| C_spec   | 0.03869391575818246    |
| EngEff   | 0.3329355773730674     |
| NB2      | 45938776.562335715     |
| NKND     | 14914933.17877111      |
| NKVD     | 69301928.75753824      |
| NTVD     | 69301928.75753824      |
| NTND     | 60853709.74110683      |
| P_diff   | 16.25288558538592      |
| Ndiff    | -7.450580596923828e-09 |