# Racing Clutch System

motorsport

# RCS 140

The forged high-strength aluminium housing is the result of brilliant engineering, delivering a motorsport clutch that efficiently fulfils all your performance requirements. The housing design integrates heat ventilation supporting the high-performance friction stack and thus ideal for a wide range of applications. The star in our clutch program is equipped with an extremely wear resistant state of the art patented aluminium coating, providing high mileage capabilities. At the same time it contributes significantly favourable to your race car, in terms of mass and inertia, making it an extremely competitive drivetrain component.

**Designed and developed for:**

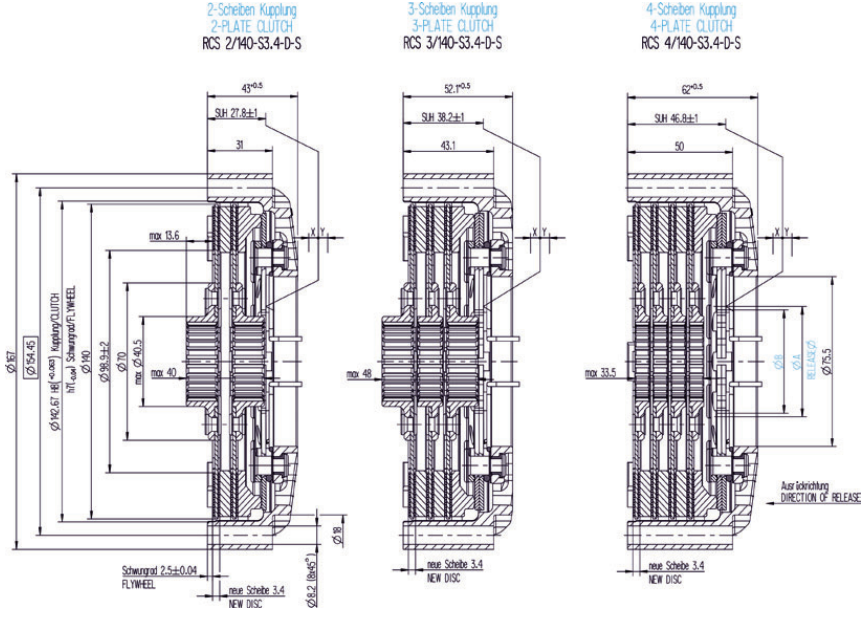
- Circuit racing
- Formula cars
- Touring cars
- Prototypes

**Advantages:**

A wide range of spring loads available.
Proven and tested in all motorsport classes.
Convertable to carbon/carbon and carbon/sinter.

# RCS 140-S3.4-D-S-XX

## Key Dimensions



**Selection of driven disc order number:**

- Select the suitable hub configuration
- The order number of the driven discs is defined with the ZF Code / spline size application
- A configuration example can be found on pages V15 & V16

## Technical Specifications

| Selection Criteria | | | Technical Specification | | | | | | Purchase Order Number | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clutch Torque [Nm] | Release ØA [mm] | Spring inner ØB [mm] | Release Force max. [N] | Wear Range [mm] | Release Travel X [mm] | Wear Travel Y [mm] | Mass [kg] | Inertia [kgm2] | Housing Part Number | Pressure Plate Part number | Intermediate Plate 003019000224 Qty. | Driven Disc* Qty. |
| **2-Disc Clutch** | | | | | | | | | | | | |
| 480 | 49 | 46 | 2,450 | 1.5 | 4.0 +0.5 | 4.5 | 2.11 | 0.006549 | 003072000293 | 003002002121 | 1 | 2 |
| 960 | 49 | 46 | 4,900 | 1.5 | 4.0 +0.5 | 4.5 | 2.29 | 0.007167 | 003072000291 | 003002001469 | 1 | 2 |
| **3-Disc Clutch** | | | | | | | | | | | | |
| 1,430 | 49 | 46 | 4,900 | 1.5 | 4.0 +0.5 | 4.5 | 3.00 | 0.009456 | 003072000290 | 003002002120 | 2 | 3 |
| 1,430 | 38 | 34 | 4,200 | 1.5 | 4.5 +0.5 | 5.0 | 3.07 | 0.009450 | 003072000096 | 003002002120 | 2 | 3 |
| **4-Disc Clutch** | | | | | | | | | | | | |
| 1,910 | 49 | 46 | 4,900 | 1.5 | 4.0 +0.5 | 4.5 | 3.57 | 0.011403 | 003072000170 | 003002003633 | 3 | 4 |
| 1,910 | 38 | 34 | 4,200 | 1.5 | 4.5 +0.5 | 5.0 | 3.64 | 0.011415 | 003072000171 | 003002003633 | 3 | 4 |

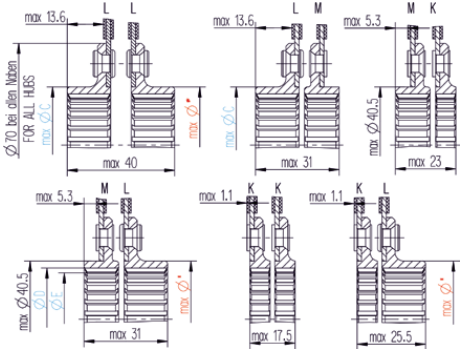
More clutch torque without safety margin!

*) The order number for driven discs, according to the required hub spline configuration and spline selection can be found on the following pages

# Hub Configuration
# RCS 140-S3.4

## 2-Disc Clutch

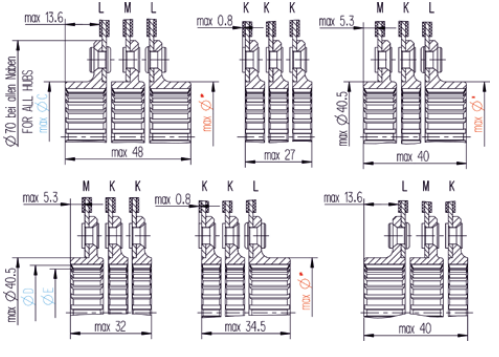
Flywheel




Gearbox

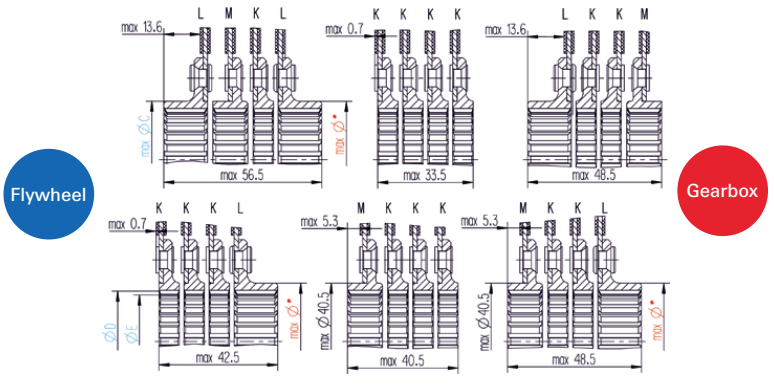
## 3-Disc Clutch

Flywheel

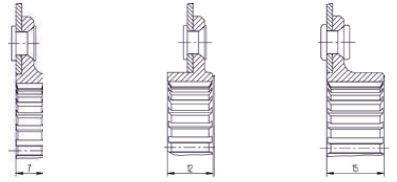



Gearbox

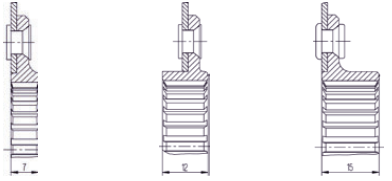
## 4-Disc Clutch



## Driven Disc Selection according to Hub Type
## RCS 140-S3.4



| ZF Code | Spline Basic | Spline Inch | No. of Teeth | Dim. C [mm] | Dim. D [mm] | Dim. E [mm] | K | M | L |
|---|---|---|---|---|---|---|---|---|---|
| 002 | 1 SAE 10C | 1" x 10T | 10 | 30.5 | 25.8 | 20.6 | 881864002143 | 881864001872 | 881864001841 |
| 003 | 1 1/8 SAE 10C | 1.12" x 10T | 10 | 34.5 | 28.9 | 23.4 | 881864002144 | 881864001873 | 881864001842 |
| 010 | A10 x 16 x 20 | | 10 | 26.5 | 20.0 | 16.0 | 881864002334 | 881864002335 | 881864002329 |
| 013 | A10 x 23 x 29 | 29mm x 10T | 10 | 34.5 | 29.0 | 23.0 | 881864002145 | 881864001874 | 881864001843 |
| 016 | A10 x 28 x 35 | 1.25" x 10T | 10 | 40.5 | 35.0 | 28 | 881864002146 | 881864001875 | 881864001844 |
| 035 | 24 x 2.5 | 0.8" x 24T | 24 | 25.5 | 20.4 | 18.27 | 881864002340 | 881864001876 | 881864001845 |
| 038 | 25 x 22 | 1" x 14T | 14 | 32.5 | 25.0 | 22.0 | 881864002341 | 881864001877 | 881864001846 |
| 045 | 24/48-20-30° | 0.875" x 20T | 20 | 28.5 | 22.58 | 20.109 | 881864001755 | 881864001823 | 881864001822 |
| 047 | 24/48-23-30° | 1" x 23T | 23 | 32.5 | 25.994 | 22.995 | 881864002342 | 881864001879 | 881864001848 |
| 065 | 32/64-20-30° | 17.3mm x 20T | 20 | 24.5 | 17.305 | 15.08 | 881864002343 | 881864002336 | 881864002330 |
| 075 | 25 x 23 | 25mm x 24T | 24 | 32.5 | 25.0 | 23.0 | 881864002344 | 881864001880 | 881864001849 |
| 076 | 24/48-22-30° | | 22 | 30.5 | 25.189 | 22.225 | 881864002345 | 881864001881 | 881864001850 |
| 081 | 20x18° | | 18 | 26.5 | 20.0 | 18.0 | 881864002346 | 881864001882 | 881864001851 |
| 091 | 24/48-23-30° | | 23 | 32.5 | 26.25 | 23.28 | 881864001752 | 881864001883 | 881864001852 |
| 092 | 23 x 3.14 | | 23 | 30.5 | 24.2 | 21.8 | 881864002347 | 881864001884 | 881864001853 |
| 094 | 24/48-17-30° | 20mm x 17T | 17 | 25.5 | 19.9 | 16.92 | 881864002348 | 881864001885 | 881864001854 |
| 522 | NA | 26mm x 24T | 24 | 32.5 | 26.0 | 24.0 | 881864002349 | 881864001886 | 881864001855 |
| 532 | 24/48-26-30°-5 | | 26 | 34.5 | 29.55 | 26.5 | 881864002350 | 881864002337 | 881864002331 |
| 575 | N24T-1-30° | 1" x 24T | 24 | 32.5 | 25.6 | 23.1 | 881864002351 | 881864001887 | 881864001856 |



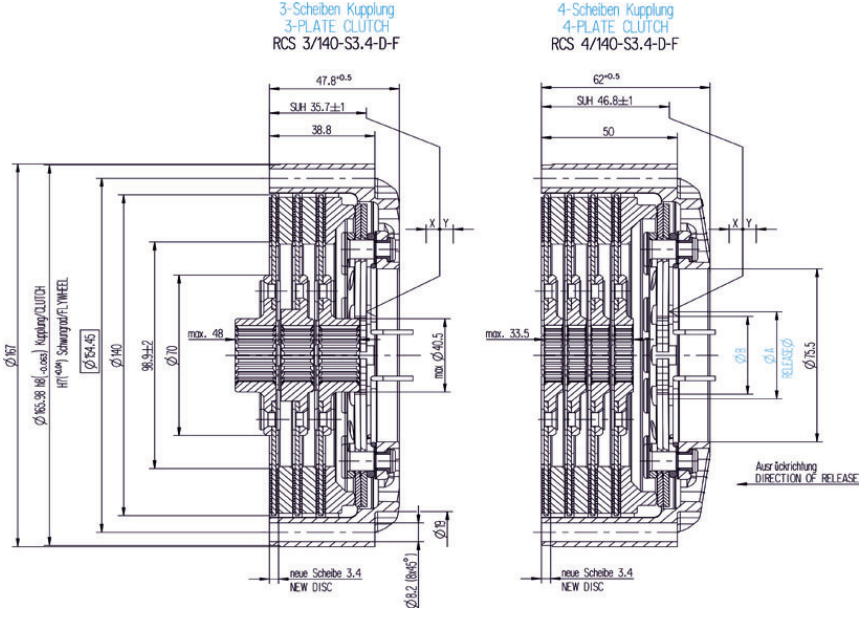
| ZF Code | Spline Basic | Spline Inch | No. of Teeth | Dim. C [mm] | Dim. D [mm] | Dim. E [mm] | K | M | L |
|---|---|---|---|---|---|---|---|---|---|
| 802 | 25,2-1-30-24 | | 24 | 32.5 | 25.2 | 22.6 | 881864002352 | 881864001888 | 881864001857 |
| 804 | 26x3.93 | | 26 | 40.5 | 35.2 | 32.6 | 881864002353 | 881864001889 | 881864001858 |
| 808 | 24/48-25-30° | | 25 | 36.5 | 28.5 | 25.4 | 881864002354 | 881864002338 | 881864002332 |
| 812 | 24/48-28-30° | | 28 | 34.5 | 30.5 | 28.1 | 881864002355 | 881864001890 | 881864001859 |
| 820 | 22x3.93 | | 22 | 34.5 | 29.0 | 26.5 | 881864002356 | 881864001891 | 881864001860 |
| 823 | 24/48-26-30° | | 26 | 34.5 | 28.68 | 23.83 | 881864002357 | 881864002339 | 881864002333 |
| 906 | 24/48-25-30° | | 25 | 34.5 | 28.04 | 24.87 | 881864001754 | 881864001892 | 881864001861 |
| 916 | 24/48-21-37.5° | | 21 | 30.5 | 24.308 | 21.387 | 881864002358 | 881864001893 | 881864001862 |
| 924 | 18.65 x 15.7 | | 14 | 28.5 | 18.65 | 15.7 | 881864002359 | 881864001894 | 881864001863 |
| 926 | 20/40-21-30° | | 21 | 34.5 | 28.5 | 25.4 | 881864002360 | 881864001895 | 881864001864 |
| 927 | 24/48-21-30° | 0.92" x 21T | 21 | 28.5 | 23.75 | 21.19 | 881864002361 | 881864001896 | 881864001865 |
| 931 | 24/48-26-30° | 1.16" x 26T | 26 | 34.5 | 28.68 | 26.49 | 881864001753 | 881864001897 | 881864001866 |
| 935 | 24/48-18-37.5° | | 18 | 26.5 | 21.01 | 18.22 | 881864002362 | 881864001898 | 881864001867 |
| 938 | 28 x 2.36 | | 28 | 28.5 | 22.1 | 20.3 | 881864002363 | 881864001899 | 881864001868 |
| 962 | 21.8 x 1 x 20 | | 20 | 28.5 | 21.8 | 19.12 | 881864002364 | 881864001900 | 881864001869 |
| 980 | 32/64-26-37.5° | | 26 | 28.5 | 21.91 | 20.0 | 881864002365 | 881864001901 | 881864001870 |

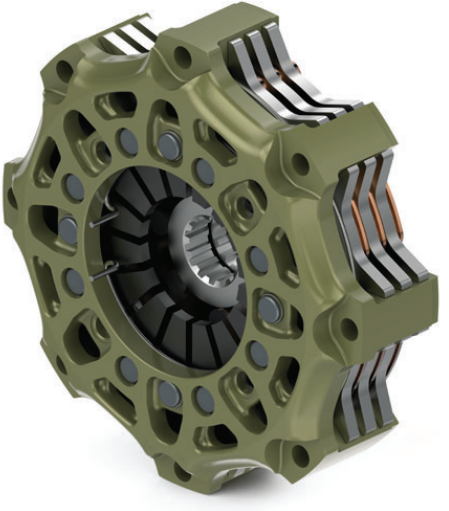
The customer is required to check the chosen configuration and that it can be assembled clash free.

*) All red labelled driven discs are not compatible to be used as the first disc on the gearbox / diaphragm spring side with a release diameter of 38 mm or 44 mm respectively.

# RCS 140-S3.4-D-F-XX

## Key Dimensions



**Selection of driven disc order number:**

- Select the suitable hub configuration
- The order number of the driven discs is defined with the ZF Code / spline size application
- A configuration example can be found on pages V15 & V16

# Technical Specifications

| Selection Criteria | | | Technical Specification | | | | | | Purchase Order Number | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clutch Torque [Nm] | Release ØA [mm] | Spring inner ØB [mm] | Release Force max. [N] | Wear Range [mm] | Release Travel X [mm] | Wear Travel Y [mm] | Mass [kg] | Inertia [kgm2] | Housing Part Number | Pressure Plate Part number | Intermediate Plate 003019000224 Qty. | Driven Disc* Qty. |
| **3-Disc Clutch** | | | | | | | | | | | | |
| 1,430 | 49 | 46 | 4,900 | 1.5 | 4.0 +0.5 | 4.5 | 2.94 | 0.009221 | 003072000298 | 003002002120 | 2 | 3 |
| 1,430 | 38 | 34 | 4,200 | 1.5 | 4.5 +0.5 | 5.0 | 3.01 | 0.009230 | 003072000308 | 003002002120 | 2 | 3 |
| **4-Disc Clutch** | | | | | | | | | | | | |
| 1,910 | 38 | 34 | 4,200 | 1.5 | 4.5 +0.5 | 5.0 | 3.64 | 0.011585 | 003072000307 | 003002003632 | 3 | 4 |

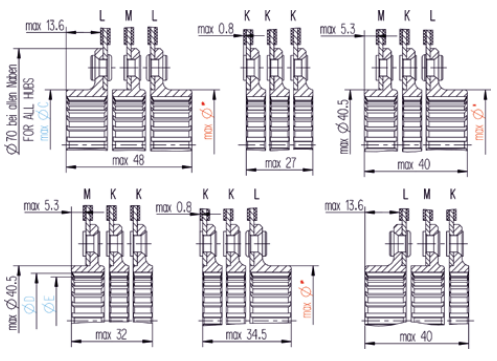
More clutch torque without safety margin!

*) The order number for driven discs, according to the required hub spline configuration and spline selection can be found on the following pages

# Hub Configuration
# RCS 140-S3.4

## 3-Disc Clutch

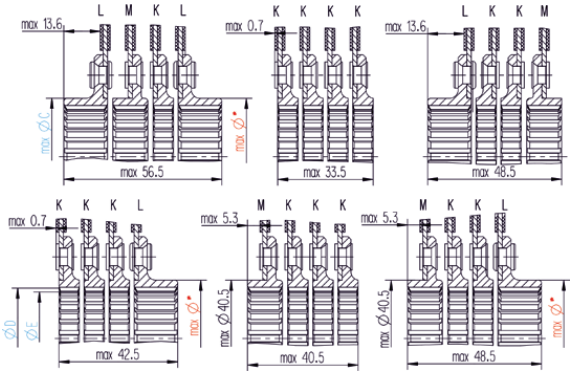
Flywheel




Gearbox

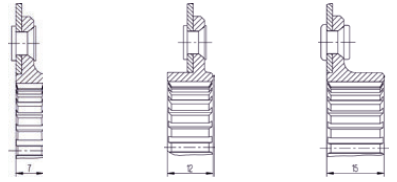
## 4-Disc Clutch

Flywheel

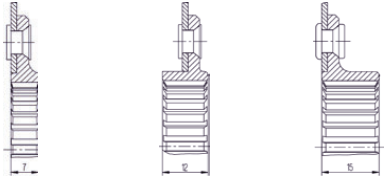



Gearbox

## Driven Disc Selection according to Hub Type
## RCS 140-S3.4



| ZF Code | Spline Basic | Spline Inch | No. of Teeth | Dim. C [mm] | Dim. D [mm] | Dim. E [mm] | K | M | L |
|---|---|---|---|---|---|---|---|---|---|
| 002 | 1 SAE 10C | 1" x 10T | 10 | 30.5 | 25.8 | 20.6 | 881864002143 | 881864001872 | 881864001841 |
| 003 | 1 1/8 SAE 10C | 1.12" x 10T | 10 | 34.5 | 28.9 | 23.4 | 881864002144 | 881864001873 | 881864001842 |
| 010 | A10 x 16 x 20 | | 10 | 26.5 | 20.0 | 16.0 | 881864002334 | 881864002335 | 881864002329 |
| 013 | A10 x 23 x 29 | 29mm x 10T | 10 | 34.5 | 29.0 | 23.0 | 881864002145 | 881864001874 | 881864001843 |
| 016 | A10 x 28 x 35 | 1.25" x 10T | 10 | 40.5 | 35.0 | 28 | 881864002146 | 881864001875 | 881864001844 |
| 035 | 24 x 2.5 | 0.8" x 24T | 24 | 25.5 | 20.4 | 18.27 | 881864002340 | 881864001876 | 881864001845 |
| 038 | 25 x 22 | 1" x 14T | 14 | 32.5 | 25.0 | 22.0 | 881864002341 | 881864001877 | 881864001846 |
| 045 | 24/48-20-30° | 0.875" x 20T | 20 | 28.5 | 22.58 | 20.109 | 881864001755 | 881864001823 | 881864001822 |
| 047 | 24/48-23-30° | 1" x 23T | 23 | 32.5 | 25.994 | 22.995 | 881864002342 | 881864001879 | 881864001848 |
| 065 | 32/64-20-30° | 17.3mm x 20T | 20 | 24.5 | 17.305 | 15.08 | 881864002343 | 881864002336 | 881864002330 |
| 075 | 25 x 23 | 25mm x 24T | 24 | 32.5 | 25.0 | 23.0 | 881864002344 | 881864001880 | 881864001849 |
| 076 | 24/48-22-30° | | 22 | 30.5 | 25.189 | 22.225 | 881864002345 | 881864001881 | 881864001850 |
| 081 | 20x18° | | 18 | 26.5 | 20.0 | 18.0 | 881864002346 | 881864001882 | 881864001851 |
| 091 | 24/48-23-30° | | 23 | 32.5 | 26.25 | 23.28 | 881864001752 | 881864001883 | 881864001852 |
| 092 | 23 x 3.14 | | 23 | 30.5 | 24.2 | 21.8 | 881864002347 | 881864001884 | 881864001853 |
| 094 | 24/48-17-30° | 20mm x 17T | 17 | 25.5 | 19.9 | 16.92 | 881864002348 | 881864001885 | 881864001854 |
| 522 | NA | 26mm x 24T | 24 | 32.5 | 26.0 | 24.0 | 881864002349 | 881864001886 | 881864001855 |
| 532 | 24/48-26-30°-5 | | 26 | 34.5 | 29.55 | 26.5 | 881864002350 | 881864002337 | 881864002331 |
| 575 | N24T-1-30° | 1" x 24T | 24 | 32.5 | 25.6 | 23.1 | 881864002351 | 881864001887 | 881864001856 |



| ZF Code | Spline Basic | Spline Inch | No. of Teeth | Dim. C [mm] | Dim. D [mm] | Dim. E [mm] | K | M | L |
|---|---|---|---|---|---|---|---|---|---|
| 802 | 25,2-1-30-24 | | 24 | 32.5 | 25.2 | 22.6 | 881864002352 | 881864001888 | 881864001857 |
| 804 | 26x3.93 | | 26 | 40.5 | 35.2 | 32.6 | 881864002353 | 881864001889 | 881864001858 |
| 808 | 24/48-25-30° | | 25 | 36.5 | 28.5 | 25.4 | 881864002354 | 881864002338 | 881864002332 |
| 812 | 24/48-28-30° | | 28 | 34.5 | 30.5 | 28.1 | 881864002355 | 881864001890 | 881864001859 |
| 820 | 22x3.93 | | 22 | 34.5 | 29.0 | 26.5 | 881864002356 | 881864001891 | 881864001860 |
| 823 | 24/48-26-30° | | 26 | 34.5 | 28.68 | 23.83 | 881864002357 | 881864002339 | 881864002333 |
| 906 | 24/48-25-30° | | 25 | 34.5 | 28.04 | 24.87 | 881864001754 | 881864001892 | 881864001861 |
| 916 | 24/48-21-37.5° | | 21 | 30.5 | 24.308 | 21.387 | 881864002358 | 881864001893 | 881864001862 |
| 924 | 18.65 x 15.7 | | 14 | 28.5 | 18.65 | 15.7 | 881864002359 | 881864001894 | 881864001863 |
| 926 | 20/40-21-30° | | 21 | 34.5 | 28.5 | 25.4 | 881864002360 | 881864001895 | 881864001864 |
| 927 | 24/48-21-30° | 0.92" x 21T | 21 | 28.5 | 23.75 | 21.19 | 881864002361 | 881864001896 | 881864001865 |
| 931 | 24/48-26-30° | 1.16" x 26T | 26 | 34.5 | 28.68 | 26.49 | 881864001753 | 881864001897 | 881864001866 |
| 935 | 24/48-18-37.5° | | 18 | 26.5 | 21.01 | 18.22 | 881864002362 | 881864001898 | 881864001867 |
| 938 | 28 x 2.36 | | 28 | 28.5 | 22.1 | 20.3 | 881864002363 | 881864001899 | 881864001868 |
| 962 | 21.8 x 1 x 20 | | 20 | 28.5 | 21.8 | 19.12 | 881864002364 | 881864001900 | 881864001869 |
| 980 | 32/64-26-37.5° | | 26 | 28.5 | 21.91 | 20.0 | 881864002365 | 881864001901 | 881864001870 |

The customer is required to check the chosen configuration and that it can be assembled clash free.

*) All red labelled driven discs are not compatible to be used as the first disc on the gearbox / diaphragm spring side with a release diameter of 38 mm or 44 mm respectively.