



PRODUCT CATALOGUE

Clutches



MOTORSPORT

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alcon 
specialist brakes & clutches

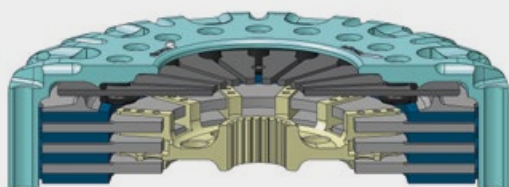
Alcon designs and manufactures a wide range of market leading and race winning clutches

The Alcon clutch range consists of two diameters: $\varnothing 140\text{mm}$ (5.5") and $\varnothing 184\text{mm}$ (7.25"). If your requirement falls outside this, then get in touch.

The diameter of a clutch is determined by the driven plate diameter. Smaller diameter clutches have less mass and inertia which allows faster engine acceleration and gear changes. Larger diameter clutches have a greater temperature resistance and will continue to function when smaller clutches will have overheated.

Number of driven plates

The number of driven plates required depends on the diameter of the clutch, the clamp load, the engine torque and the application requirements. More plates increase the clutch height but allow for greater temperature resistance and reduced wear per plate.



The Alcon range consists of three friction materials

Sintered

Sintered clutches are lightweight and have low inertia. They are generally used in lightweight circuit applications such as touring car or lower duty single seater. They also benefit from having a lower clutch height for the same number plates than the other friction materials.

Cerametallic

Cerametallic or "paddle" clutches have a greater temperature resistance than sintered. They are generally used in rally applications or circuit applications with numerous standing starts. It is possible to specify the number of pads per driven plate (between 4 and 6) to ensure the correct balance between low inertia and adequate thermal capacity.

Carbon

Carbon clutches are used in high end applications e.g. Rallycross, Formula 1, Endurance racing, etc. They have very high temperature resistance and offer a significant reduction in weight and inertia when compared to metallic clutches. By using pressure plate "shims" in increasing thickness to compensate for carbon pack wear, the clutch life can also be several times that of a metallic clutch. Alcon offer a recondition service for carbon clutches.



Clutch Terminology

On or off road, open wheel, closed cockpit, race, rally or any other form of motor sport, the world's great manufacturers trust Alcon to design, develop, supply and support the most technologically advanced and highest quality components for their competition cars.



We're committed to putting all of our motorsport expertise behind everything we do

Diaphragm spring

A belleville spring with release fingers on the inside diameter.

Pressure plate

The pressure plate has a fulcrum on one side that transmits the diaphragm spring load to the driven plate via its own friction face. Pressure plates are available with different fulcrum diameters (ratios). Increasing the ratio from High to Ultra High will result in an increase in clamp load and more travel required to release.

Floater plate

Sometimes known as "intermediate" plates, floater plates are used in multi plate clutches and are positioned between the driven plates.

Clamp load

The force applied by the diaphragm spring on to the driven plates via the pressure plate and floater plates. The diaphragm spring strength and the pressure plate ratio determine the clamp load.

Release load

The force required by the release bearing on the diaphragm spring fingers to disengage the clutch. The release load increases as the clutch wears.

Release bearing diameter

The diameter of the release bearing that is in contact with the diaphragm spring fingers. Increasing the release bearing diameter will increase the release load and reduce the travel required to release the clutch.

Torque capacity

This is the maximum recommended engine torque of the application in which the clutch is fitted.

Step flywheel location

A step flywheel has a 2.5mm step from the friction surface down to the mounting surface. The inside diameter of the clutch cover legs locate on this step.

Pot flywheel location

A pot - sometimes known as a "flat" - flywheel has the mounting surface and the friction surface on the same plane.

The outside diameter of the clutch cover legs locate on a register on the flywheel.

Set up height

This is the height from the cover assembly mounting face to the top of the diaphragm spring fingers at the release bearing fulcrum diameter.

Carbon / Carbon Clutches

Carbon/carbon clutches offer a significant reduction in weight and inertia and have a very high temperature resistance when compared to metallic clutches.

Each clutch is individually match machined and clamp load, set up height and release characteristic measurements recorded. The results of these tests are supplied with the clutch along with a build sheet.

It is important to save the build sheet as it includes thickness measurements of the carbon stack which will be required for clutch maintenance later on. Replacement copies of build sheets can be supplied by Alcon by quoting the serial number which is marked on one of the clutch cover legs.

Installation

Before installation onto the vehicle ensure:

- The clutch fits the flywheel correctly i.e. pot or step location, bolt PCD and diameter.
- The mounting bolts or studs are of the correct length.
- All parts are present and are fitted to the clutch in the correct order (see below).
- The carbon driven plates are free to move on the hub.
- The pressure plate and carbon floater plates are free to move on the cover legs.

The carbon plates must be installed in the clutch in the same position and orientation as when the clutch was originally built. One of the clutch legs is marked with a serial no and a triangular orientation mark "Λ". (figure1).

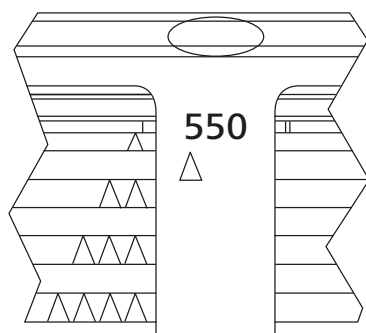


Figure 1

The floater plates are marked as "Λ", "ΛΛ", "ΛΛΛ" etc. Floater plate "Λ" is installed into the cover first next to the pressure plate and with its marking next to the marked cover leg. It must also be in line with the orientation mark. The other plates are fitted in numerical order either side of the driven plates with the highest number plate against the flywheel (see figure 1).

The driven plates are marked in the same way and must be fitted in the same sequence, i.e. "Λ" assembled into the cover first. Before fitting the last driven plate the hub must be fitted. The hub will have a "web" between the teeth to maintain hub engagement with the carbon pack. This "web" must be fitted towards the flywheel (see figure 2).

When fitting the clutch to the flywheel, a dummy input shaft should be used to centralise the clutch hub spline with the flywheel bearing.

When mounting the clutch onto the flywheel and inserting the mounting bolts/studs, ensure the bottom floater plate is not allowed to become trapped between the cover legs and the flywheel. As the clutch will be under load, tightening should be carried out half a turn at a time in a star like pattern. Recommended tightening torque for M8 and 5/16" is 22Nm (16 lbft).

When removing the dummy input shaft ensure that it moves freely before attempting to fit the gearbox. **When assembling the gearbox to the engine ensure the gearbox is not allowed to exert a bending load on the clutch hub as this could damage both the hub and the carbon plates.**

When the clutch is tightened down on the flywheel to the correct torque, the diaphragm fingers should be almost flat. If the fingers are not flat the flywheel may be incorrect for the clutch e.g. pot instead of flat or an incorrect pressure plate thickness may have been used.

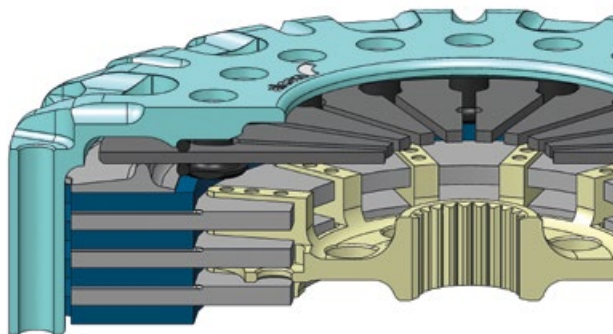


Figure 2

Carbon / Carbon Clutches



Installation

- Regular checks should be carried out for damage, excessive wear or contamination of the friction material by e.g. oil:
- Firstly clear out all dust from the clutch components using a vacuum cleaner and a brush.
- Carefully check the tightness of the spring retainer fixings but DO NOT break the Loctite.
- Check each carbon plate for damage and ensure they are all free to travel along the cover or hub.
- Carbon plate drive face wear should also be checked using feeler gauges. With the carbon floater plates in the clutch cover, measure the gap between the drive face and the clutch cover leg, (figure 3).
- With the carbon driven plates on the hub measure the gap between the drive face and the hub, (figure 4). These gaps should be no more than 1mm.
- The diaphragm spring should be checked for “blueing” that would indicate excessive temperatures have been experienced. A diaphragm spring exposed to excessive temperatures can lose clamp load and should be returned to Alcon for Inspection.
- The diaphragm spring fingers should also be inspected for wear from the release bearing. It is normal to have some wear over the life of the clutch. If the wear is uneven or there are signs of localised heat then check the release unit / bearing for problems. Spin the release bearing, if it feels dry or has more resistance than normal replace it.
- Check the hub spline for wear. Worn spline teeth can be a result of a misalignment between the input shaft and the crankshaft. This could include a worn flywheel bearing or even the bell housing flexing during use. Having minimal spline engagement for high torque applications can also result in excessive spline teeth wear.
- Carbon stack wear: Additional pressure plate “shims” can be purchased to compensate for wear of the carbon plates and restore the original torque capacity of the clutch. Using a micrometer, measure the thickness of each carbon plate in the centre of the friction area in 3 places 120° apart and calculate the mean value for each plate. These figures can then be added to the build sheet and then subtracted from the original as new figures to determine the carbon stack wear. As a general rule, the next thickness pressure plate should be used.

Important: Do not fit a thicker pressure plate than appropriate for the carbon stack height as this will cause the clutch to malfunction.

- Ensure the carbon plates are reinstalled into the clutch in their original positions. Do not swap complete carbon packs between clutches.

Removal

Remove the clutch from the flywheel by releasing the bolts/nuts progressively in a star like pattern.

Reconditioning and repair

Wear compensating pressure plate “shims” can be replaced by the user.

If any other components require replacement, the clutch will require resetting and characterisation using Alcon’s test rig and should be returned to Alcon. Clutches can be returned through your distributor, or if sent direct, contact Alcon first to obtain an RMA (Return Materials Authorization) number. The package must be identified with this number so it can be tracked through Alcon’s system.

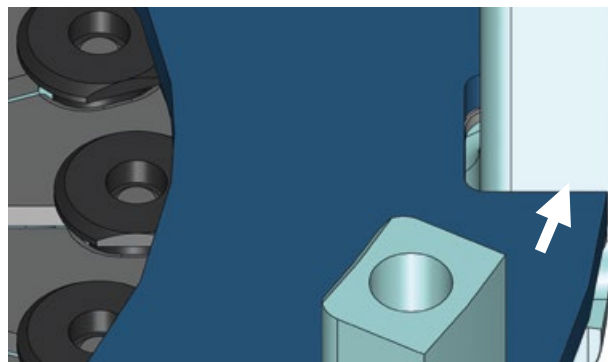


Figure 3

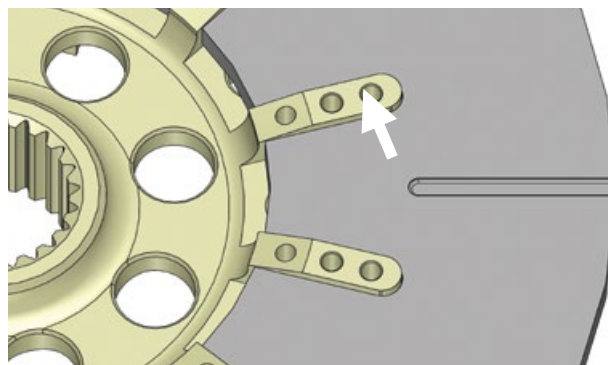


Figure 4

Clutches Range

APPLICATIONS LIST



Friction Material	Flywheel Details	Diameter	Max recommended torque capacity Nm (lbft)					
			OR Orange		SG Single Grey		DG Double Grey	
			HR	UHR	HR	UHR	HR	UHR
Sintered	8 Bolt fixing	ø140 2 plt	496 (366)	-	-	-	559 (411)	640 (472)
	8 Bolt fixing	ø140 3 plt	744 (549)	-	-	-	839 (617)	960 (708)
	8 Bolt fixing	ø140 4 plt	992 (732)	-	-	-	1280 (944)	-
	6 Bolt fixing	ø184 1 plt	220 (162)	290 (213)	277 (204)	365 (269)	334 (246)	440 (324)
	6 Bolt fixing	ø184 2 plt	440 (324)	580 (427)	554 (407)	730 (537)	668 (492)	880 (649)
	6 Bolt fixing	ø184 3 plt	660 (486)	870 (641)	831 (613)	1095 (808)	1002 (739)	1320 (973)
Cerametallic	6 Bolt fixing	ø184 1 plt	220 (162)	290 (213)	277 (204)	365 (269)	334 (246)	440 (324)
	6 Bolt fixing	ø184 2 plt	440 (324)	580 (427)	554 (407)	730 (537)	668 (492)	880 (649)
Carbon	12 Bolt fixing	ø184 2 plt	-	534 (394)	-	612 (451)	-	712 (525)
	12 Bolt fixing	ø184 3 plt	-	801 (591)	-	918 (677)	-	1068 (788)

Clutches

PART NUMBERS GUIDE



KK	S	140	2	H	OR	S	R	05
1	2	3	4	5	6	7	8	9

1. Clutch assembly

2. Type

C: Carbon
R: Rally (Cerametalllic)
S: Sintered

3. Diameter of driven plate

E.G: 140

4. Number of plates

E.G: 2

5. Pressure plate

H: High ratio
U: Ultra high ratio

6. Spring load designation

OR: Orange
SG: Single grey
DG: Double grey

7. Flywheel type

S: Step type (internal spigot)
P: Pot type (external spigot)

8. Type of hub drive

R: Rigid (sintered/cerametalllic)
D: Carbon hub 20 drive lugs
W: Carbon hub 12 drive lugs

9. Revision numbers

Please note: All measurements are given in metric (mm) unless otherwise stated in imperial (").

KKS1402

ø140 (5.5") Twin Plate Race Clutch

CIRCUIT RACING, GENERAL USE

Specification

Part Number	Dynamic Torque Capacity Nm (lbft)	Release Ratio	Assembly Weight incl. Driven Plates (kg)	"Wear in" Figure (mm)	Release Load @ New Ø38 Bearing (kN)	Release Load @ New Ø44 Bearing (kN)	Release Load @ New Ø52 Bearing (kN)
KKS1402HORSR05	496 (366)	High	2.29	0.8	2.3	2.6	2.9
KKS1402HDGSR05	640 (472)	High	2.29	0.8	2.9	3.2	3.5

Assembly Inertia: 0.00731kg² (including driven plates).

Flywheel Mounting: Step part numbers shown. For pot flywheels replace "SR" with "PR".

Driven Plate: 2.7mm thick, 8 pad.

Use Alcon part numbers ending in "X010" only, e.g. KDS550FA30X010.

See KDS550..., X010 for hub configuration options.



Replacement Parts

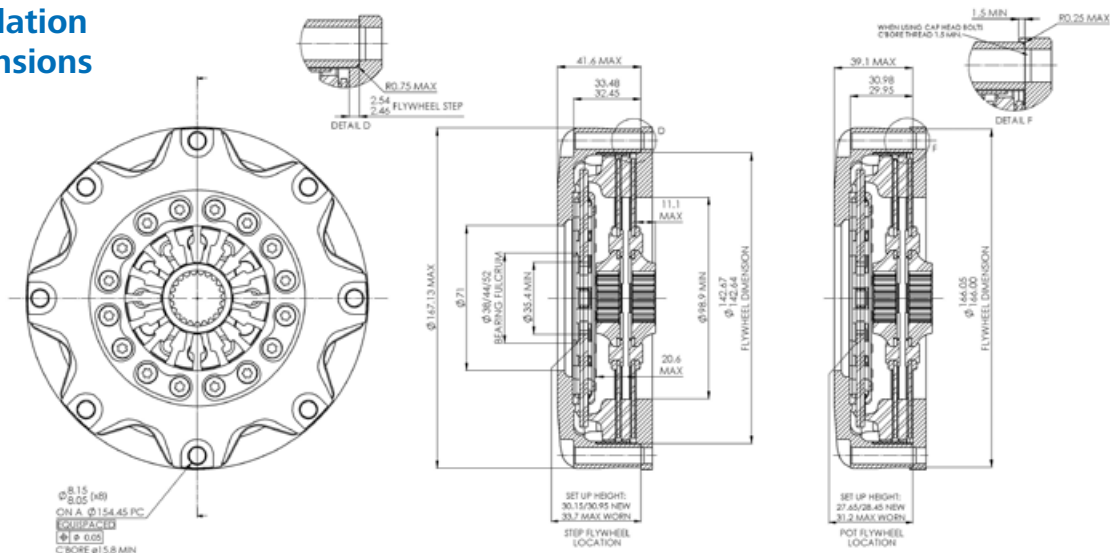
Pressure Plate Options			
Assembly Part Number	Part Number	Thickness (mm)	Fulcrum ø (mm)
KKS1402HORSR05	KPS140L08H5372	13.7	117
KKS1402HDGSR05	KPS140L08H5372	13.7	117

Plate Item	Part Number
Floater Plate	KPS140L08FX03
Wear Plates	KWP14019S2X003

Key Features & Benefits

- Topology optimised aluminium clutch cover design for low weight and inertia.
- High stiffness cover design for improved start line control.
- Open lug type design for improved cooling and dust removal.
- Durable hard anodised finish.
- Stainless steel wear plates fitted to cover legs.
- Pressure and intermediate plates optimised for inertia and thermal capacity.
- Step and Pot flywheel options available.

Installation Dimensions



KKS1403

ø140 (5.5") Triple Plate Race Clutch

CIRCUIT RACING, GENERAL USE

Specification

Part Number	Dynamic Torque Capacity Nm (lbft)	Release Ratio	Assembly Weight incl. Driven Plates (kg)	"Wear in" Figure (mm)	Release Load @ New Ø38 Bearing (kN)	Release Load @ New Ø44 Bearing (kN)	Release Load @ New Ø52 Bearing (kN)
KKS1403HORSR05	744 (549)	High	2.95	0.8	2.3	2.6	2.9
KKS1403HDGSR05	960 (708)	High	2.95	0.8	2.9	3.2	3.5

Assembly Inertia: 0.00936kgm² (including driven plates).

Flywheel Mounting: Step part numbers shown. For pot flywheels replace "SR" with "PR".

Driven Plate: 2.7mm thick, 8 pad.

Use Alcon part numbers ending in "X010" only, e.g. KDS550FA30X010.

See KDS550..., X010 for hub configuration options.



Replacement Parts

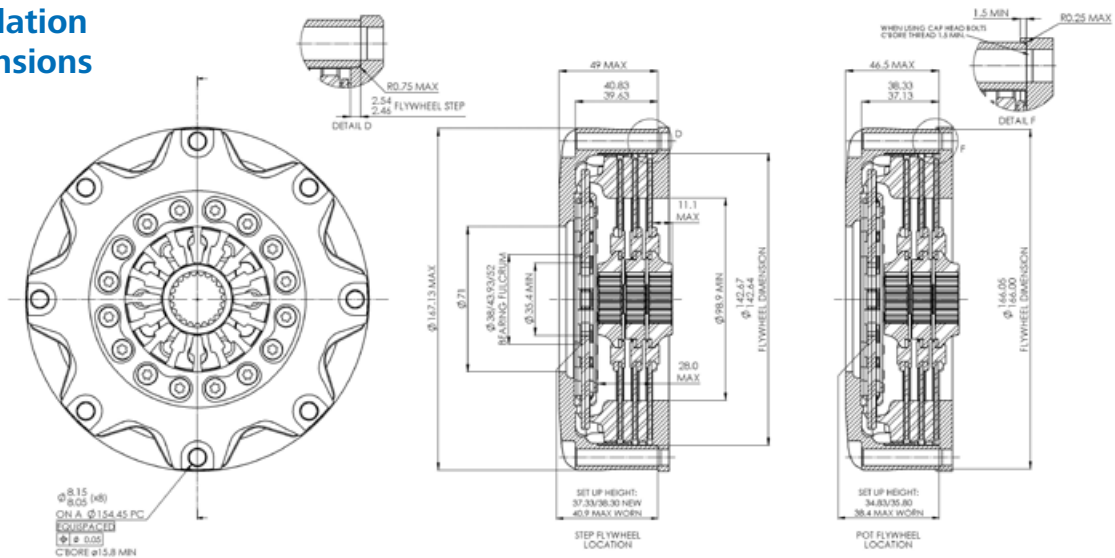
Pressure Plate Options			
Assembly Part Number	Part Number	Thickness (mm)	Fulcrum ø (mm)
KKS1403HORSR05	KPS140L08H5372	13.7	117
KKS1403HDGSR05	KPS140L08H5372	13.7	117

Plate Item	Part Number
Floater Plate	KPS140L08FX03
Wear Plates	KWP14019S2X002

Key Features & Benefits

- Topology optimised aluminium clutch cover design for low weight and inertia.
- High stiffness cover design for improved start line control.
- Open lug type design for improved cooling and dust removal.
- Durable hard anodised finish.
- Stainless steel wear plates fitted to cover legs
- Pressure and intermediate plates optimised for inertia and thermal capacity.
- Step and Pot flywheel options available.

Installation Dimensions



KKS1404

ø140 (5.5") Four Plate Race Clutch

CIRCUIT RACING, GENERAL USE, ENDURANCE

Specification

Part Number	Dynamic Torque Capacity Nm (lbft)	Release Ratio	Assembly Weight incl. Driven Plates (kg)	"Wear in" Figure (mm)	Release Load @ New Ø38 Bearing (kN)	Release Load @ New Ø44 Bearing (kN)	Release Load @ New Ø52 Bearing (kN)
KKS1404HORSR05	992 (732)	High	3.5	0.8	2.3	2.6	2.9
KKS1404HDGSR05	1280 (944)	High	3.5	0.8	2.9	3.2	3.5

Assembly Inertia: 0.01145kg² (including driven plates).

Flywheel Mounting: Step part numbers shown. For pot flywheels replace "SR" with "PR".

Driven Plate: 2.7mm thick, 8 pad.

Use Alcon part numbers ending in "X010" only, e.g. KDS550FA30X010.

See KDS550..., X010 for hub configuration options.



Replacement Parts

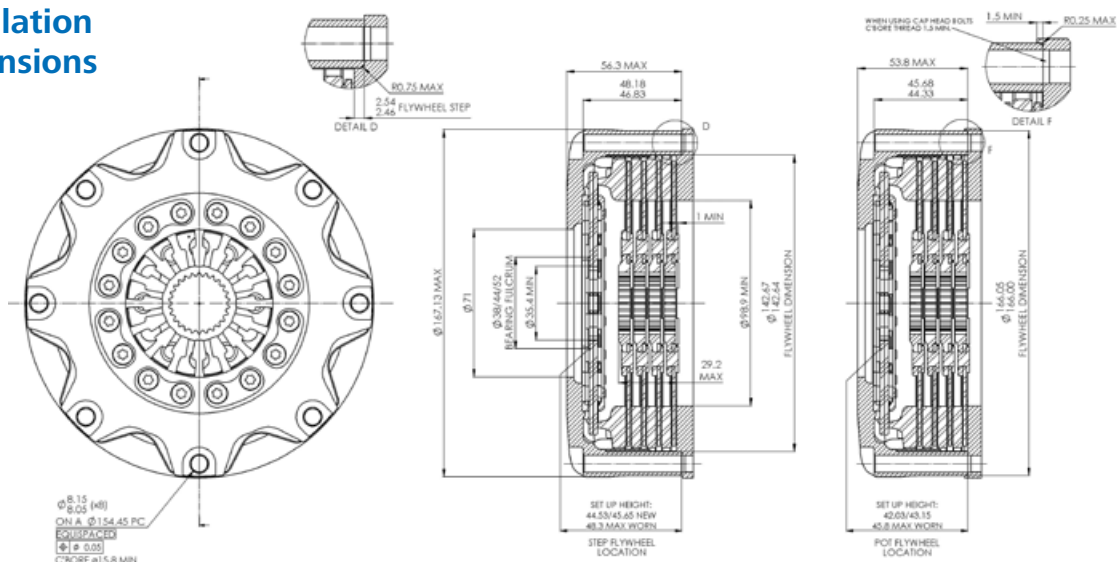
Pressure Plate Options			
Assembly Part Number	Part Number	Thickness (mm)	Fulcrum ø (mm)
KKS1404HORSR05	KPS140L08H5372	13.7	117
KKS1404HDGSR05	KPS140L08H5372	13.7	117

Plate Item	Part Number
Floater Plate	KPS140L08FX03
Wear Plates	KWP14019S4X001

Key Features & Benefits

- Topology optimised aluminium clutch cover design for low weight and inertia.
- High stiffness cover design for improved start line control.
- Open lug type design for improved cooling and dust removal.
- Durable hard anodised finish.
- Stainless steel wear plates fitted to cover legs
- Pressure and intermediate plates optimised for inertia and thermal capacity.
- Step and Pot flywheel options available.

Installation Dimensions



KKS1841

ø184 (7.25") Single Plate Race Clutch

CIRCUIT RACING

Specification

Part Number	Dynamic Torque Capacity Nm (lbf)	Release Ratio	Assembly Weight incl. Driven Plates (kg)	"Wear in" Figure (mm)	Release Load @ New Ø44 Bearing (kN)	Release Load @ New Ø52 Bearing (kN)
KKS1841UDGSR05	440 (324)	Ultra High	2.3	0.75	3.2	3.4
KKS1841USGSR05	365 (269)	Ultra High	2.3	0.75	2.6	2.8
KKS1841UORSR05	290 (214)	Ultra High	2.3	0.75	2.1	2.25
KKS1841HDGSR05	334 (246)	High	2.3	0.75	3.2	3.4
KKS1841HSGSR05	277 (204)	High	2.3	0.75	2.6	2.8
KKS1841HORSR05	220 (162)	High	2.3	0.75	2.1	2.25

Assembly Inertia: 0.01246kgm² (including driven plate).

Flywheel Mounting: Step part numbers shown. Pot mounting unavailable.

Driven Plate: 2.63mm thick, 6 slot.

Use Alcon KDS720F... part numbers.

See KDS720 page for spline options.



Key Features & Benefits

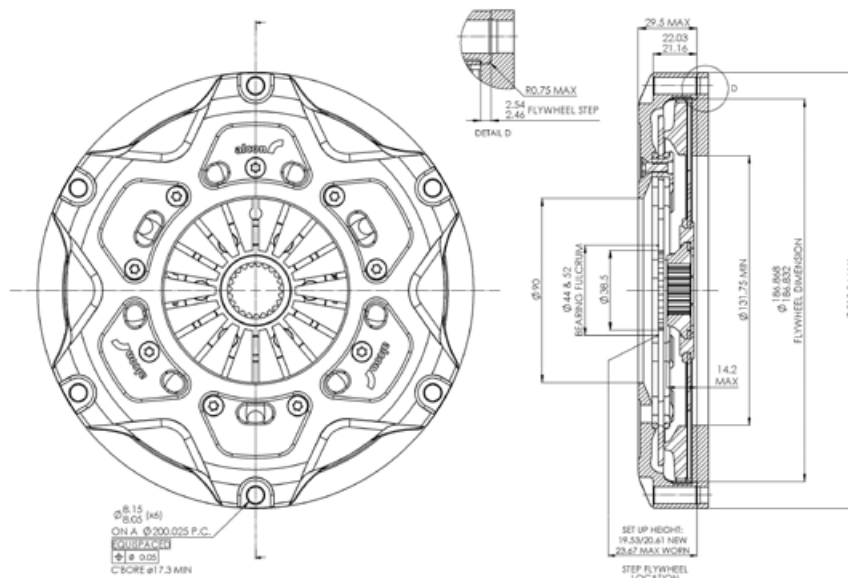
- Topology optimised aluminium clutch cover design for low weight, low inertia and maximum stiffness.
- Open lug type design for improved cooling and dust removal.
- Durable hard anodised finish.
- Stainless steel wear plates fitted to cover legs.
- Pressure plate optimised for inertia and thermal capacity.
- Interchangeable with other manufacturers products.
- Step flywheel mounting

Replacement Parts

Pressure Plate Options				
Assembly Part Number	Part Number	Ratio	Thickness (mm)	Fulcrum ø (mm)
KKS1841U...	KPS184L6U4442	Ultra High	11.25	152
KKS1841H...	KPS184L6H4442	High	11.25	157

Plate Item	Part Number
Floater Plate	None
Wear Plates	KWP18425S1X005

Installation Dimensions



KKS1843

ø184 (7.25") Triple Plate Race Clutch

CIRCUIT RACING (HIGH TORQUE ENGINES)

Specification

Part Number	Dynamic Torque Capacity Nm (lbft)	Release Ratio	Assembly Weight incl. Driven Plates (kg)	"Wear in" Figure (mm)	Release Load @ New Ø44 Bearing (kN)	Release Load @ New Ø52 Bearing (kN)
KKS1843UDGSR05	1320 (973)	Ultra High	4.5	0.75	3.2	3.4
KKS1843USGSR05	1095 (808)	Ultra High	4.5	0.75	2.6	2.8
KKS1843UORSR05	870 (642)	Ultra High	4.5	0.75	2.1	2.25
KKS1843HDGSR05	1002 (739)	High	4.5	1.00	3.2	3.4
KKS1843HSGSR05	831 (613)	High	4.5	1.00	2.6	2.8
KKS1843HORSR05	660 (487)	High	4.5	1.00	2.1	2.25

Assembly Inertia: 0.02426kgm² (including driven plates).

Flywheel Mounting: Step part numbers shown. For pot flywheels replace "SR" with "PR".

Driven Plate: 2.63mm thick, 6 slot.

Use Alcon KDS720F... part numbers.

See KDS720 page for hub configuration options.

Replacement Parts

Pressure Plate Options				
Assembly Part Number	Part Number	Ratio	Thickness (mm)	Fulcrum ø (mm)
KKS1843U...	KPS184L6U4442	Ultra High	11.25	152
KKS1843H...	KPS184L6H4442	High	11.25	157

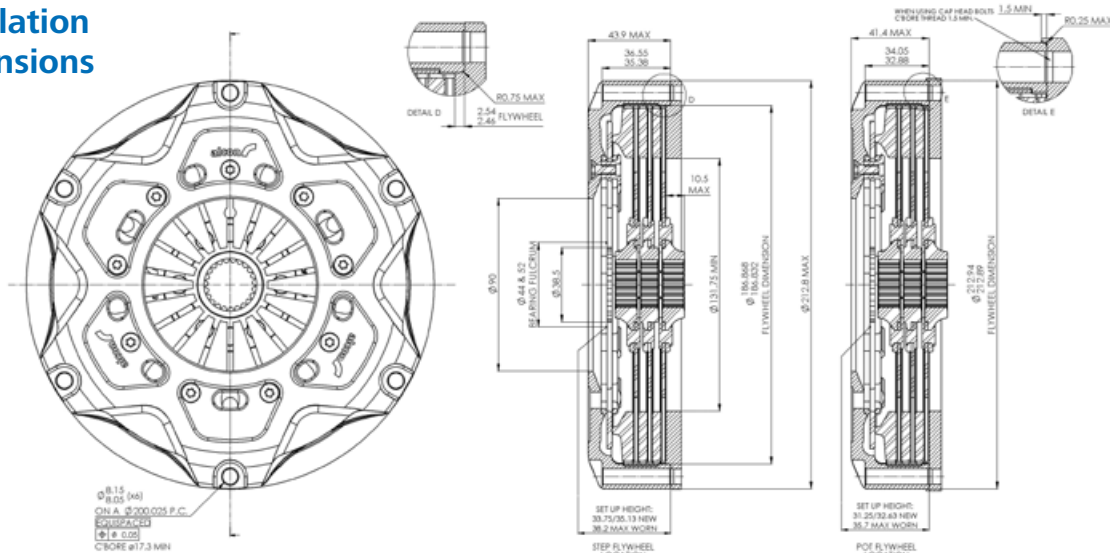
Plate Item	Part Number
Floater Plate	KPS184L6FX004
Wear Plates	KWP1842553X005



Key Features & Benefits

- Topology optimised aluminium clutch cover design for low weight, low inertia and maximum stiffness.
- Open lug type design for improved cooling and dust removal.
- Durable hard anodised finish.
- Stainless steel wear plates fitted to cover legs.
- Pressure plate optimised for inertia and thermal capacity.
- Interchangeable with other manufacturers products.
- Step and Pot flywheel options available.

Installation Dimensions



KKSH1842

ø184 (7.25") Twin Plate Heavy Duty Race Clutch

HEAVY DUTY CIRCUIT RACING

Specification

Part Number	Dynamic Torque Capacity Nm (lbft)	Release Ratio	Assembly Weight incl. Driven Plates (kg)	"Wear in" Figure (mm)	Release Load @ New Ø44 Bearing (kN)	Release Load @ New Ø52 Bearing (kN)
KKSH1842UDGSR05	880 (649)	Ultra High	3.6	0.75	3.2	3.4
KKSH1842USGSR05	730 (537)	Ultra High	3.6	0.75	2.6	2.8
KKSH1842UORSR05	580 (427)	Ultra High	3.6	0.75	2.1	2.25

Assembly Inertia: 0.01963kg² (including driven plates).

Flywheel Mounting: Step part numbers shown. For pot flywheels replace "SR" with "PR".

Driven Plate: 2.63mm thick, 6 slot.

Use Alcon KDS720F... part numbers.

See KDS720 page for hub configuration options.



Replacement Parts

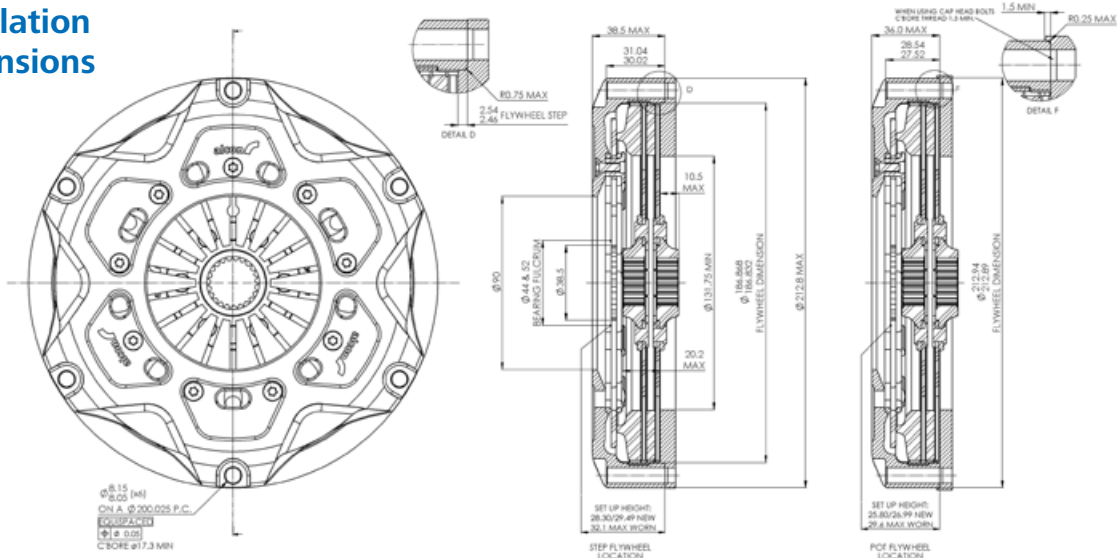
Pressure Plate Options				
Assembly Part Number	Part Number	Ratio	Thickness (mm)	Fulcrum ø (mm)
KKSH1842U...	KPS184L6U5102	Ultra High	13	152

Plate Item	Part Number
Floater Plate	KPS184L6FX004
Wear Plates	KWP18425S2X005

Key Features & Benefits

- Increased pressure plate mass for increased thermal capacity in heavy duty applications.
- Topology optimised aluminium clutch cover design for low weight, low inertia and maximum stiffness.
- Open lug type design for improved cooling and dust removal.
- Durable hard anodised finish.
- Stainless steel wear plates fitted to cover legs.
- Pressure and intermediate plate optimised for inertia and thermal capacity.
- Interchangeable with other manufacturers products.
- Step and Pot flywheel options available.

Installation Dimensions



KKSH1843

ø184 (7.25") Triple Plate Heavy Duty Race Clutch

HEAVY DUTY CIRCUIT RACING

Specification

Part Number	Dynamic Torque Capacity Nm (lbf ²)	Release Ratio	Assembly Weight incl. Driven Plates (kg)	"Wear in" Figure (mm)	Release Load @ New Ø44 Bearing (kN)	Release Load @ New Ø52 Bearing (kN)
KKSH1843UDGSR05	1320 (973)	Ultra High	4.7	0.75	3.2	3.4
KKSH1843USGSR05	1095 (808)	Ultra High	4.7	0.75	2.6	2.8
KKSH1843UORSR05	870 (642)	Ultra High	4.7	0.75	2.1	2.25

Assembly Inertia: 0.02554kg² (including driven plates).

Flywheel Mounting: Step part numbers shown. For pot flywheels replace "SR" with "PR".

Driven Plate: 2.63mm thick, 6 slot.

Use Alcon KDS720F... part numbers.

See KDS720 page for hub configuration options.



Replacement Parts

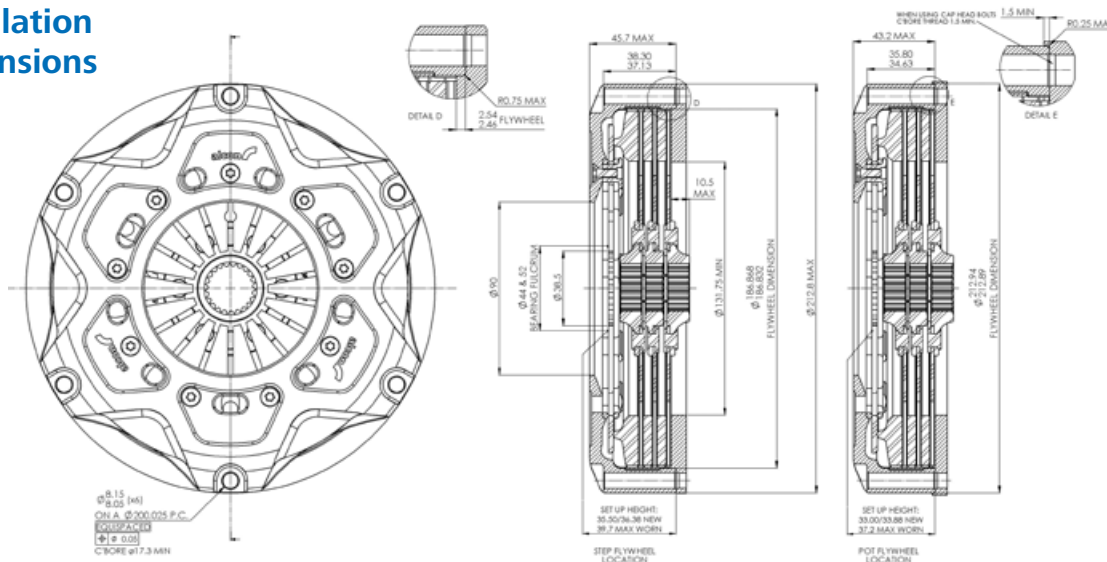
Pressure Plate Options				
Assembly Part Number	Part Number	Ratio	Thickness (mm)	Fulcrum ø (mm)
KKSH1843U...	KPS184L6U5102	Ultra High	13	152

Plate Item	Part Number
Floater Plate	KPS184L6FX004
Wear Plates	KWP18425S3X005

Key Features & Benefits

- Increased pressure plate mass for increased thermal capacity in heavy duty applications.
- Topology optimised aluminium clutch cover design for low weight, low inertia and maximum stiffness.
- Open lug type design for improved cooling and dust removal.
- Durable hard anodised finish.
- Stainless steel wear plates fitted to cover legs.
- Pressure and intermediate plates optimised for inertia and thermal capacity.
- Interchangeable with other manufacturers products.
- Step and Pot flywheel options available.

Installation Dimensions



KKR1842

ø184 (7.25") Twin Plate Race Clutch

GENERAL RACE, TCR, RALLY AND HILL CLIMB

Specification

Part Number	Dynamic Torque Capacity Nm (lbft)	Release Ratio	Assembly Weight incl. Driven Plates (kg)	"Wear in" Figure (mm)	Release Load @ New Ø44 Bearing (kN)	Release Load @ New Ø52 Bearing (kN)
KKR1842UDGSR05	880 (649)	Ultra High	3.55	0.75	3.2	3.4
KKR1842USGSR05	730 (537)	Ultra High	3.55	0.75	2.6	2.8
KKR1842UORSR05	580 (427)	Ultra High	3.55	0.75	2.1	2.25
KKR1842HDGSR05	668 (492)	High	3.55	1.00	3.2	3.4
KKR1842HSGSR05	554 (407)	High	3.55	1.00	2.6	2.8
KKR1842HORSR05	440 (324)	High	3.55	1.00	2.1	2.25

Assembly Inertia: 0.01952kgm² (including 4 pad driven plates).

Flywheel Mounting: Step part numbers shown. For pot flywheels replace "SR" with "PR".

Driven Plate: 7.2mm thick, 4 pad.

See KDC720 page for hub configuration options.

Replacement Parts

Pressure Plate Options				
Assembly Part Number	Part Number	Ratio	Thickness (mm)	Fulcrum ø (mm)
KKR1842U...	KPS184L6U5112	Ultra High	13	152
KKR1842H...	KPS184L6H5112	High	13	157

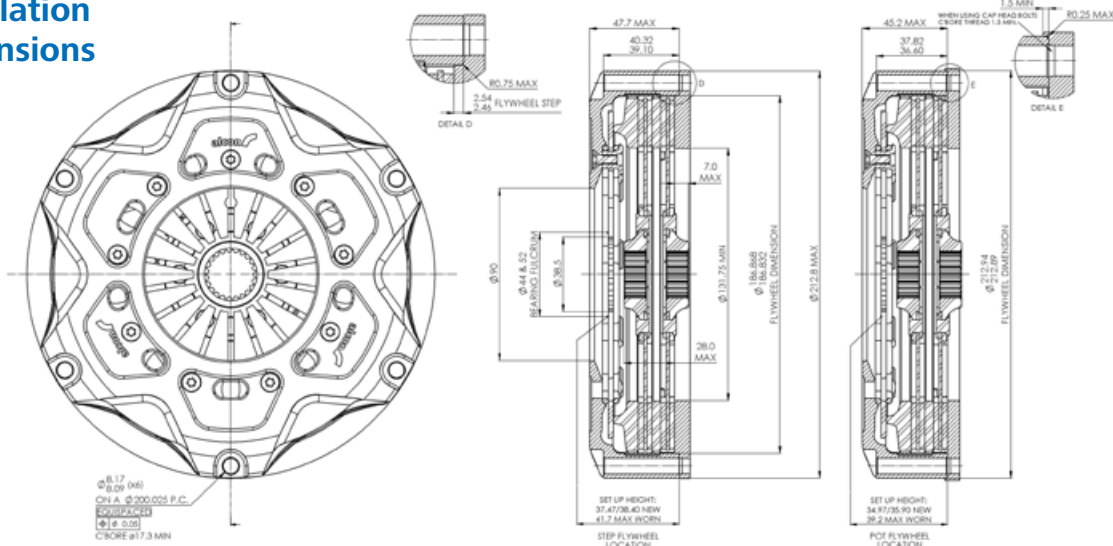
Plate Item	Part Number
Floater Plate	KPS184L6FX004
Wear Plates	KWP1842553X005



Key Features & Benefits

- Topology optimised aluminium clutch cover design for low weight, low inertia and maximum stiffness.
- Open lug type design for improved cooling and dust removal.
- Durable hard anodised finish.
- Stainless steel wear plates fitted to cover legs.
- Pressure and intermediate plate optimised for inertia and thermal capacity.
- Interchangeable with other manufacturers products.
- Step and Pot flywheel options available.

Installation Dimensions



KKR1842 LH

ø184 (7.25") Twin Plate Race Clutch (Low Height)

52000 APPLICATIONS AND OTHER RALLY

Specification

Part Number	Dynamic Torque Capacity Nm (lbft)	Release Ratio	Assembly Weight incl. Driven Plates (kg)	"Wear in" Figure (mm)	Release Load @ New Ø44 Bearing (kN)	Release Load @ New Ø52 Bearing (kN)
KKR1842HDGSR07	668 (492)	High	3.8	1.00	3.2	3.4
KKR1842HSGSR07	554 (407)	High	3.8	1.00	2.6	2.8
KKR1842HORSR07	440 (324)	High	3.8	1.00	2.1	2.25

Assembly Inertia: 0.02121kg² (including 6 pad driven plates).
 Flywheel Mounting: Step part numbers shown. For pot flywheels replace "SR" with "PR".
 Driven Plate: 6.8mm thick, 6 pad.
 See KDC720R page for hub configuration options.



Replacement Parts

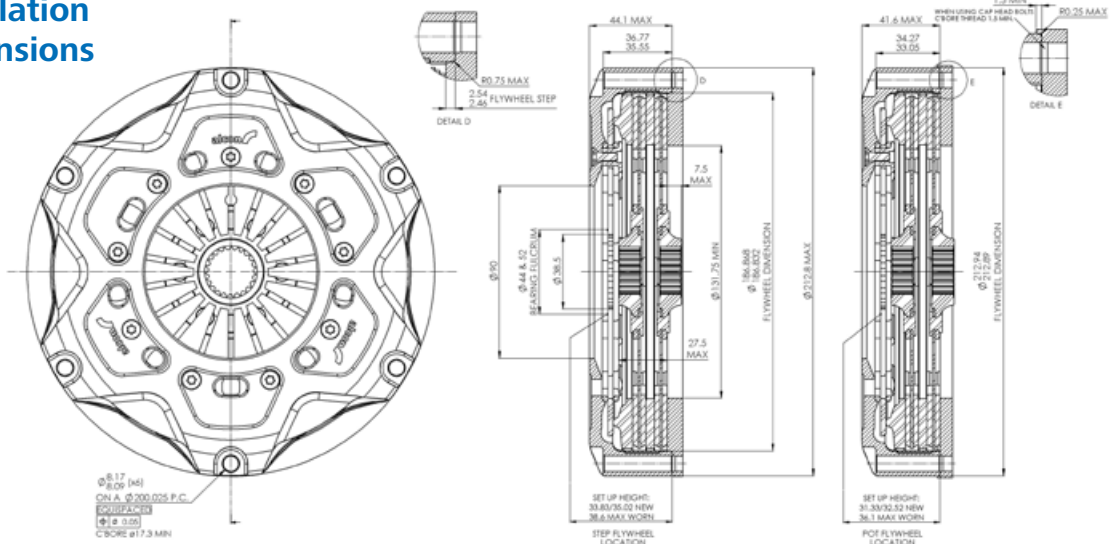
Pressure Plate Options				
Assembly Part Number	Part Number	Ratio	Thickness (mm)	Fulcrum ø (mm)
KKR1842H...	KPS184L6H403	High	10.25	157

Plate Item	Part Number
Floater Plate	KPS184L6FX004
Wear Plates	KWP18425S3X005

Key Features & Benefits

- Low height design using 6.8mm thick 6 pad driven plates.
- Topology optimised aluminium clutch cover design for low weight, low inertia and maximum stiffness.
- Open lug type design for improved cooling and dust removal.
- Durable hard anodised finish.
- Stainless steel wear plates fitted to cover legs
- Pressure and intermediate plate optimised for inertia and thermal capacity.
- Interchangeable with other manufacturers products.
- Step and Pot flywheel options available.

Installation Dimensions



KKRH1841

ø184 (7.25") Single Plate Heavy Duty Rally Clutch

HEAVY DUTY RACE, RALLY AND HILL CLIMB

Specification

Part Number	Dynamic Torque Capacity Nm (lbft)	Release Ratio	Assembly Weight incl. Driven Plates (kg)	"Wear in" Figure (mm)	Release Load @ New Ø44 Bearing (kN)	Release Load @ New Ø52 Bearing (kN)
KKRH1841UDGSR05	440 (324)	Ultra High	2.97	0.75	3.2	3.4
KKRH1841USGSR05	365 (269)	Ultra High	2.97	0.75	2.6	2.8
KKRH1841UORSR05	290 (213)	Ultra High	2.97	0.75	2.1	2.25

Assembly Inertia: 0.01632kg² (including 6 pad driven plate).

Flywheel Mounting: Step part numbers shown. For pot flywheels replace "SR" with "PR".

Driven Plate: 7.2mm thick, 6 pad.

See KDC720 page for hub configuration options.



Replacement Parts

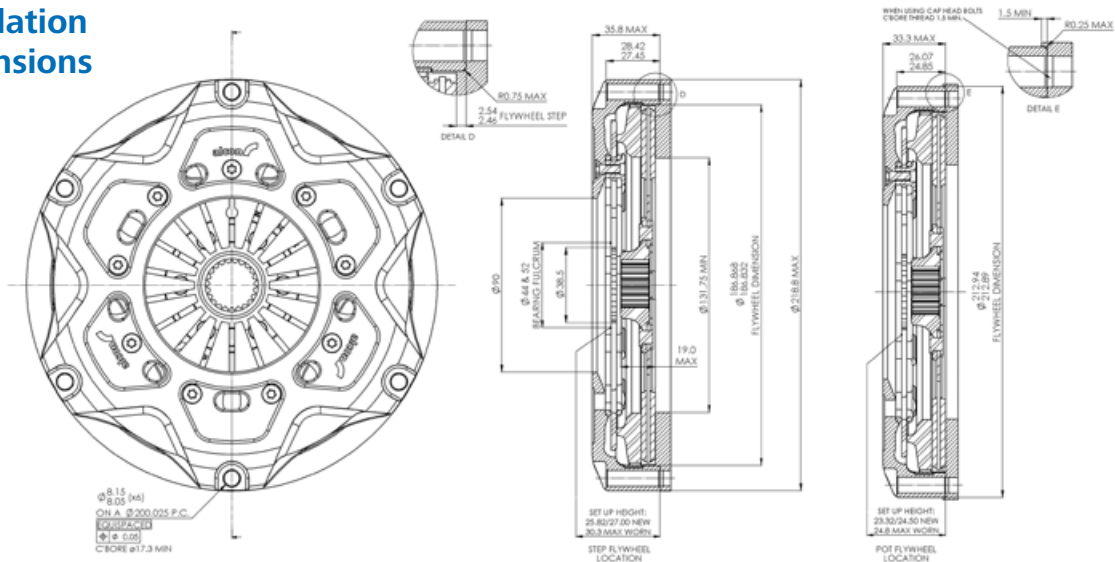
Pressure Plate Options				
Assembly Part Number	Part Number	Ratio	Thickness (mm)	Fulcrum ø (mm)
KKR1841U...	KPS184L6U5102	Ultra High	13	152

Plate Item	Part Number
Floater Plate	None
Wear Plates	KWP18425S1X005

Key Features & Benefits

- Increased pressure plate mass for increased thermal capacity in heavy duty applications.
- Topology optimised aluminium clutch cover design for low weight, low inertia and maximum stiffness.
- Open lug type design for improved cooling and dust removal.
- Durable hard anodised finish.
- Stainless steel wear plates fitted to cover legs.
- Pressure plate optimised for inertia and thermal capacity.
- Interchangeable with other manufacturers products.
- Step and Pot flywheel options available.

Installation Dimensions



KKRH1842

ø184 (7.25") Twin Plate Heavy Duty Race Clutch

HEAVY DUTY RACE, RALLY AND HILL CLIMB

Specification

Part Number	Dynamic Torque Capacity Nm (lbft)	Release Ratio	Assembly Weight incl. Driven Plates (kg)	"Wear in" Figure (mm)	Release Load @ New Ø44 Bearing (kN)	Release Load @ New Ø52 Bearing (kN)
KKRH1842UDGSR05	880 (649)	Ultra High	4.52	0.75	3.2	3.4
KKRH1842USGSR05	730 (537)	Ultra High	4.52	0.75	2.6	2.8
KKRH1842UORSR05	580 (427)	Ultra High	4.52	0.75	2.1	2.25

Assembly Inertia: 0.02488kg² (including 6 pad driven plates).
 Flywheel Mounting: Step part numbers shown. For pot flywheels replace "SR" with "PR".
 Driven Plate: 7.2mm thick, 6 pad.
 See KDC720 page for hub configuration options.



Replacement Parts

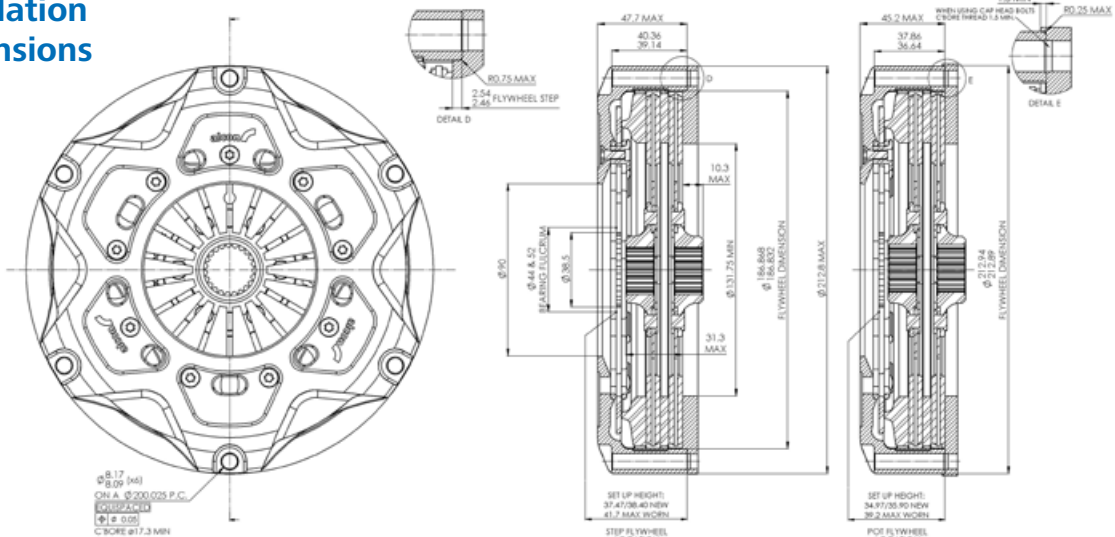
Pressure Plate Options				
Assembly Part Number	Part Number	Ratio	Thickness (mm)	Fulcrum ø (mm)
KKR1842U...	KPS184L6U5112	Ultra High	13	152

Plate Item	Part Number
Floater Plate	KPS184L6FX004
Wear Plates	KWP18425S3X005

Key Features & Benefits

- Increased pressure plate mass for increased thermal capacity in heavy duty applications.
- Topology optimised aluminium clutch cover design for low weight, low inertia and maximum stiffness.
- Open lug type design for improved cooling and dust removal.
- Durable hard anodised finish.
- Stainless steel wear plates fitted to cover legs.
- Pressure and intermediate plate optimised for inertia and thermal capacity.
- Interchangeable with other manufacturers products.
- Step and Pot flywheel options available.

Installation Dimensions



KDS550...X010

ø140 (5.5") Race Driven Plates

CIRCUIT RACING

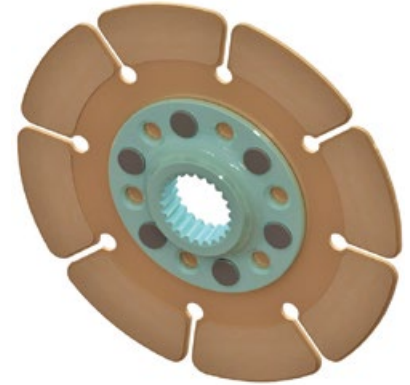
Specification

Nominal	Ø	No. of Teeth	New Thickness	Part Number: A -Type - 11.7 hub length	Part Number: B -Type - 9.6 hub length	Part Number: C -Type - 5.6 hub length
29 x 10	29.00	10	2.70mm	KDS550FA10X010	KDS550FB10X010	-
21 x 18	21.00	18	2.70mm	KDS550FA17X010	KDS550FB17X010	KDS550FC17X010
7/8" x 20	22.20	20	2.70mm	KDS550FA25X010	KDS550FB25X010	KDS550FC25X010
24.25 x 21	24.25	21	2.70mm	KDS550FA27X010	KDS550FB27X010	KDS550FC27X010
1.0" x 23	25.40	23	2.70mm	KDS550FA30X010	KDS550FB30X010	KDS550FC30X010
1.0" x 24	25.40	24	2.70mm	KDS550FA33X010	KDS550FB33X010	-
22 x 26	22.00	26	2.70mm	KDS550FA35X010	KDS550FB35X010	-
1 5/32" x 26	29.36	26	2.70mm	KDS550FA36X010	KDS550FB36X010	KDS550FC36X010
1 1/8" x 26	28.58	26	2.70mm	KDS550FA72X010	KDS550FB72X010	KDS550FC72X010

Driven plates with B-type and C-type hubs can be used on the flywheel side of the clutch to provide increased clearance.

If the configuration you require is not listed contact Alcon Sales for assistance.

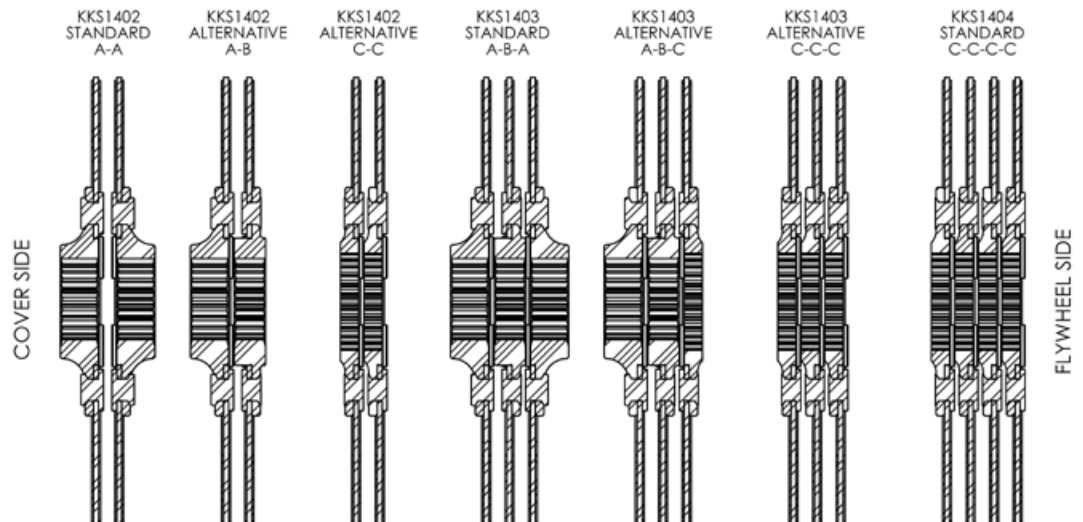
For use with the Alcon clutch assembly "KKS140...R05" part numbers only.



Key Features & Benefits

- Optimised hub length for low inertia with minimum hub wear.
- Thin layer of cerametallic friction material for reduced inertia and lower cover height
- Various hub configurations available to provide increased hub to crank bolt clearance.
- 2.70mm plate thickness.

Installation Dimensions



KDS550...X001

ø140 (5.5") Race Driven Plates

CIRCUIT RACING

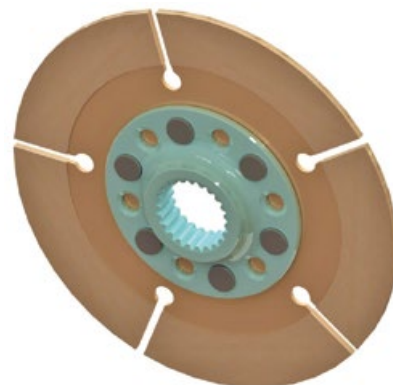
Specification

Nominal	Ø	No. of Teeth	New Thickness	Part Number: A -Type - 11.7 hub length	Part Number: B -Type - 9.6 hub length	Part Number: C -Type - 5.6 hub length
29 x 10	29.00	10	2.63mm	KDS550FA10X001	KDS550FB10X001	-
21 x 18	21.00	18	2.63mm	KDS550FA17X001	KDS550FB17X001	KDS550FC17X001
7/8" x 20	22.20	20	2.63mm	KDS550FA25X001	KDS550FB25X001	KDS550FC25X001
24.25 x 21	24.25	21	2.63mm	KDS550FA27X001	KDS550FB27X001	KDS550FC27X001
1.0" x 23	25.40	23	2.63mm	KDS550FA30X001	KDS550FB30X001	KDS550FC30X001
1.0" x 24	25.40	24	2.63mm	KDS550FA33X001	KDS550FB33X001	-
22 x 26	22.00	26	2.63mm	KDS550FA35X001	KDS550FB35X001	-
1 5/32" x 26	29.36	26	2.63mm	KDS550FA36X001	KDS550FB36X001	KDS550FC36X001
1 1/8" x 26	28.58	26	2.63mm	KDS550FA72X001	KDS550FB72X001	KDS550FC72X001

Driven plates with B-type and C-type hubs can be used on the flywheel side of the clutch to provide increased clearance.

If the configuration you require is not listed contact Alcon Sales for assistance.

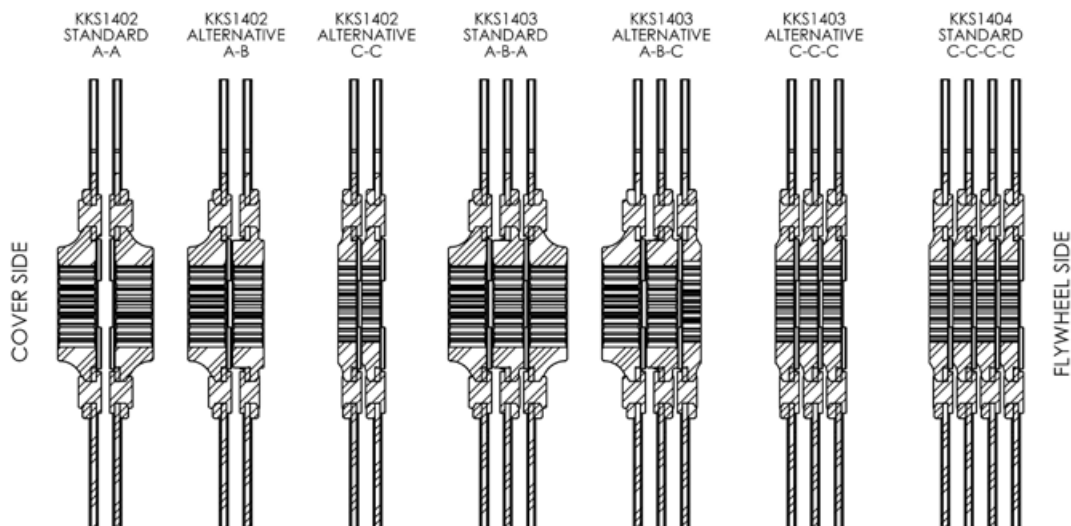
Spares for use with no longer available "KKS140...R01" clutch assembly part numbers and other manufacturers products.



Key Features & Benefits

- Optimised hub length for low inertia with minimum hub wear.
- Sintered friction material for reduced inertia and lower cover height
- Interchangeable with other manufactures products.
- Various hub configurations available to provide increased hub to crank bolt clearance.
- 2.63mm plate thickness.

Installation Dimensions



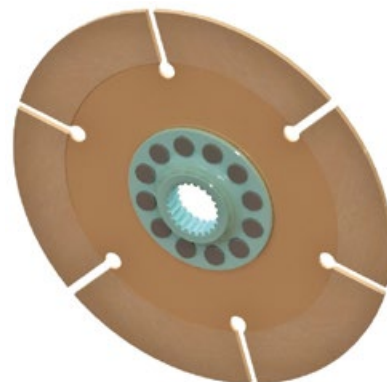
KDS720

ø184 (7.25") Race Driven Plates

CIRCUIT RACING

Specification

Nominal	Ø	No. of Teeth	New Thickness	Part Number: A -Type - 11.7 hub length	Part Number: B -Type - 9.6 hub length	Part Number: C -Type - 5.6 hub length
1 1/8" x 10T	28.58	10	2.63mm	KDS720FA06X001	KDS720FB06X001	KDS720FC06X001
29 x 10T	29.00	10	2.63mm	KDS720FA10X001	KDS720FB10X001	KDS720FC10X001
25 x 14T	25.00	14	2.63mm	KDS720FA12X001	KDS720FB12X001	-
21 x 18T	21.00	18	2.63mm	KDS720FA17X001	KDS720FB17X001	-
7/8" x 20T	22.20	20	2.63mm	KDS720FA25X001	KDS720FB25X001	KDS720FC25X001
24.25 x 21T	24.25	21	2.63mm	KDS720FA27X001	KDS720FB27X001	-
29 x 21T	29.00	21	2.63mm	KDS720FA28X001	KDS720FB28X001	KDS720FC28X001
1.0" x 22T	25.40	22	2.63mm	KDS720FA29X001	KDS720FB29X001	-
1.0" x 23T	25.40	23	2.63mm	KDS720FA30X001	KDS720FB30X001	KDS720FC30X001
20.5 x 24T	20.50	24	2.63mm	KDS720FA32X001	-	-
1.0" x 24T	25.40	24	2.63mm	KDS720FA33X001	KDS720FB33X001	-
22 x 26T	22.00	26	2.63mm	KDS720FA35X001	KDS720FB35X001	-
1 5/32" x 26T	29.36	26	2.63mm	KDS720FA36X001	KDS720FB36X001	-
1 1/4" x 29T	31.75	29	2.63mm	KDS720FA38X001	KDS720FB38X001	-
1 1/8" x 26T	28.58	26	2.63mm	KDS720FA72X001	KDS720FB72X001	-
25.8 x 24T	25.80	24	2.63mm	KDS720FA86X001	-	-
22 x 28T	22.00	28	2.63mm	KDS720FA95X001	-	-

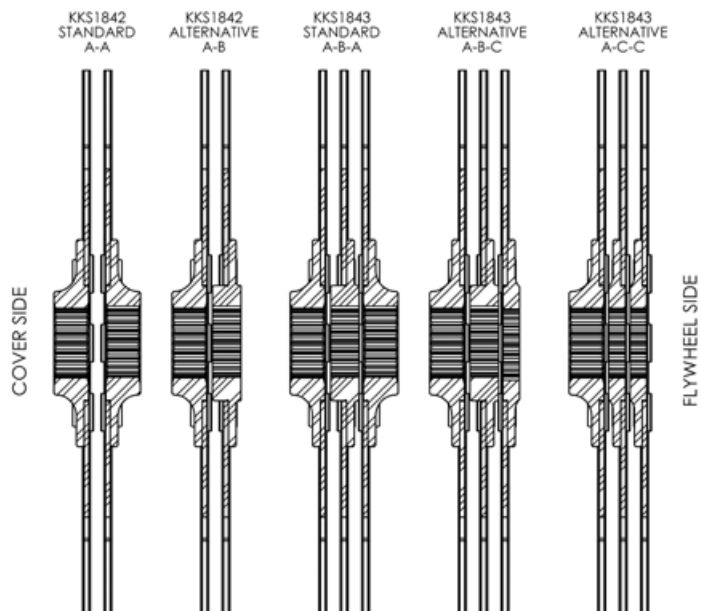


Key Features & Benefits

- Optimised hub length for low inertia with minimum hub wear.
- Sintered friction material for reduced inertia and lower cover height
- Interchangeable with other manufactures products.
- Various hub configurations available to provide increased hub to crank bolt clearance.
- 2.63mm plate thickness.

Driven plates with B-type and C-type hubs can be used on the flywheel side of the clutch to provide increased clearance. If the configuration you require is not listed contact Alcon Sales for assistance.

Installation Dimensions



KDC720B

ø184 (7.25") Bonded Rally Driven Plates

GENERAL RALLY AND CIRCUIT USE

Specification

Nominal	Ø	No. of Teeth	New Thickness	4 Pad A-Type - 11.7mm Long Hub
1.125" x 10T	28.58	10	7.2mm	KDC720406X020
29 x 10T	29.00	10	7.2mm	KDC720410X020
21 x 18T	21.00	18	7.2mm	KDC720417X020
0.875" x 20T	22.22	20	7.2mm	KDC720425X020
1.0" x 22T	25.40	22	7.2mm	KDC720429X020
1.0" x 23T	25.40	23	7.2mm	KDC720430X020
1.0" x 24T	25.40	24	7.2mm	KDC720433X020
22 x 26T	22.00	26	7.2mm </td <td>KDC720435X020</td>	KDC720435X020

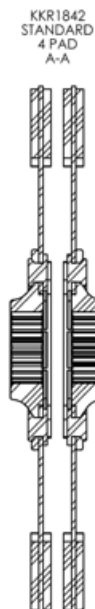
Other hub configurations are available to provide increased clearance. If the configuration you require is not listed contact Alcon Sales for assistance.



Key Features & Benefits

- Optimised hub length for low inertia with minimum hub wear.
- Bonded Cerametallic friction material for high energy capacity and increased wear rate.
- Interchangeable with other manufactures products.
- Various hub configurations available to provide increased hub to crank bolt clearance.

Installation Dimensions



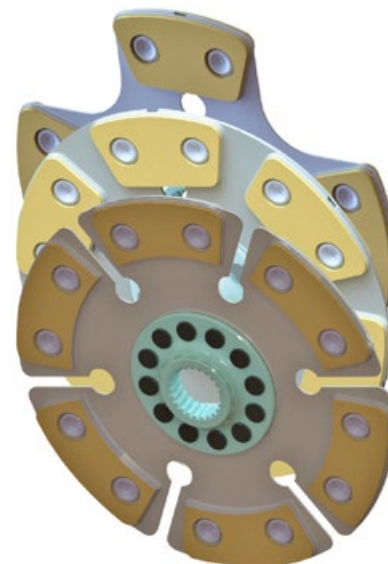
KDC720R

ø184 (7.25") Race Driven Plates

GENERAL RALLY AND CIRCUIT USE

Specification

Nominal	Ø	No. of Teeth	New Thickness	4 Pad A-Type - 11.7mm Long Hub	6 Pad 15mm Long Hub
1.125" x 10T	28.58	10	7.2mm	KDC720406X010	-
29 x 10T	29.00	10	7.2mm	KDC720410X010	KDC720610X010
25 x 14T	25.00	14	7.2mm	-	KDC720612X010
21 x 18T	21.00	18	7.2mm	KDC720417X010	KDC720617X010
0.875" x 20T	22.22	20	7.2mm	KDC720425X010	KDC720625X010
24.25 x 21T	24.25	21	7.2mm	KDC720427X010	KDC720627X010
1.0" x 22T	25.40	22	7.2mm	KDC720429X010	KDC720629X010
1.0" x 23T	25.40	23	7.2mm	KDC720430X010	KDC720630X010
20.5 x 24T	20.50	24	7.2mm	-	KDC720632X010
1.0" x 24T	25.40	24	7.2mm	KDC720433X010	KDC720633X010
22 x 26T	22.00	26	7.2mm	KDC720435X010	KDC720635X010
1 5/32" x 26T	29.36	26	7.2mm	-	KDC720636X010
1.125" x 26T	28.58	26	7.2mm	KDC720472X010	-
25.8 x 24T	25.80	24	7.2mm	-	KDC720686X010



Driven plates for low height cover e.g. S2000 applications

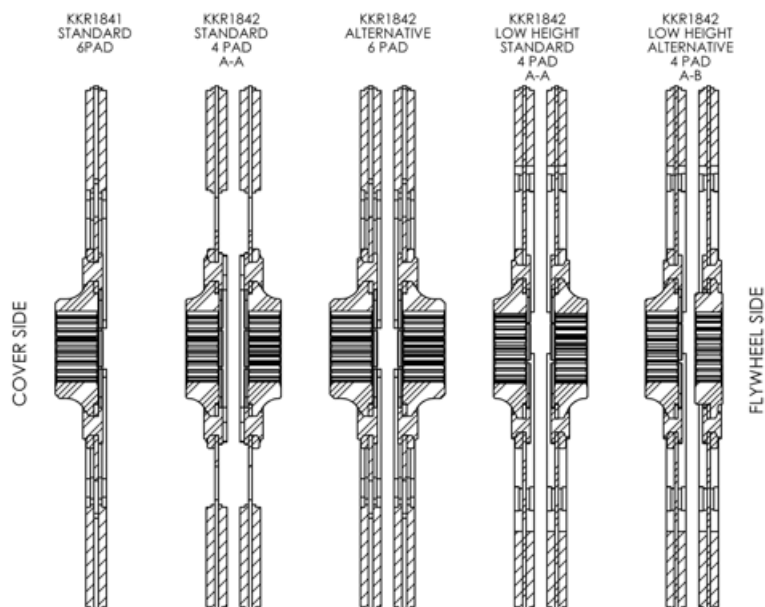
Nominal	Ø	No. of Teeth	New Thickness	A-Type - 11.7mm Hub Length - 4 Pad	B-Type - 15.7mm Hub Length - 6 Pad
1.0" x 23T	25.40	23	6.8mm	KDC720630X006	KDC720630X007
25.8 x 24T	25.80	24	6.8mm	KDC720686X002	-

Other hub configurations are available to provide increased clearance. If the configuration you require is not listed contact Alcon Sales for assistance.

Key Features & Benefits

- Optimised hub length for low inertia with minimum hub wear.
- Cerametallic friction material for high energy capacity and increased wear rate.
- Interchangeable with other manufactures products.
- Various hub configurations available to provide increased hub to crank bolt clearance.
- 4 or 6 pad options available.

Installation Dimensions



KDC7804

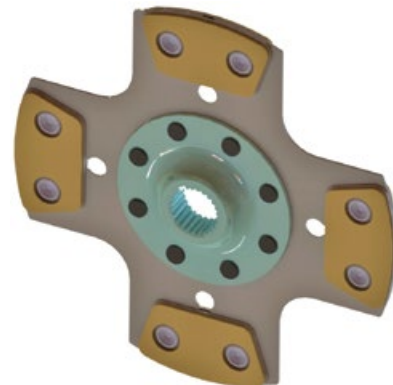
ø200 (7.87") Rally Driven Plates

GENERAL RALLY AND CIRCUIT USE.

Specification

Nominal	Ø	No. of Teeth	New Thickness	Standard 15.0mm Long Hub	Alternative 12.0mm Long hub
29 x 10T	29.00	10	7.6mm	KDC780410X001	-
25 x 14T	25.00	14	7.6mm	KDC780412X001	-
21 x 18T	21.00	18	7.6mm	KDC780417X005	-
0.875" x 20T	22.22	20	7.6mm	KDC780425X005	-
24.25 x 21T	24.25	21	7.6mm	KDC780427X004	-
29 x 21T	29.00	21	7.6mm	KDC780428X001	-
1.0" x 22T	25.40	22	7.6mm	KDC780429X002	-
1.0" x 23T	25.40	23	7.6mm	KDC780430X002	KDC780430X004
20.5 x 24T	20.50	24	7.6mm	KDC780432X002	-
1.0" x 24T	25.40	24	7.6mm	KDC780433X001	-
25.8 x 24T	25.80	24	7.6mm	KDC780486X002	-
22 x 26T	22.00	26	7.6mm	KDC780435X002	-
22 x 28T	22.00	28	7.6mm	KDC780495X001	-

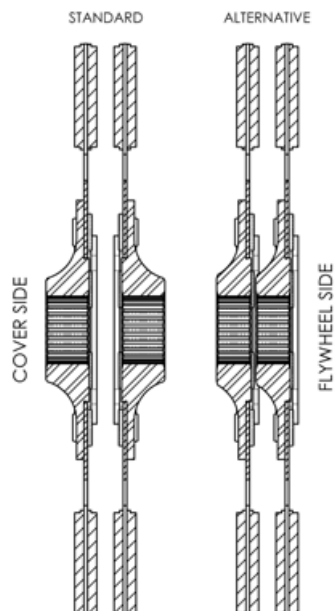
If the configuration you require is not listed contact Alcon Sales for assistance.



Key Features & Benefits

- Optimised hub length for low inertia with minimum hub wear.
- Cerametallic friction material for high energy capacity and increased wear rate.
- Interchangeable with other manufactures products.
- Various hub configurations available to provide increased hub to crank bolt clearance.
- 7.6mm plate thickness.

Installation Dimensions



KDC82 - KDC95

ø200 + Rally Driven Plates

GENERAL RALLY AND CIRCUIT USE

Specification

Nominal	Ø	No. of Teeth	Ø	No. of Pads	New Thickness	Part Number	Hub Length
22 x 28T	22.00	28	210	4	7.60	KDC820495X001	23.10
0.875" x 20T	22.22	20	210	4	7.00	KDC820425X002	23.10
29 x 10T	29.00	10	215	4	7.60	KDC850410X003	23.10
25 x 14T	25.00	14	215	4	7.60	KDC850412X001	23.10
29 x 21T	29.00	21	215	4	7.60	KDC850428X001	23.10
1.0" x 22T	25.40	22	215	4	7.60	KDC850429X001	23.10
1.0" x 23T	25.40	23	215	4	7.60	KDC850430X001	23.10
22 x 26T	22.00	26	215	4	7.00	KDC850435X004	18.30
1.0" x 23T	25.40	23	215	6	7.60	KDC850630X001	23.10
25.8 x 24T	25.80	24	215	6	7.60	KDC850686X002	23.10
29 x 10T	29.00	10	228	6	7.60	KDC900610X001	23.10
21 x 18T	21.00	18	228	6	7.60	KDC900617X001	23.10
1.0" x 22T	25.40	22	230	6	7.60	KDC910629X001	23.10
1.0" x 23T	25.40	23	230	6	7.60	KDC910630X001	23.10
1.0" x 23T	25.40	23	230	6	7.00	KDC910630X002	23.10
29 x 10T	29.00	10	240	6	8.00	KDC950610X001	23.10
1.0" x 23T	25.40	23	240	6	8.00	KDC950630X001	23.10

This is a sample of the available part numbers, If the configuration you require is not listed contact Alcon Sales for assistance.



Key Features & Benefits

- Optimised hub length for low inertia with minimum hub wear.
- Cerametallic friction material for high energy capacity and increased wear rate.
- Interchangeable with other manufactures products.
- Various configurations available

KSA

Concentric Slave Cylinder

GENERAL RACE, RALLY

Specification

Effective Area	Max Operating Pressure	Operating Temperature Range	Hydraulic Fluid	Bleed and Feed Ports	Dry Weight	Available Stroke
992mm ²	70 bar (1015 psi)	-40°C to 120°C	DOT4 or other non-silicon or mineral oil based fluid	3/8"-24 UNF-2B	390g including bearing	13mm



Part Numbers

Part Number	Bearing Fulcrum Ø	Bearing Type
KSA3813FX010	38mm	Heavy Duty
KSA4413FX010	44mm	Heavy Duty
KSA5213FX010	52mm	Heavy Duty
KSA5213FX001	52mm	Standard Duty

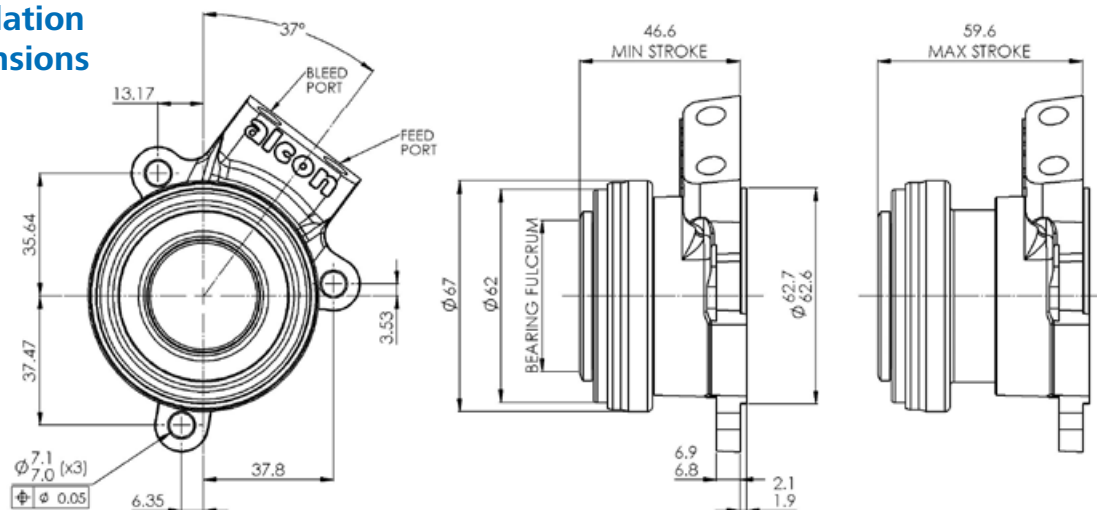
Key Features & Benefits

- Lightweight compact design.
- Hydraulically self-contained unit.
- Durable hard anodised finish.
- Low friction coated seal surfaces to reduce seal wear.
- Replaces existing Saab type units.

Replacement Parts

Part Number	Seal Kit	Bearing Assembly
KSA3813FX010	SSK5035E601	KRB3835X010A
KSA4413FX010	SSK5035E601	KRB4435X010A
KSA5213FX010	SSK5035E601	KRB5235X010A
KSA5213FX001	SSK5035E601	KRB5240X001

Installation Dimensions





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