

brakes and clutches catalogue 2009/10



ISSUE 3

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INTRODUCTION

Alcon has, and continues to, engineer brake and clutch systems for those competing at the highest levels of motorsport - being the leading supplier to the World Rally Championship and a major supplier to teams competing in Touring Cars, NASCAR, Indycars and F1.

Alcon has applied the knowledge gained from premier motorsport to develop **advantage** a range of off-the-shelf products for use by those who can appreciate the performance advantage to be gained from fitting a properly designed and developed brake package and who understand that consistent, fade-free brakes associated with reliable and high performing clutches are essential for good lap times.

The **advantage** range includes Alcon's high quality brake discs in popular sizes and a wide range of calipers to suit applications from small single seaters to Group A cars. Popular master cylinder sizes complete a full brake package.

The clutch range includes popular rally and race clutch sizes completed with a wide selection of reinforced drive plates for those competing in group N or track days enthusiasts.

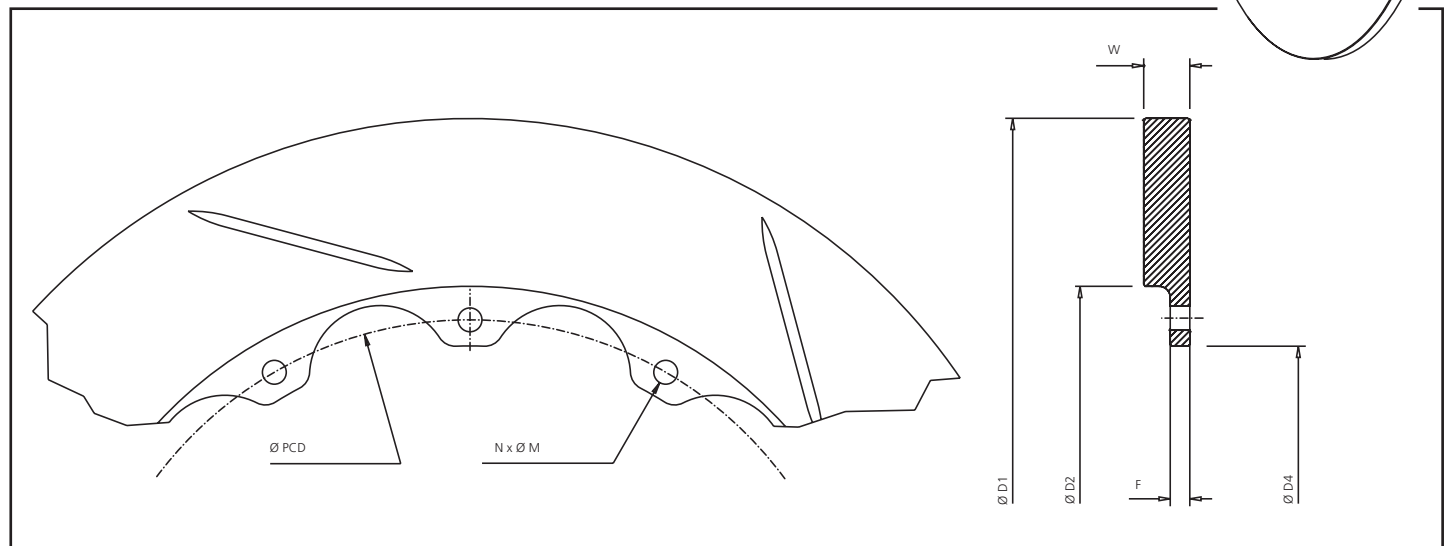
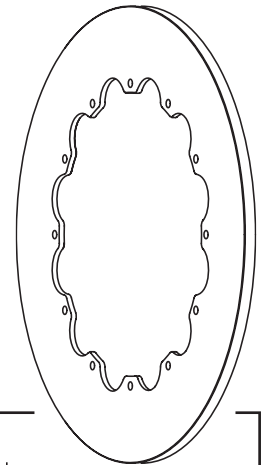
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KEY FEATURES AND BENEFITS

- **Cast iron alloy unique to Alcon**
Increased friction, resistance to thermal shock and wear performance
- **Disc not handed due to groove design**
- **Grooved friction face**
Aids removal of pad dust and gases
- **Lightweight disc**
Low moment of inertia



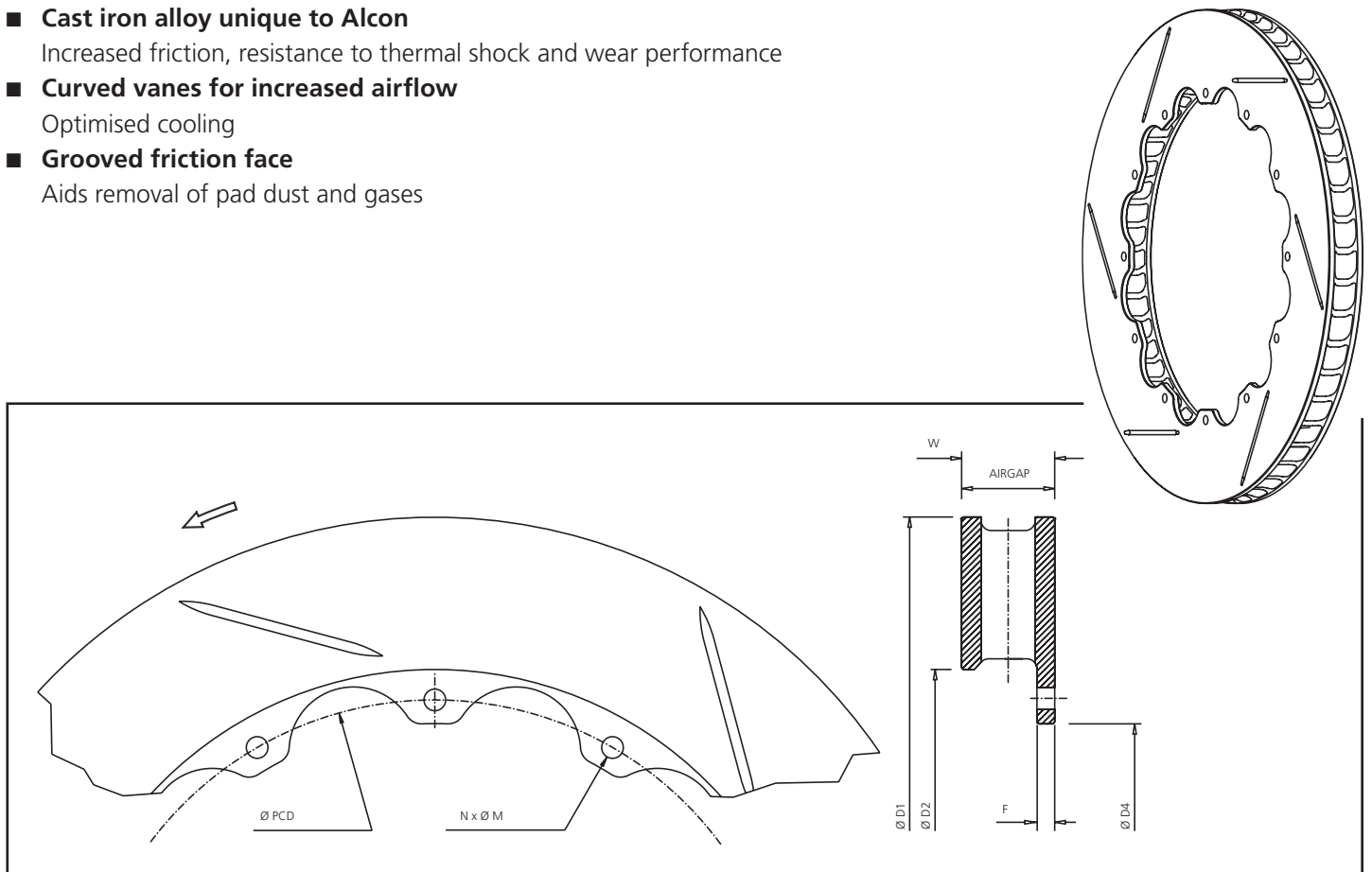
ADVANTAGE REF	D1	W	D2	PCD	D4	N	$\varnothing M$	F	KG
DS254/10/45-06/148	254	9.6	164	148	130	6	6.4	5	2.2
DS265/08/42-06/165	265	8	180	165	151	6	6.4	4.5	1.9
DS280/08/44-08/177	280	8	192	176.7	159	8	6.4	5	2.0
DS280/10/44-08/177	280	9.6	194	176.7	159	8	6.4	4.6	2.4
DS290/10/44-08/184	290	9.6	202	184.2	169	8	6.4	4.6	2.6
DS300/11/42-10/200	300	11	216	200	165	10	6.4	6	2.9

PRODUCT REF	D1	W	D2	PCD	D4	N	M	F	KG
DIS1907X065G	254	8	162	146	131	8	8.5	6	1.9
DIS1907X061FG	280	7	193.3	163	149	8	6.4	5	1.9
DIS1907X055	280	9.6	192	174	160	8	6.4	4.6	2.4
DIS1907X038D	280	9.6	192	176.7	159	8	6.0	4.6	2.3
DIS1907X002	280	9.6	192	176.7	159	8	6.5	4.6	2.4
DIS1907X049G	280	9.6	192	177.8	163	12	6.0	4.6	2.3

ventilated discs

KEY FEATURES AND BENEFITS

- **Cast iron alloy unique to Alcon**
Increased friction, resistance to thermal shock and wear performance
- **Curved vanes for increased airflow**
Optimised cooling
- **Grooved friction face**
Aids removal of pad dust and gases



ADVANTAGE REF	D1	W	D2	N	Ø M	PCD	D4	F	OFFSET	AIR GAP	VANES	GROOVES	KG
DV256/25/47-6/140L/R	256	25.4	162.5	6	6.4	139.7	125.7	4.6	-	10	48	6	3.8
DV267/21/56-6/140L/R	267	21	154.9	6	6.4	139.7	125.7	4.6	-	10	48	6	3.3
DV280/23/44-8/177L/R	280	22.9	192.7	8	6.4	176.7	159	4.6	-	10	48	6	3.7
DV280/25/53-8/159L/R	280	25.4	174	8	6.4	158.7	141	4.6	-1.1	10	48	6	4.7
DV295/25/53-12/178L/R	295	25.4	189	12	6.4	177.8	164.3	4.5	-	14.7	48	6	4.1
DV295/28/53-12/178L/R	295	28	189	12	6.4	177.8	164.3	5.5	-	14.7	48	6	4.8
DV304/25/51-12/178L/R	304	25.4	203	12	6.4	177.8	164.3	4.6	-	14.7	48	6	4.3
DV304/28/55-12/178L/R	304	28	195	12	6.4	177.8	164.3	5.5	-	14.7	48	6	5.3
DV315/28/50-12/203L/R	315	28	215	12	6.4	203.2	190.5	5	-	16.3	48	6	4.9
DV325/28/53-12/203L/R	325	28	220	12	6.4	203.2	190.5	5	-	16.3	48	6	5.4
DV330/32/55-12/203L/R	330	32	220	12	6.4	203.2	190.5	6	-	16.3	48	6	6.9
DV343/28/55-12/218L/R	343	28	233	12	6.4	218	204	5.5	+1	18	48	6	5.6
DV355/28/54-12/235L/R	355	28	248	12	6.4	235	222	5.5	+2	18	48	6	5.7
DV355/32/54-12/235L/R	355	32	248	12	6.4	235	222	6	-	18	48	6	7.1
DV378/32/48-12/260L/R	378	32	282	12	6.4	260.3	244	6	-	18	48	6	6.9

ventilated discs continued

PRODUCT REF	D1	W	D2	N	Ø M	PCD	D4	F	OFFSET	AIR GAP	VANES	GROOVES	H
DIV2155X262PL/PR	266	20.4	173	8	6.4	155	141	6.1	-	7	24	-	-
DIV2155X204L4/R4	278	16	188	8	8.1	176	156	4.45	+0.5	7	24	4	-
DIV2155X300DL/DR	280	15	194	8	6.4	176.75	159	4.6	+1	7	24	-	60
DIV2155X337L8/R8	280	16	194	8	6.4	176.5	161	4.6	+0.5	7	24	8	-
DIV2153X252L8/R8	280	25.4	197	12	6.4	177.8	163.9	5	-	14.7	48	8	-
DIV2154X225GL/GR	295	24	189	12	6.4	177.8	164.35	5	+0.7	13	24	6	-
DIV2153X359GL/GR	296	30	178	12	6.4	160	146	6	-	14.7	48	6	-
DIV2135X306GL/GR	296	32	196	12	6.75	177.8	197	5.5	-	16.3	48	6	-
DIV2135X344GL/GR	300	28	198	12	6.4	183	169.5	6	-	16.3	48	6	-
DIV2154X302GL/GR	304	25	203	12	6.4	188	174.5	5.5	-	13	24	6	-
DIV2135X322GL/GR	304	28	203	12	6.4	188	174.5	5	-	16.3	48	6	-
DIV2135X388L4/R4	310	25	218	12	6.1	200	186	5	+0.5	16.3	48	4	-
DIV2135X311GL/GR	310	28	210	12	6.4	190.5	177.8	5	-	16.3	48	6	-
DIV2136X384C48L/R	310	30	206	12	6.1	188	172	5	-1	16.8	24	48	-
DIV2135X296GL/GR	315	28	210	12	6.4	190.5	176.5	5.5	-	16.3	48	6	-
DIV2136X400C48L/R	315	32	214	10	6.4	200	185	5	-	16.8	24	48	-
DIV2136X398L4/R4	318	26	228	12	6.4	210	196	5	+1	16.8	24	4	-
DIV2135X368GL/GR	323	32	225	8	8	177.8	163.8	5.5	-	16.3	48	6	-
DIV2136X120FL/FR	330	28	222	12	6.4	203.2	190.5	5.5	-	16.8	24	6	-
DIV2135X011L24/R24	330	32	198	12	6.4	180	190.5	5	-	16.3	48	24	-
DIV2146X502L4/R4	330	35	242	12	6.4	228.6	214	6	+0.5	18	48	4	-
DIV2136X286L24/R24	332	32	230	12	6.4	210	194	6	-	16.8	24	24	-
DIV2146X214GL/GR	343	32	228	10	6	200	184	6	-	18	48	6	-
DIV2146X301GL/GR	345	28	240	12	6.4	225	211	5.5	+1	18	48	6	-
DIV2171X461L24/R24	345	32	247	12	6.4	230	216	5	-	18	24	24	-
DIV2171X491L24/R24	355	30	257	12	6.4	235	216	5.5	-	18	24	24	-
DIV2146X382L24/R24	366	32	266	12	6.4	235	220	6	-	18	48	24	-
DIV2145X519C48L/R	366	32	270	12	6.4	255	240	5.5	-	19	252	48	-
DIV2146X237L24/R24	370	30	265	12	6.4	245	231	6	-	18	48	24	-
DIV2146X252L24/R24	376	35.6	266	12	6.4	247	233	7.5	-	18	48	24	-
DIV2175X533C24L/R	378	32	261	12	6.4	245	230	7	-	14	48	24	-
DIV2146X401L8/R8	378	35.6	264	12	6.4	240	225	7	-	18	48	8	-

advantage

2 piston blank lug

R-type caliper

PRODUCT REF

CLR280/11-35LL

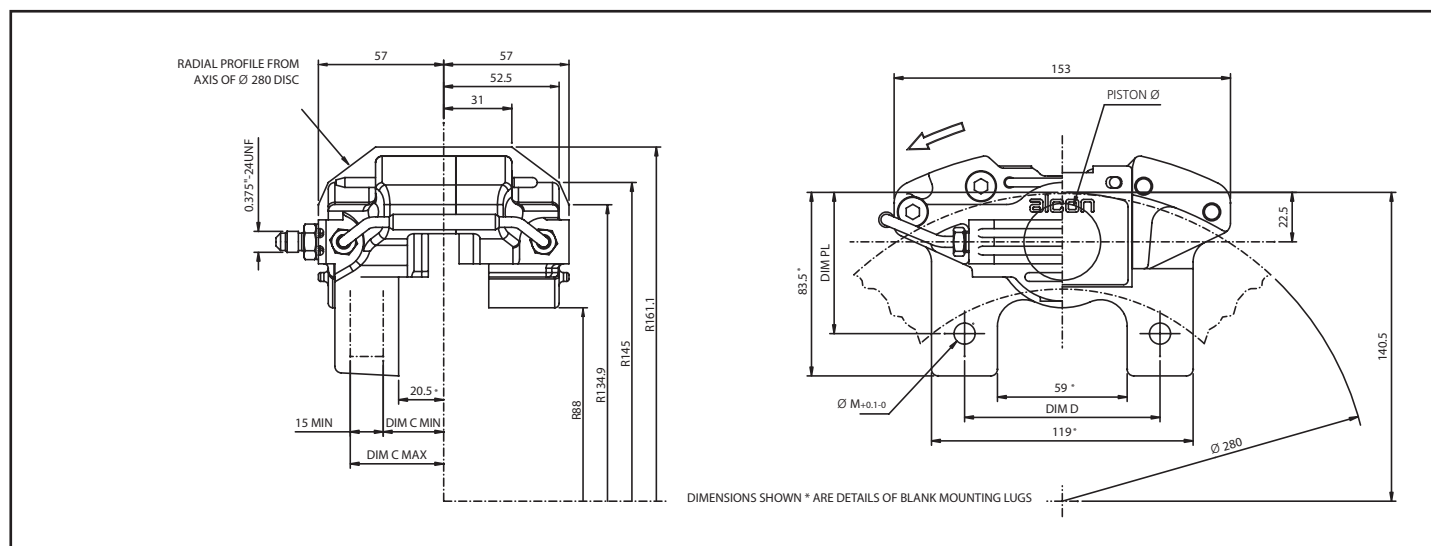
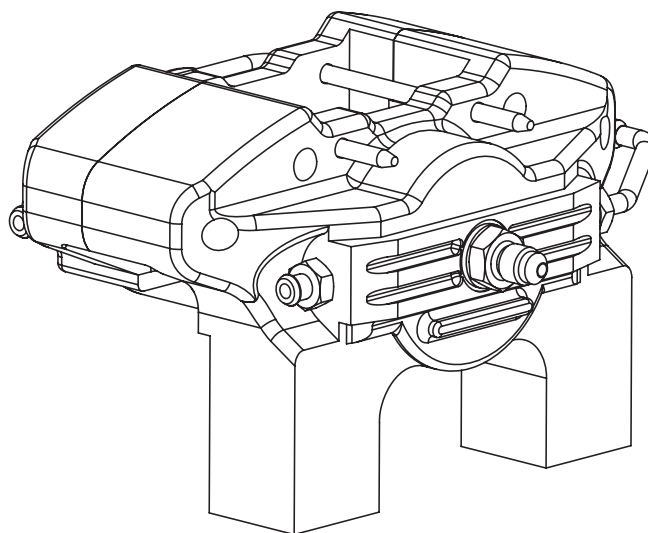
CLR280/11-35RL

CLR280/11-35LT

CLR280/11-35RT

KEY FEATURES AND BENEFITS

- **Blank lug**
Can be machined to suit a wide variety of applications
- **Made from aerospace grade aluminium alloy**
High strength to weight ratio
- **Hard anodised finish**
High wear and corrosion resistance
- **Uses popular R-type pad shape**
Wide range of friction materials available
- **Quick release pad retaining clip**
- **High temperature EPDM seal material**
Optimum piston control



SPECIFICATION		MOUNTING DETAILS		PAD REFERENCES	
piston diameter	34.9	DIM C min	20.5	Alcon	RC3451XSP
disc diameter	250-280	DIM C max	46.0	Carbone Lorraine	5002
disc thickness	9.6-11.1	DIM D min	86.0	Ferodo	FCP809
caliper weight	1.30 kg	DIM D max	90.0	Hawk	HB118
pad area	49.8 cm ²	diameter M min	9.6	Mintex	MGB533
pad thickness	14	diameter M max	12.2	Pagid	U3102
seal kit reference	CSK35E900	DIM PL min	47.0	SBS	3060
		DIM PL max	69.0		

advantage

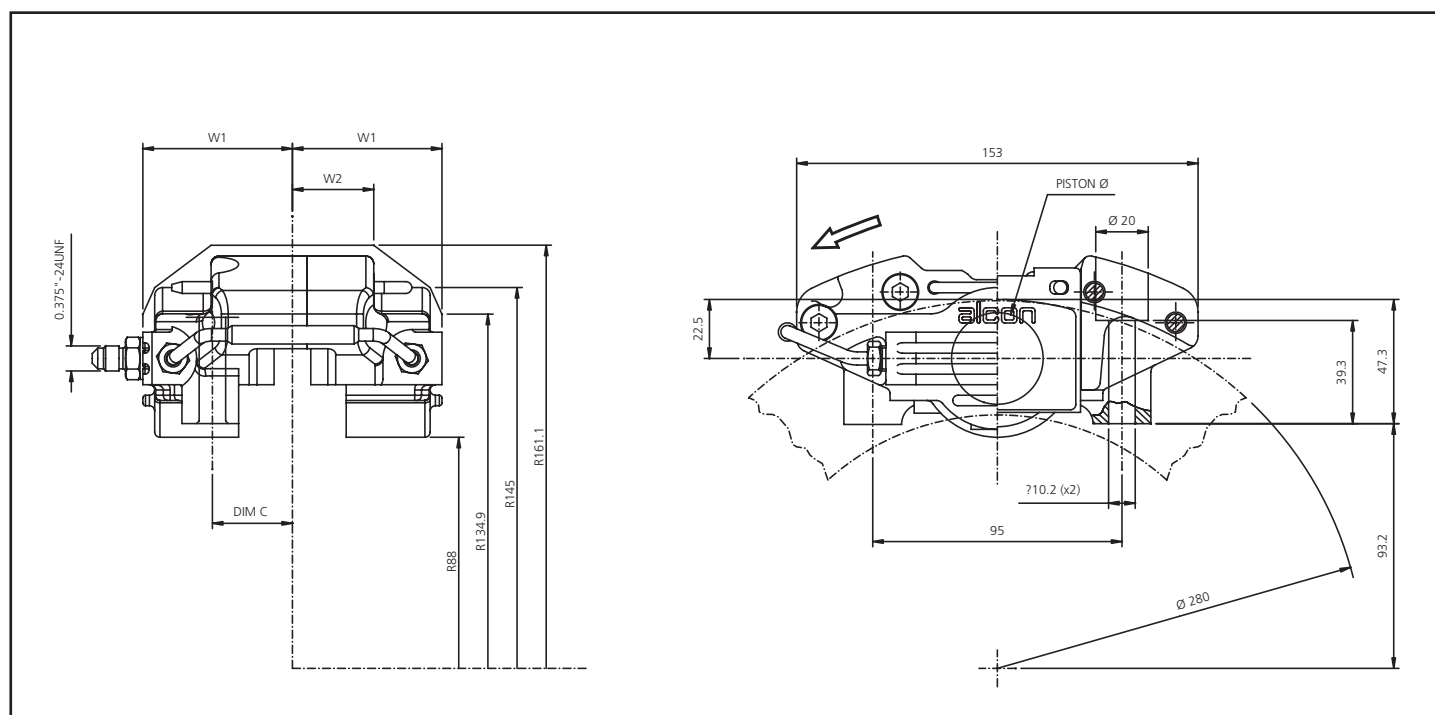
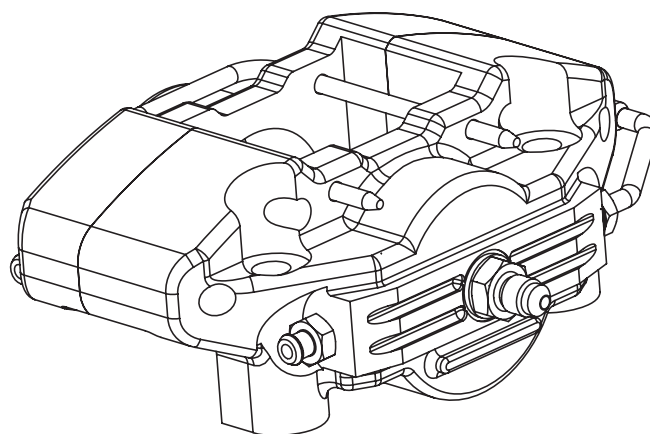
2 piston radial mount R-type caliper

PRODUCT REF

CRR280/11-35LL	CRR280/25-44LL
CRR280/11-35RL	CRR280/25-44RL
CRR280/11-35LT	CRR280/25-44LT
CRR280/11-35RT	CRR280/25-44RT

KEY FEATURES AND BENEFITS

- **Radial mounting for maximum rigidity**
Firm, consistent pedal
- **Made from aerospace grade aluminium alloy**
High strength to weight ratio
- **Uses popular R-type pad shape**
Wide range of friction materials available
- **Quick release pad retaining clip**
- **High temperature EPDM seal material**
Optimum piston control



SPECIFICATION	280/11	280/25	MOUNTING DETAILS	280/11	280/25	PAD REFERENCES
piston diameter	34.9	44.5	piston diameter	34.9	44.5	Alcon RC3451XSP
disc diameter	250-280	250-280	DIM C	30.5	38.5	Carbone Lorraine 5002W43 / 5002W48
disc thickness	9.6-11.1	22.9-25.4	W1	57.0	65	Ferodo FCP809 / FCP810
caliper weight	1.30 kg	1.35 kg	W2	31.0	39	Hawk HB118 / HB175
pad area	49.8 / 56 cm ²	49.8 / 56 cm ²				Mintex MGB533 / MGB535
pad thickness	14	14				Pagid U3102 / U3190
						SBS 3060
seal kit reference	CSK35E900	CSK45E751				

advantage

4 piston blank lug

H-type caliper

PRODUCT REF

CLH304/25-38/41LL

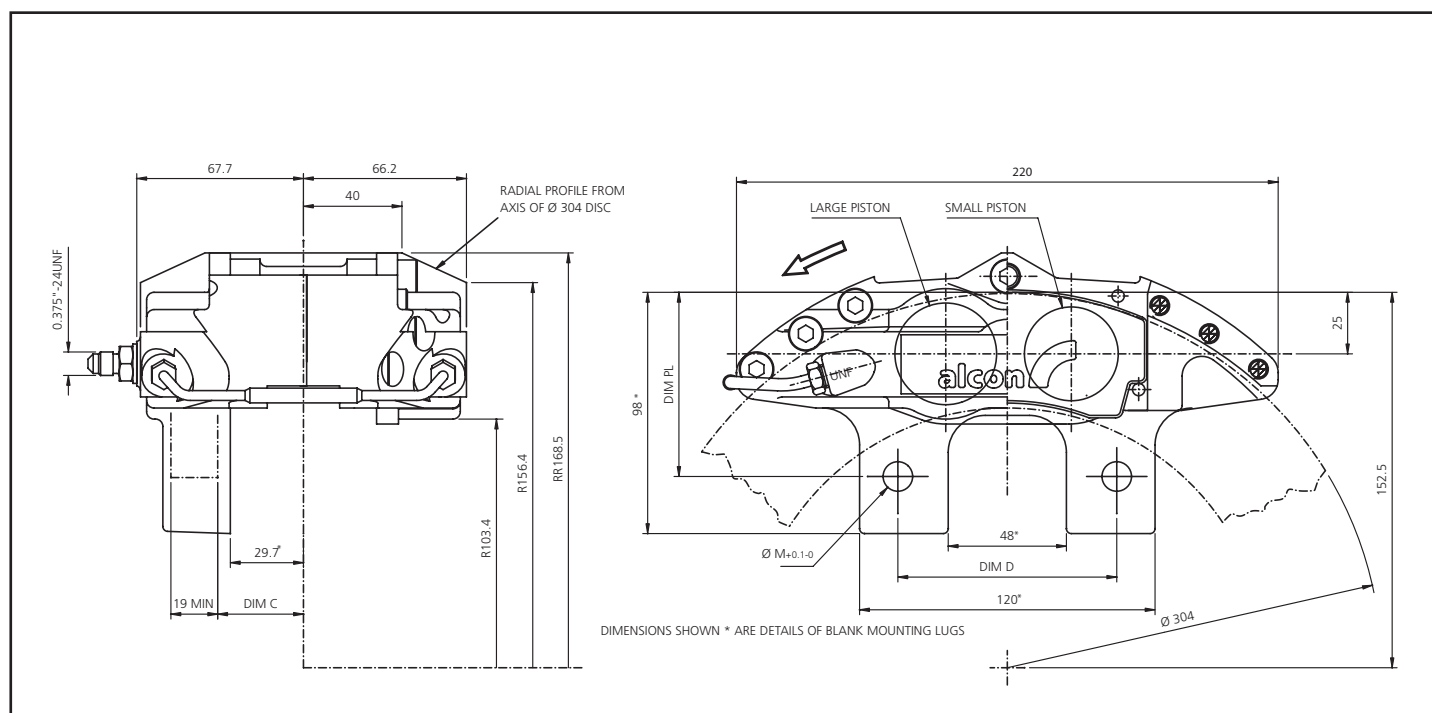
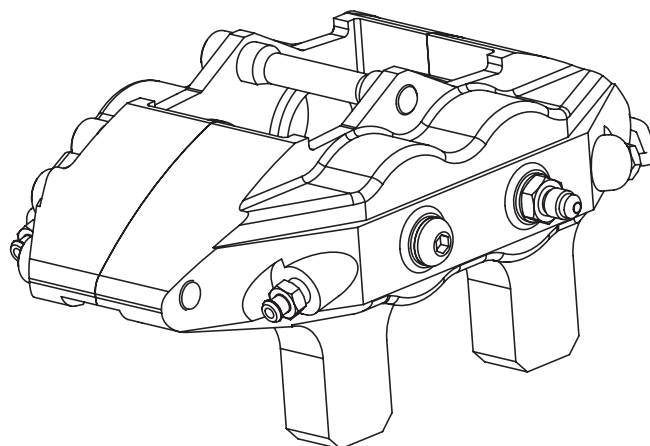
CLH304/25-38/41RL

CLH304/25-38/41LT

CLH304/25-38/41RT

KEY FEATURES AND BENEFITS

- **Blank lug**
Can be machined to suit a wide variety of applications
- **Made from aerospace grade aluminium alloy**
High strength to weight ratio
- **Differential piston diameters**
Minimises pad taper wear
- **Uses popular H-type pad shape**
Wide range of friction materials available
- **Pad retaining sleeve**
High rigidity with straightforward pad changes



SPECIFICATION	
piston diameter	38.1 / 41.3
disc diameter	250-304
disc thickness	22-25.4
caliper weight	2.2 kg
pad area	84 / 89 cm ²
pad thickness	16
seal kit reference	CSK3841E900

MOUNTING DETAILS	
DIM C min	29.7
DIM C max	39.7
DIM D min	76.0
DIM D max	90.0
diameter M min	9.6
diameter M max	12.2
DIM PL min	55.0
DIM PL max	85.0

PAD SHAPES	
Alcon	4463
Carbone Lorraine	5007W43 / 5003W48
Ferodo	FRP219 / FRP201
Hawk	HB107
Mintex	MDB1200 / MDB1864
Pagid	U1265
SBS	3001

advantage

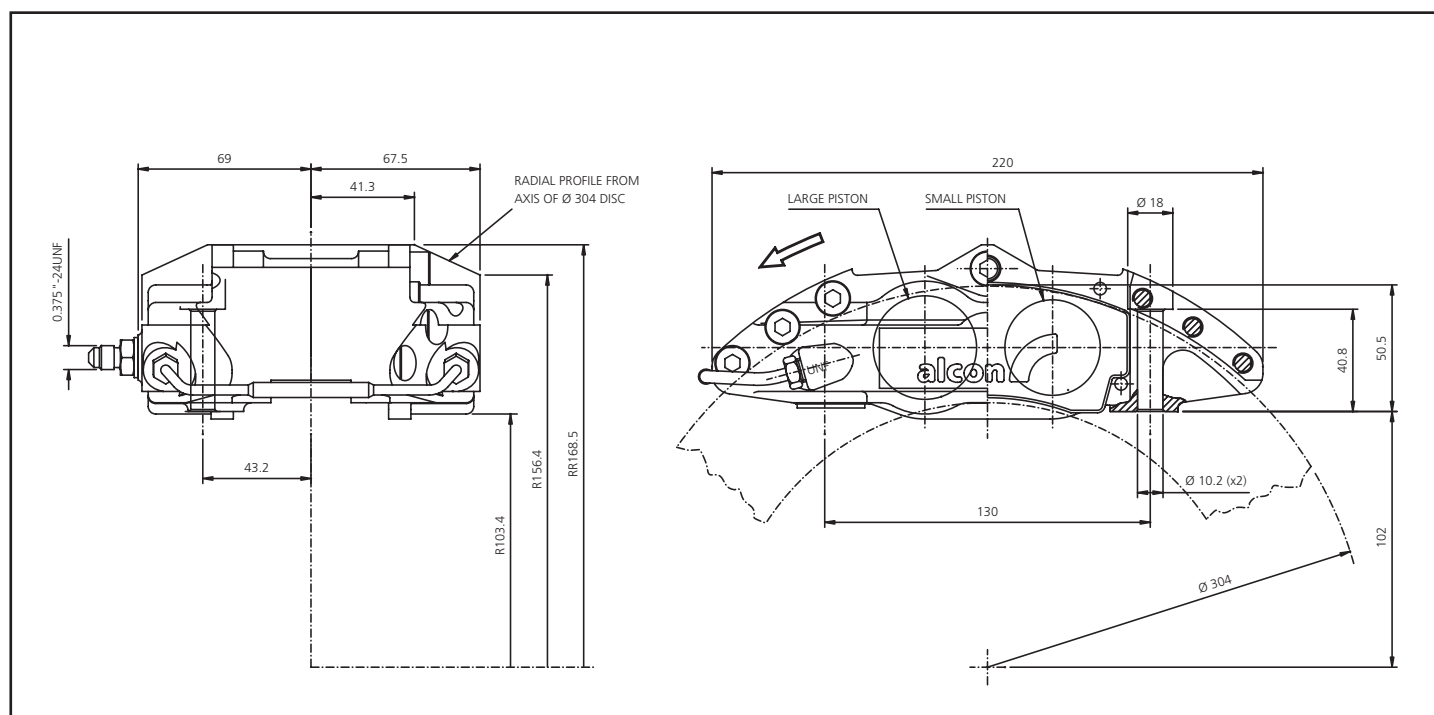
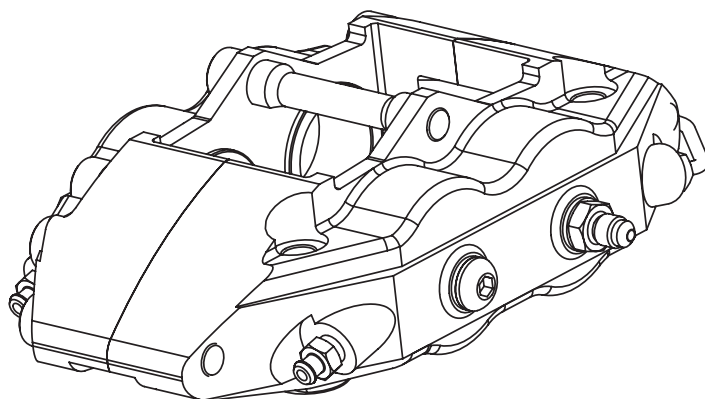
4 piston radial mount H-type caliper

PRODUCT REF

CRH304/28-32/32LL	CRH304/28-38/41LL
CRH304/28-32/32RL	CRH304/28-38/41RL
CRH304/28-32/32LT	CRH304/28-38/41LT
CRH304/28-32/32RT	CRH304/28-38/41RT

KEY FEATURES AND BENEFITS

- **Radial mounting for maximum rigidity**
Firm, consistent pedal
- **Made from aerospace grade aluminium alloy**
High strength to weight ratio
- **Differential piston diameters**
Minimises pad taper wear
- **Uses popular H-type pad shape**
Wide range of friction materials available
- **Pad retaining sleeve**
High rigidity with straightforward pad changes



SPECIFICATION	32/32	38/41	PAD SHAPES	
piston diameter	31.8 / 31.8	38.1 / 41.3	Alcon	4463
disc diameter	250-304	250-304	Carbone Lorraine	5007W43 / 5003W48
disc thickness	25.4-28	25.4-28	Ferodo	FRP219 / FRP201
caliper weight	1.91kg	1.91kg	Hawk	HB107
pad area	84cm ² / 89cm ²	84cm ² / 89cm ²	Mintex	MDB1200 / MDB1864
pad thickness	16	16	Pagid	U1265
			SBS	3001
seal kit reference	CSK3232E900	CSK3841E900		

advantage

4 piston radial mount B-type caliper - 28mm disc

PRODUCT REF

CRB304/28-41/44LL

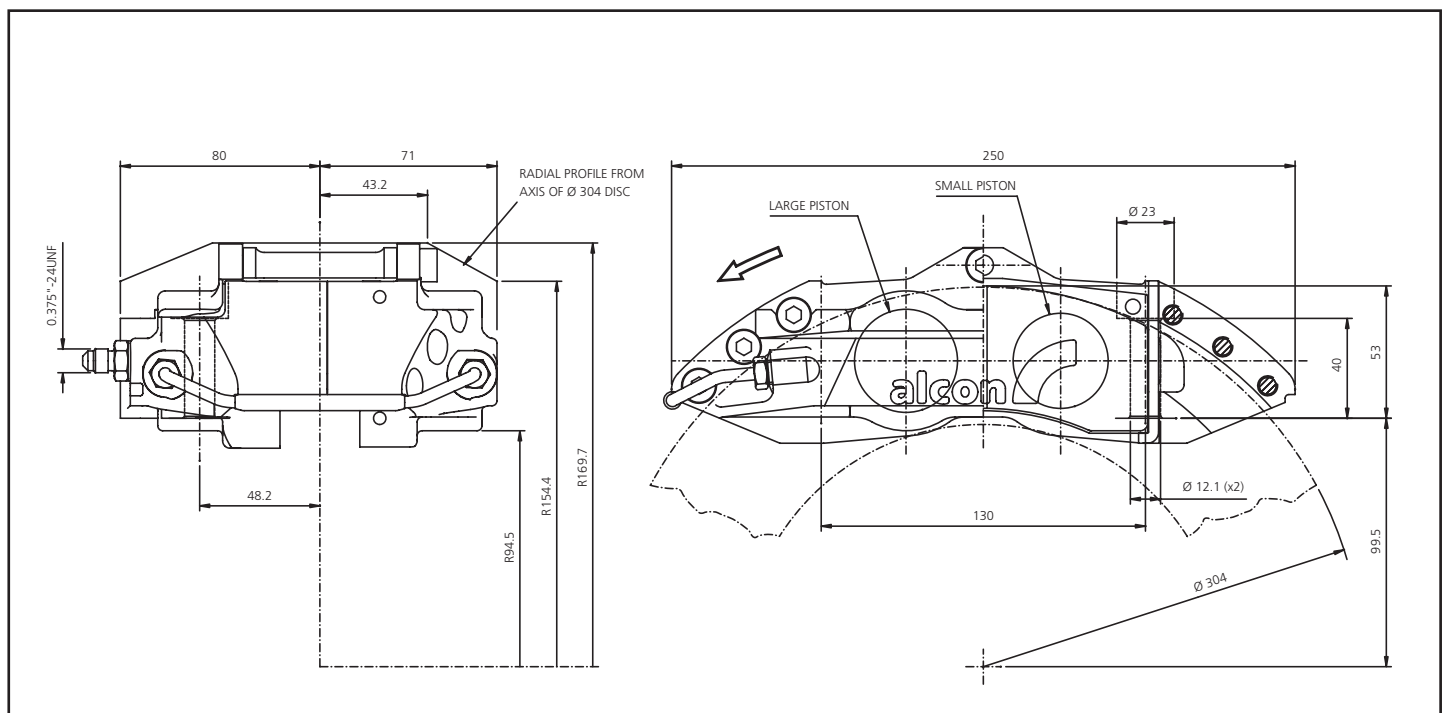
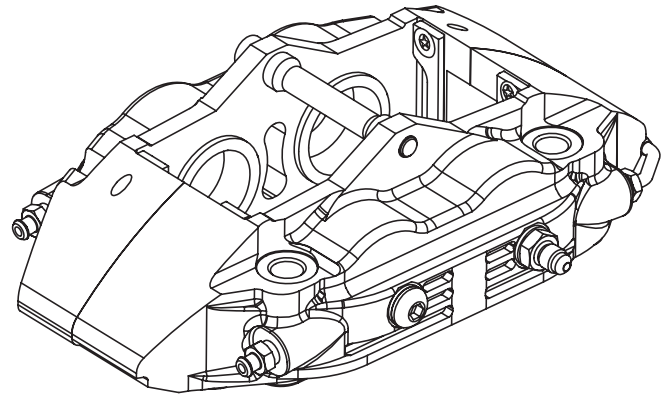
CRB304/28-41/44RL

CRB304/28-41/44LT

CRB304/28-41/44RT

KEY FEATURES AND BENEFITS

- **Radial mounting for maximum rigidity**
Firm, consistent pedal
- **Made from aerospace grade aluminium alloy**
High strength to weight ratio
- **Differential piston diameters**
Minimises pad taper wear
- **Uses popular B-type pad shape**
Wide range of friction materials available
- **Pad retaining sleeve**
High rigidity with straightforward pad changes



SPECIFICATION	
piston diameter	41.3 / 44.5
disc diameter	250-304
disc thickness	25.4-28
caliper weight	2.56kg
pad area	133 cm ²
pad thickness	16
seal kit reference	CSK4145E751

PAD SHAPES	
Alcon	4441
Carbone Lorraine	5005W50
Ferodo	FRP1077
Hawk	HB105
Mintex	MDB1697
Pagid	U1595
SBS	3002

advantage

4 piston radial mount B-type caliper - 32mm disc

PRODUCT REF

CRB330/32-38/41LL

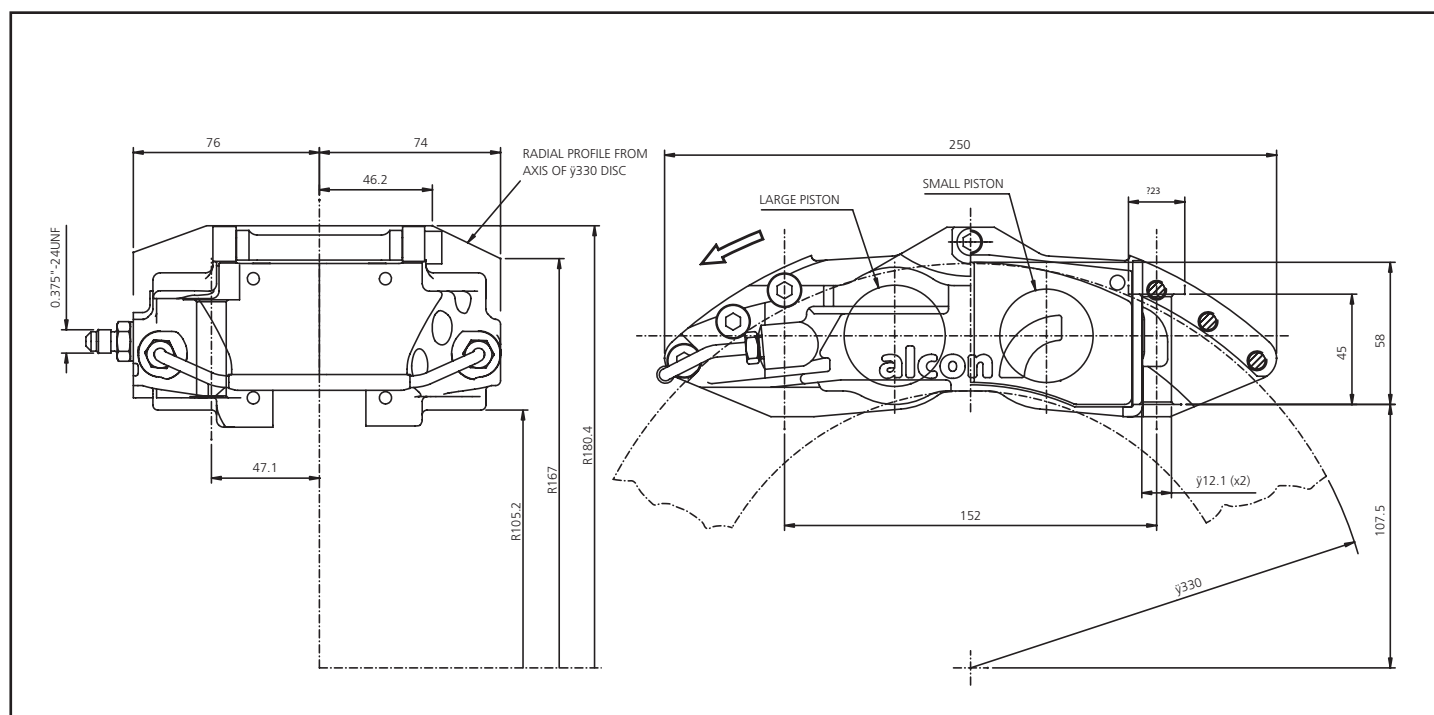
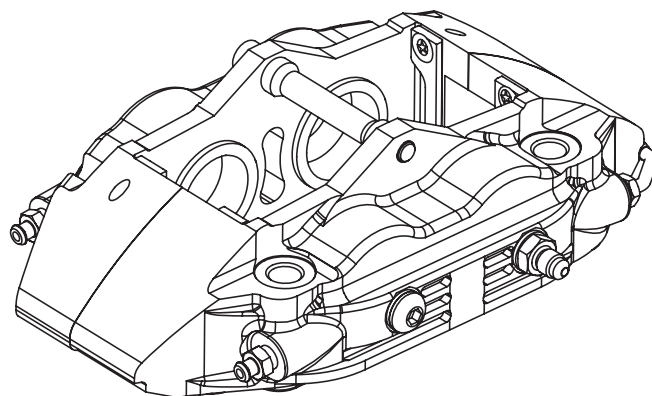
CRB330/32-38/41RL

CRB330/32-38/41LT

CRB330/32-38/41RT

KEY FEATURES AND BENEFITS

- **Radial mounting for maximum rigidity**
Firm, consistent pedal
- **Made from aerospace grade aluminium alloy**
High strength to weight ratio
- **Differential piston diameters**
Minimises pad taper wear
- **Uses popular B-type pad shape**
Wide range of friction materials available
- **Pad retaining sleeve**
High rigidity with straightforward pad changes



SPECIFICATION

piston diameter	38.1 / 41.3
disc diameter	300-330
disc thickness	28-32
caliper weight	2.70kg
pad area	133 cm ²
pad thickness	16

seal kit reference CSK3841E900

PAD SHAPES

Alcon	4441
Carbone Lorraine	5005W50
Ferodo	FRP1077
Hawk	HB105
Mintex	MDB1697
Pagid	U1595
SBS	3002

advantage



4 piston radial mount K-type caliper

PRODUCT REF

CRK355/32-41/44LL

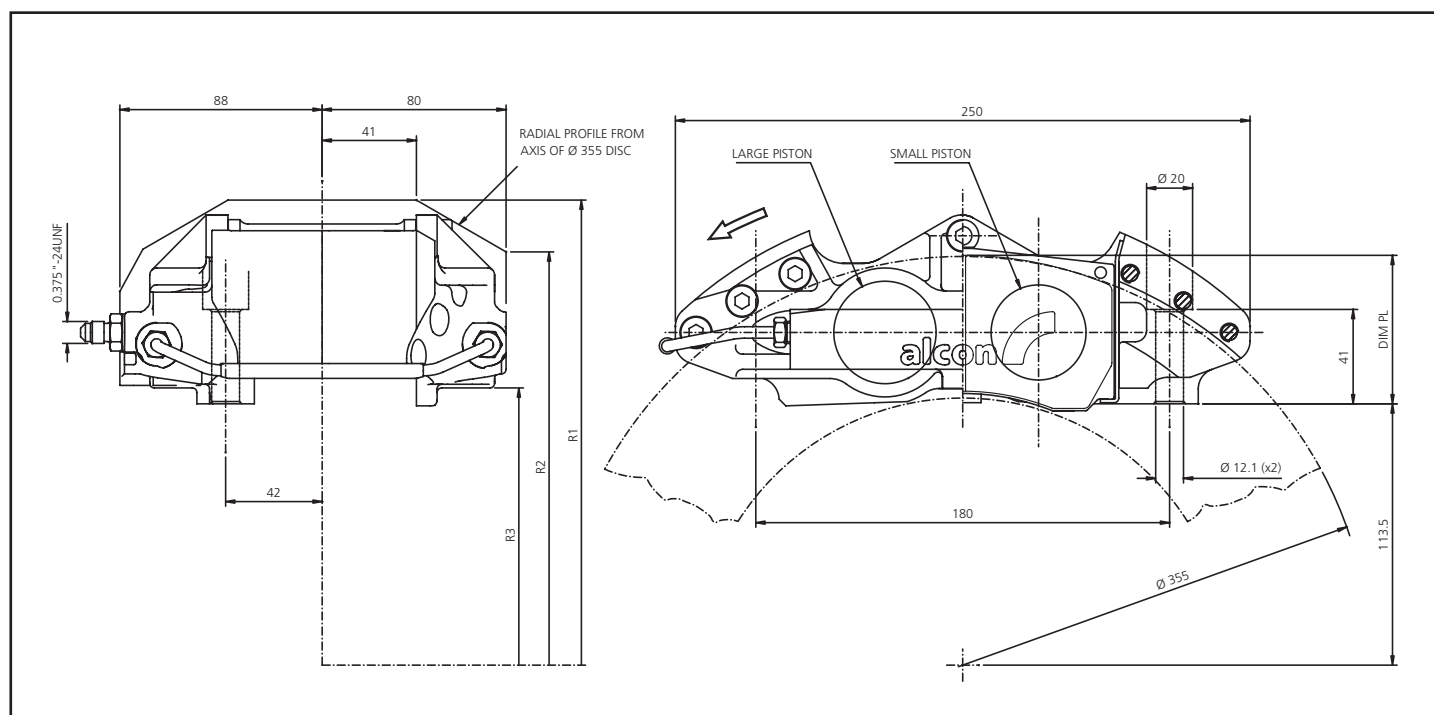
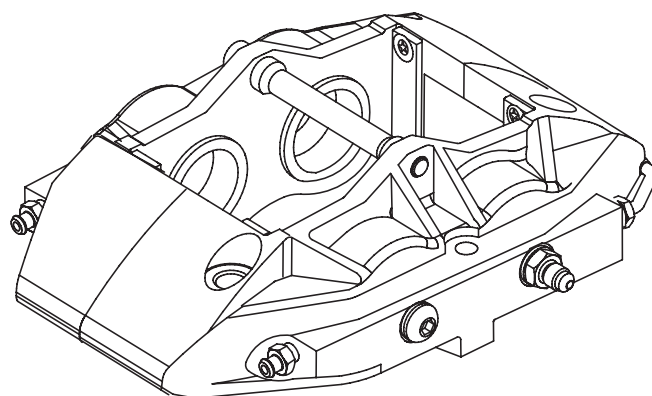
CRK355/32-41/44RL

CRK355/32-41/44LT

CRK355/32-41/44RT

KEY FEATURES AND BENEFITS

- **Radial mounting for maximum rigidity**
Firm, consistent pedal
- **Made from aerospace grade aluminium alloy**
High strength to weight ratio
- **Differential piston diameters**
Minimises pad taper wear
- **Uses either popular B-type or K-type pad shapes**
Wide range of friction materials available
- **Pad retaining sleeve**
High rigidity with straightforward pad changes



SPECIFICATION	
piston diameter	41.3 / 44.5
disc diameter	295-355
disc thickness	28-32
caliper weight	2.7kg
pad area	133 / 152 cm ²
pad thickness	20
seal kit reference	CSK4145E751

PAD SHAPES	
Alcon	4476
Ferodo	FRP3012
Hawk	HB187
Pagid	U1756

PAD DETAILS				
	DIM PL	R1	R2	R3
B-TYPE	61	202	177	124.0
K-TYPE	64.5	200	175	121.0

advantage

6 piston radial mount caliper

PRODUCT REF

CR6380/32-30/35/38LL

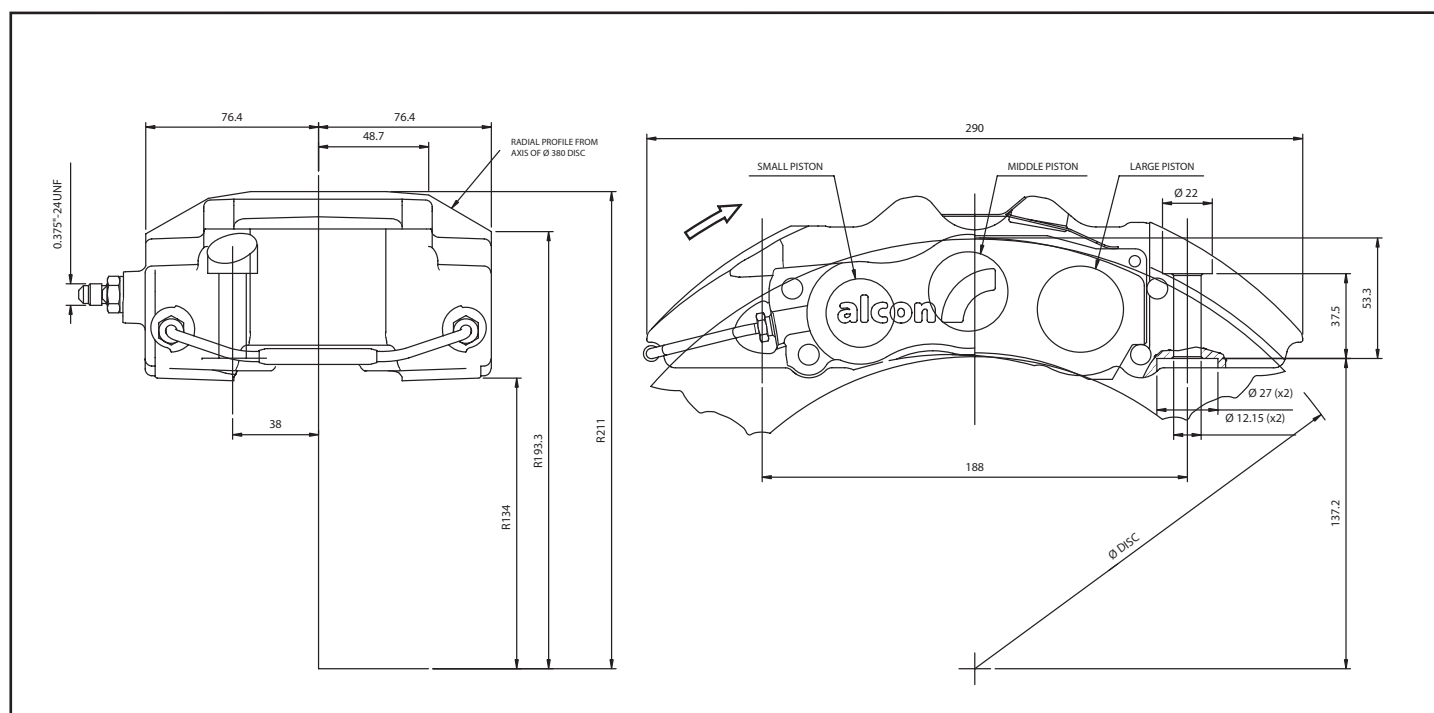
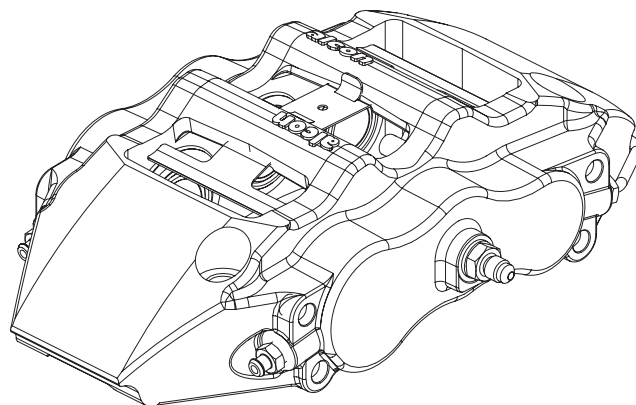
CR6380/32-30/35/38RL

CR6380/32-30/35/38LT

CR6380/32-30/35/38RT

KEY FEATURES AND BENEFITS

- **Radial mounting for maximum rigidity**
Firm, consistent pedal
- **Made from aerospace grade aluminium alloy**
High strength to weight ratio
- **Differential piston diameters**
Minimises pad taper wear
- **Uses either popular pad shapes**
Wide range of friction materials available from most manufacturers



SPECIFICATION

piston diameter	30.2 / 34.9 / 38.1
disc diameter	343-380
disc thickness	30-32
caliper weight	3.5kg
pad area	74 cm ²
pad thickness	18

seal kit reference CSK303538E751

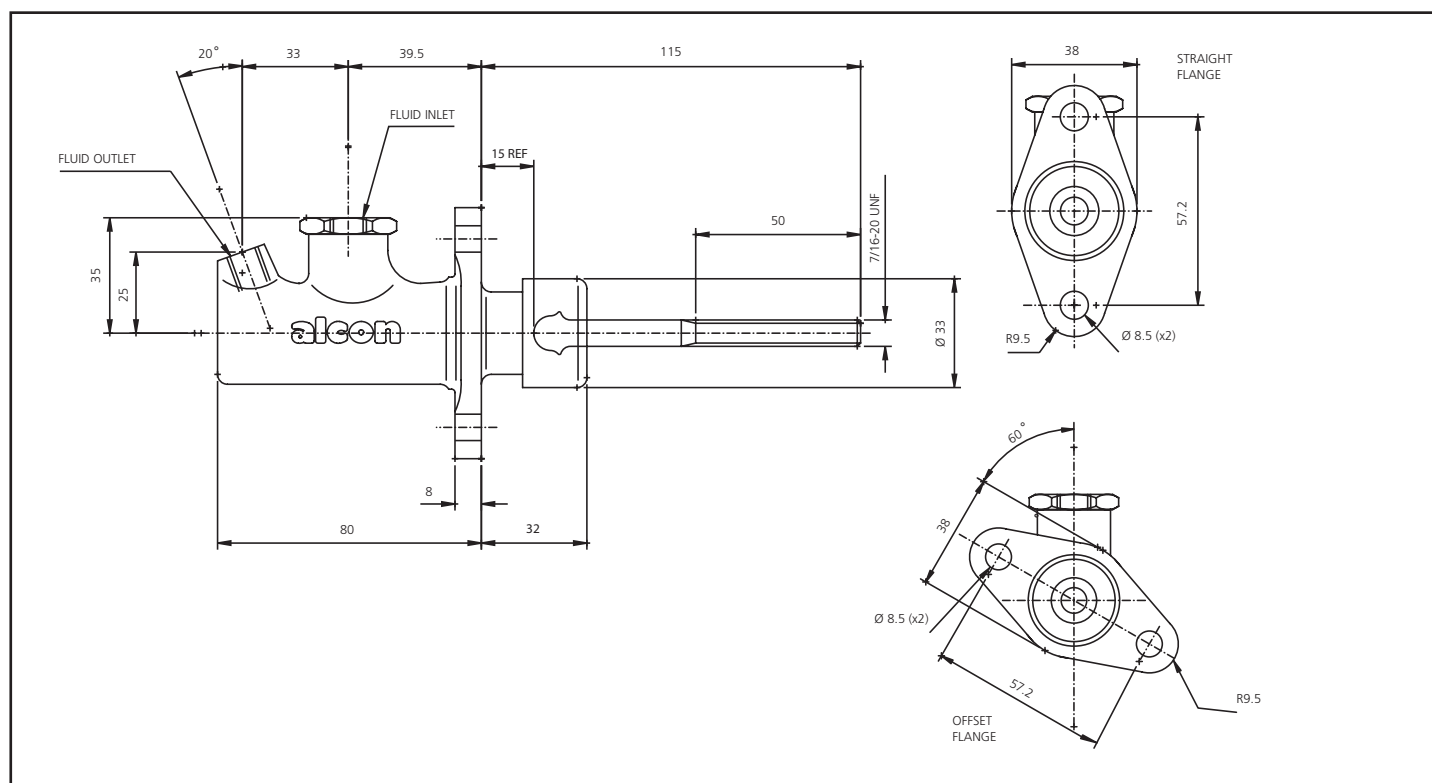
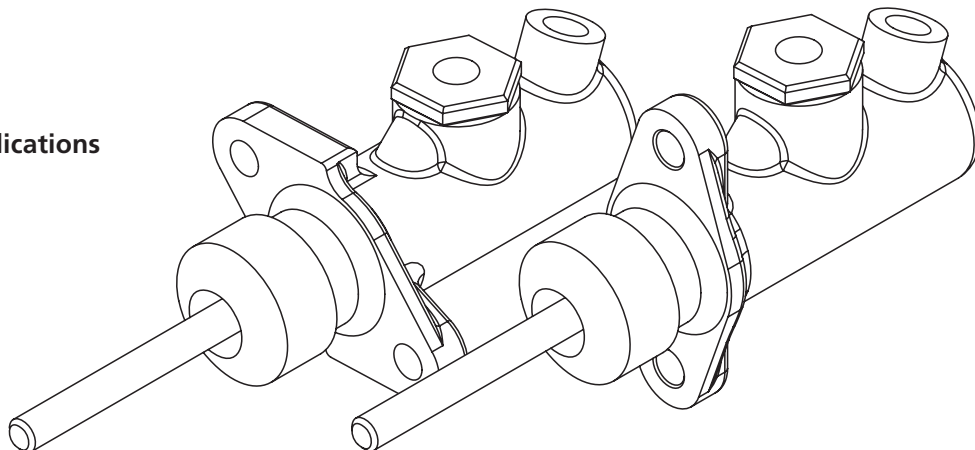
PAD SHAPES

Alcon	4497
Ferodo	FRP3081
Pagid	U8028
Mintex	MDB2607
SBS	3061

advantage master cylinder – flange mount

KEY FEATURES AND BENEFITS

- Compact design
- Cast aluminium body
Low weight
- Suitable for brake or clutch applications
- Interchangeability with
other manufacturers' cylinders



ADVANTAGE REF			
STRAIGHT FLANGE	Ø	WEIGHT	SEAL KIT REF
MS/625	5/8" 0.625"	0.32 kg	MSK1200RK
MS/700	0.70"	0.32 kg	MSK1210RK
MS/750	3/4" 0.75"	0.32 kg	MSK1220RK
MS/812	13/16" 0.812"	0.32 kg	MSK1230RK
MS/875	7/8" 0.875"	0.32 kg	MSK1240RK

ADVANTAGE REF			
OFFSET FLANGE	Ø	WEIGHT	SEAL KIT REF
MO/625	5/8" 0.625"	0.32 kg	MSK1200RK
MO/700	0.70"	0.32 kg	MSK1210RK
MO/750	3/4" 0.75"	0.32 kg	MSK1220RK
MO/812	13/16" 0.812"	0.32 kg	MSK1230RK
MO/875	7/8" 0.875"	0.32 kg	MSK1240RK

hydraulic clutch release units

PRODUCTS

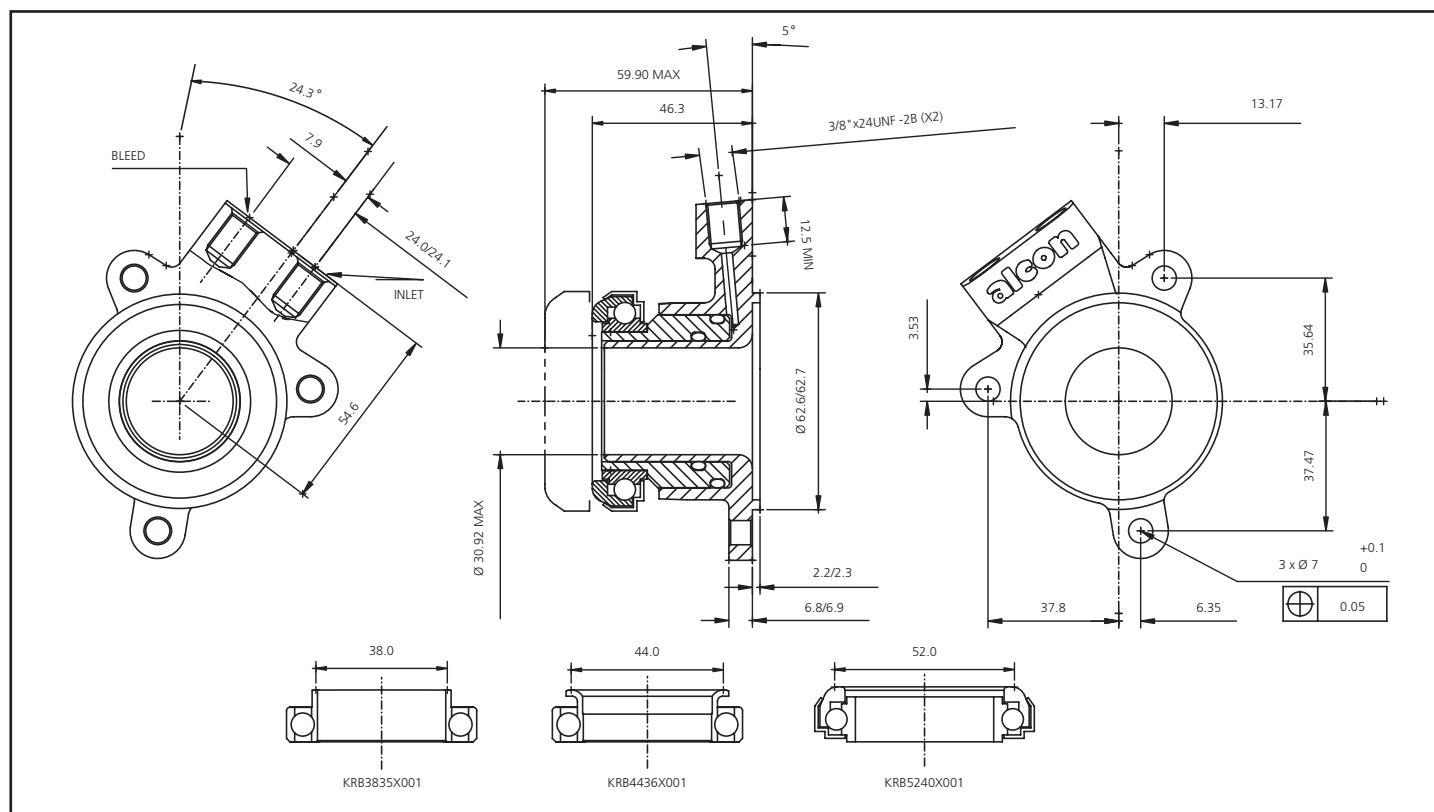
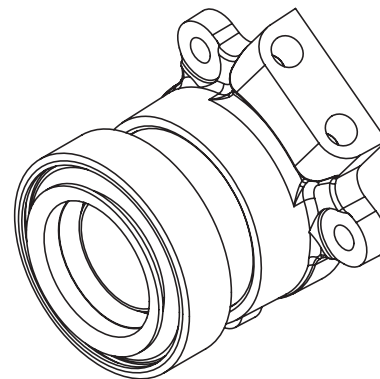
KSA3813FX001

KSA4413FX001

KSA5213FX001

KEY FEATURES AND BENEFITS

- **Compact design**
Low weight
- **Self centering high speed replaceable bearing included**
- **Durable hard anodised finish**
- **Replaces existing Saab type units**



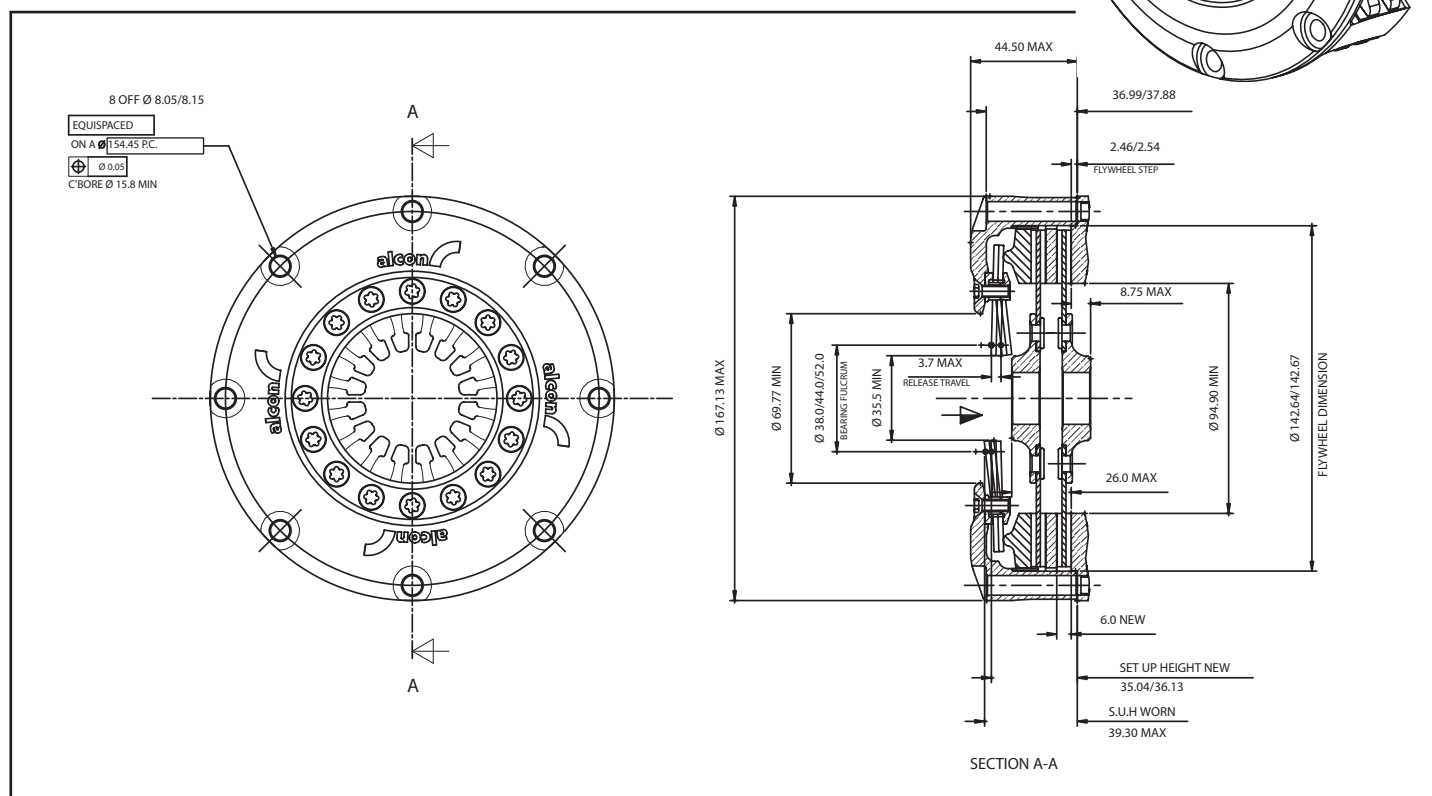
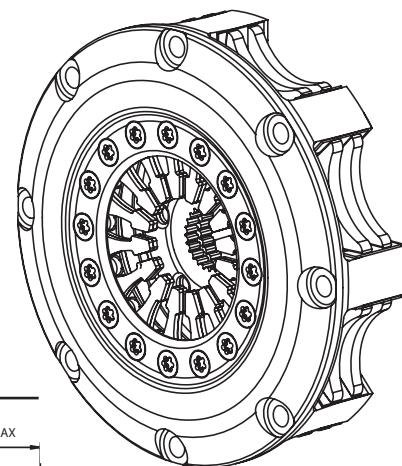
SPECIFICATION	
effective piston area	10cm ²
weight (excl. bearing)	0.21kg
maximum operating pressure	35 bars
maximum piston stroke	13.6mm
seal kit reference	SSK5035E601

PRODUCT REF	BEARING	REPLACEMENT
	Ø	BEARING REF
KSA3813FX001	38	KRB3835X001
KSA4413FX001	44	KRB4436X001
KSA5213FX001	52	KRB5240X001

twin plate rally clutch assembly 140mm / 5.50"

KEY FEATURES AND BENEFITS

- **Compact design**
Low weight and moment of inertia
- **High stiffness cover design**
Improved startline control
- **Optimised fulcrum position**
Reduced pressure plate distortion
- **Open lug type design**
Improved cooling and dust removal
- **Interchangeability with other manufacturers' products**

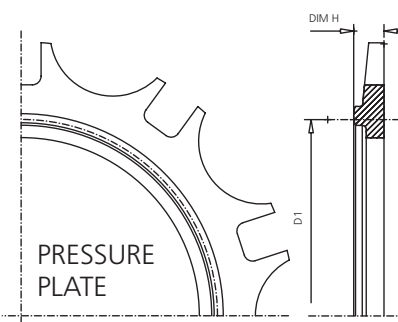


PRODUCT REF	MAX TORQUE	SPRING RATE
KKR1402HDGSR01	572NM	Double grey
KKR1402HORSR01	472NM	Orange

For pot type flywheels replace SR in the part number with PR to obtain new clutch part number

FLOATER PLATE
PRODUCT REF
KPS140L08FX01

PRESSURE PLATE			
PRODUCT REF	RATIO	DIM H	D1
KPS140L08H450	High	11.5	117
KPS140L08U450	Ultra high	11.5	114

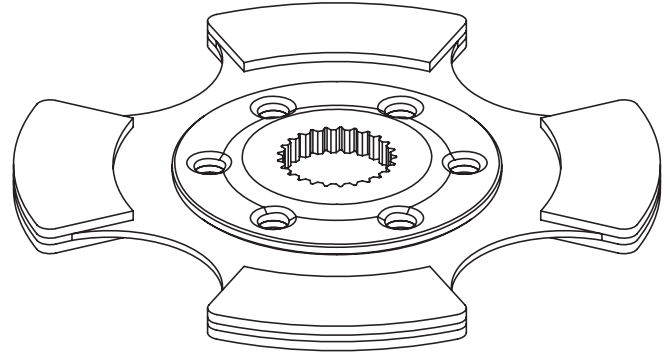


rally drive plates

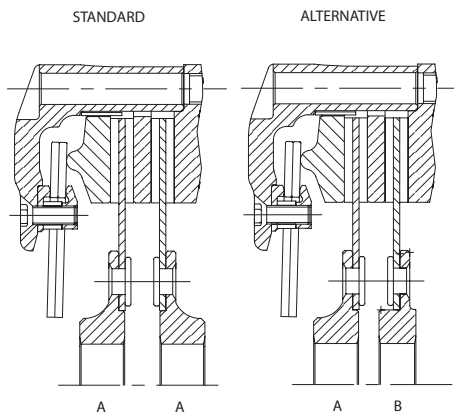
140mm / 5.50"

KEY FEATURES AND BENEFITS

- **Optimised design**
Low weight and moment of inertia
- **Optimised hub length**
Low inertia with minimum input shaft wear
- **Cerametallic material**
High energy capacity
- **Interchangeability with other manufacturers' plates**



KKR1402 TWIN PLATE INSTALLATION OPTIONS

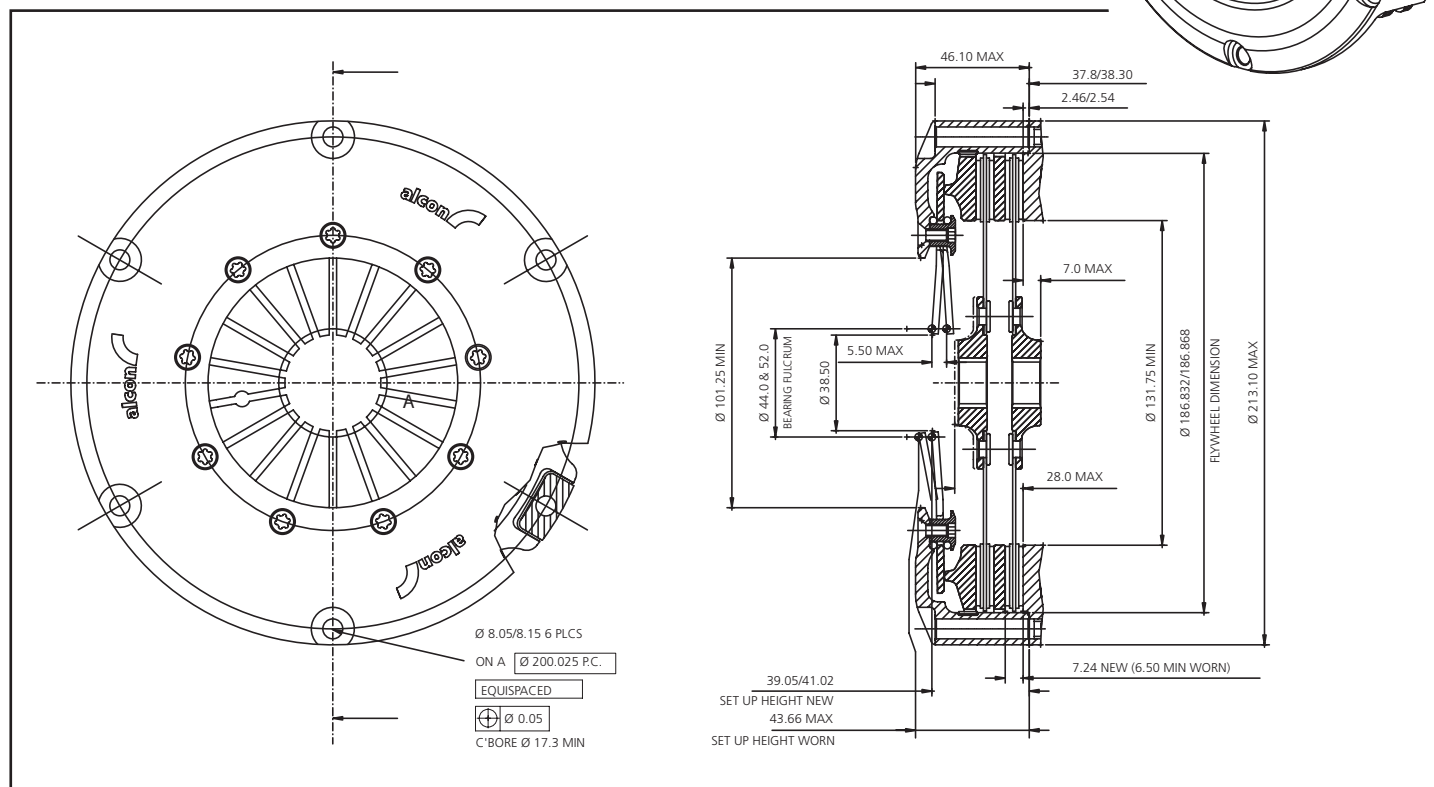
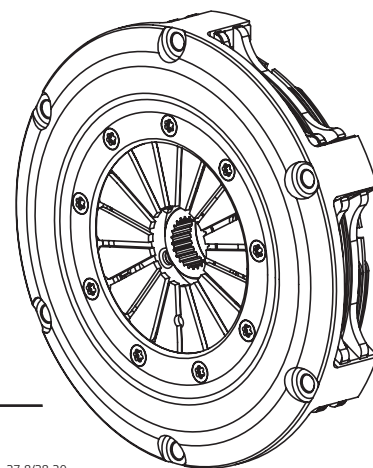


SPLINE SIZE				PRODUCT REF	
NOMINAL	Ø	TEETH	NEW THICKNESS	A-TYPE	B-TYPE
				(11.7 HUB LENGTH)	(9.6 HUB LENGTH)
21 x 18	21.1	18	6.0	KDC550FA17X001	KDC550FB17X001
22 x 28	22.0	28	6.0	KDC550FA95X001	KDC550FB95X001
7/8" x 20	22.2	20	6.0	KDC550FA25X004	KDC550FB25X004
24.25 x 21	24.3	21	6.0	KDC550FA27X001	KDC550FB27X001
1" x 23	25.4	23	6.0	KDC550FA30X002	KDC550FB30X002

twin plate rally clutch assembly 184mm / 7.25"

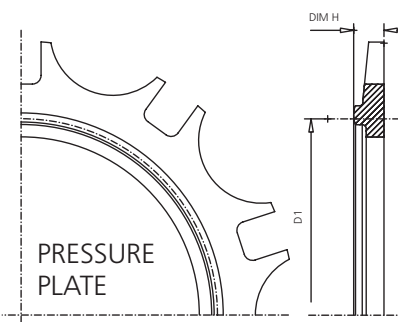
KEY FEATURES AND BENEFITS

- **Compact design**
Low weight and moment of inertia
- **High stiffness cover design**
Improved startline control
- **Optimised fulcrum position**
Reduced pressure plate distortion
- **Open lug type design**
Improved cooling and dust removal
- **Interchangeability with other manufacturers' products**



PRODUCT REF	MAX TORQUE	SPRING RATE
KKR1842HTGSR01	817NM	Triple grey
KKR1842UTGSR01	990NM	Triple grey
KKR1842HDGSR01	786NM	Double grey
KKR1842UDGSR01	983NM	Double grey
KKR1842HSGSR01	707NM	Single grey
KKR1842USGSR01	872NM	Single grey
KKR1842HORSR01	522NM	Orange
KKR1842UORSR01	650NM	Orange

FLOATER PLATE			
PRODUCT REF			
KPS184L6F180			
PRESSURE PLATE			
PRODUCT REF	RATIO	DIM H	D1
KPS184L6H511	High	13	157
KPS184L6U511	Ultra high	13	152

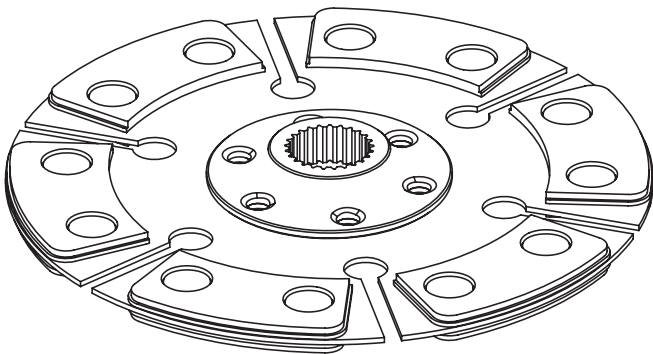


rally drive plates

184mm / 7.25"

KEY FEATURES AND BENEFITS

- **Optimised design**
Low weight and moment of inertia
- **Optimised hub length**
Low inertia with minimum input shaft wear
- **Ceramic material**
High energy capacity
- **Interchangeability with other manufacturers' plates**

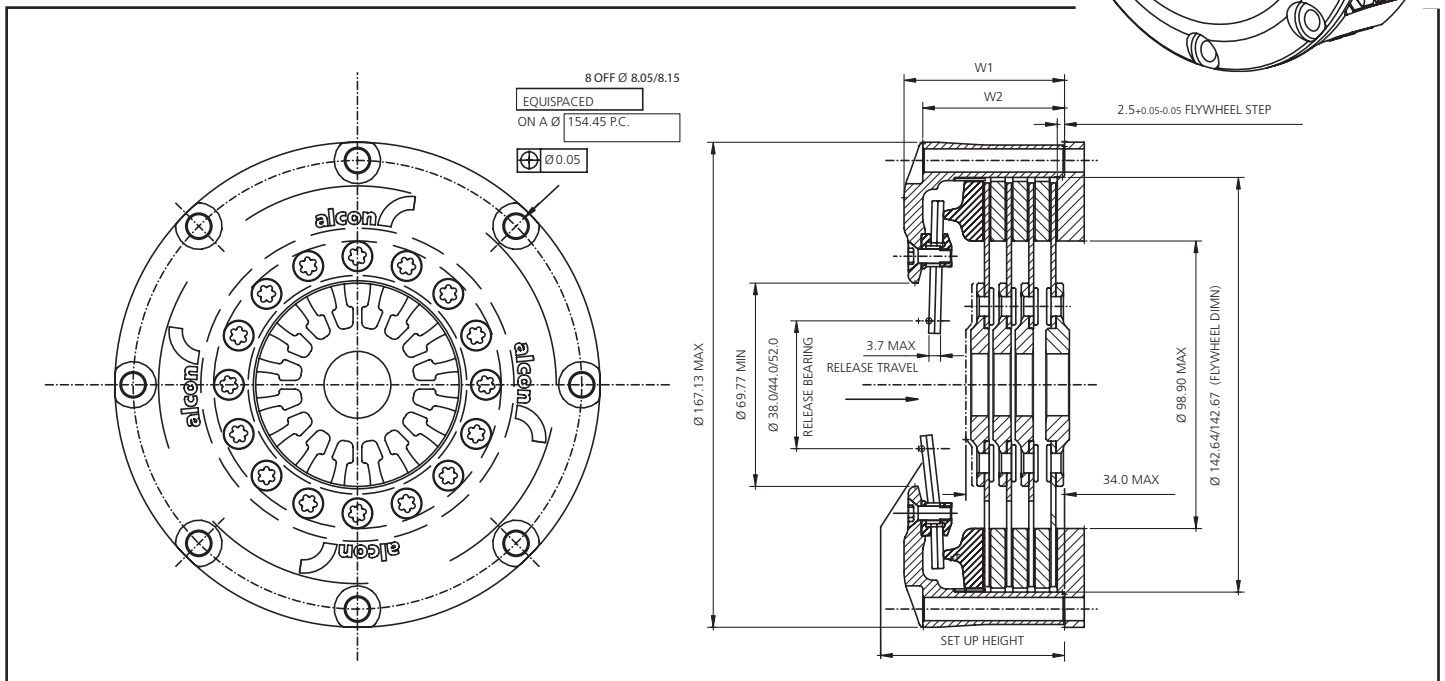
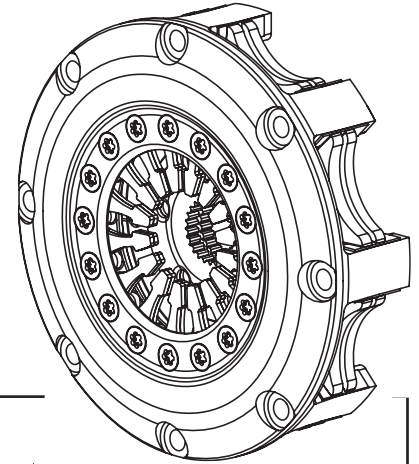


SPLINE SIZE				PRODUCT REF	
NOMINAL	Ø	TEETH	NEW THICKNESS	4 PADS (11.7 HUB LENGTH)	6 PADS (15.7 HUB LENGTH)
3/4" x 17	19.1	17	7.2	–	KDC720615X010
0.8" x 24	20.5	24	7.2	–	KDC720632X010
21 x 18	21.1	18	7.2	KDC720417X010	KDC720617X010
22 x 26	22.0	26	7.2	KDC720435X010	KDC720635X010
7/8" x 20	22.2	20	7.2	KDC720425X010	KDC720625X010
24.25 x 21	24.3	21	7.2	KDC720427X010	KDC720627X010
1" x 22	25.4	22	7.2	KDC720429X010	KDC720629X010
1" x 23	25.4	23	7.2	KDC720430X010	KDC720630X010
1" x 24	25.4	24	7.2	–	KDC720633X010
25.8 x 24	25.8	24	7.2	–	KDC720686X010
1 1/8" x 10	28.6	10	7.2	KDC720406X010	–
29 x 10	29.0	10	7.2	–	KDC720610X010
29 x 26	29.0	26	7.2	KDC720485X010	KDC720685X010
1 5/32" x 26	29.5	26	7.2	–	KDC720636X010

multi-plate race clutch assembly 140mm / 5.50"

KEY FEATURES AND BENEFITS

- **Compact design**
Low weight and moment of inertia
- **High stiffness cover design**
Improved startline control
- **Optimised fulcrum position**
Reduced pressure plate distortion
- **Interchangeability with other manufacturers' clutches**
- **Open lug type design**
Improved cooling & dust removal
- **Interchangeability with other manufacturers' plates**



FLOATER PLATE

PRODUCT REF

KPS140L08FX02

PRESSURE PLATE (PLEASE REFER TO DRAWING ON OPPOSITE PAGE)

PRODUCT REF

RATIO

DIM H

D1

KPS140L08H537

High

13.7

117

KPS140L08U537

Ultra high

13.7

114

PRODUCT REF	Ø	PLATES	MAX	SPRING	W1	W2	SET UP HEIGHT	SET UP HEIGHT
			TORQUE					
KKS1402HORSR01	140	2	480	Orange	39.8	32.4	30.4	34
KKS1402HDGSR01	140	2	582	Double grey	39.8	32.4	30.4	34
KKS1403HORSR01	140	3	721	Orange	46.5	40.1	37.5	41.3
KKS1403HDGSR01	140	3	872	Double grey	46.5	40.1	37.5	41.3
KKS1404HDGSR01	140	4	1117	Double grey	54.4	46.6	44.6	48.6

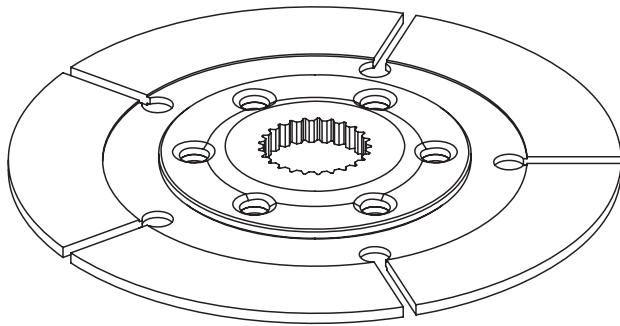
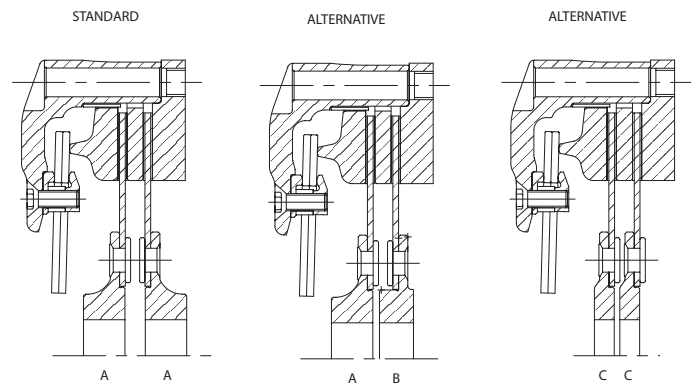
race drive plates

140mm / 5.50"

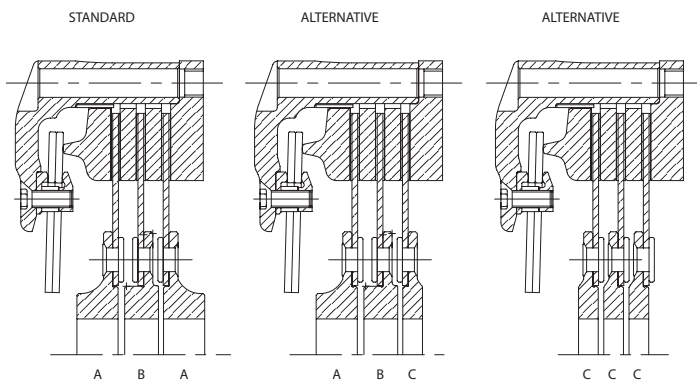
KEY FEATURES AND BENEFITS

- **Optimised hub length**
Low inertia with minimum input shaft wear
- **Sintered material**
High energy capacity
- **High strength spring steel core plate**
- **Interchangeability with other manufacturers' plates**

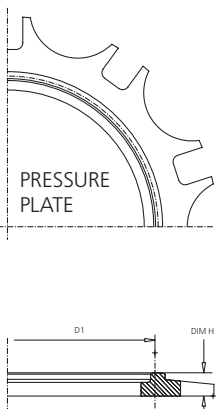
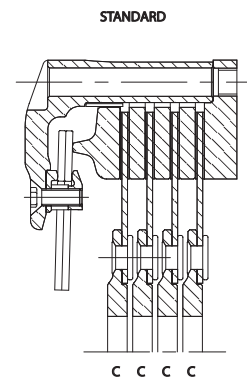
KKS1402 TWIN PLATE INSTALLATION OPTIONS



KKS1403 TRIPLE PLATE INSTALLATION OPTIONS



KKS1404 FOUR PLATE INSTALLATION

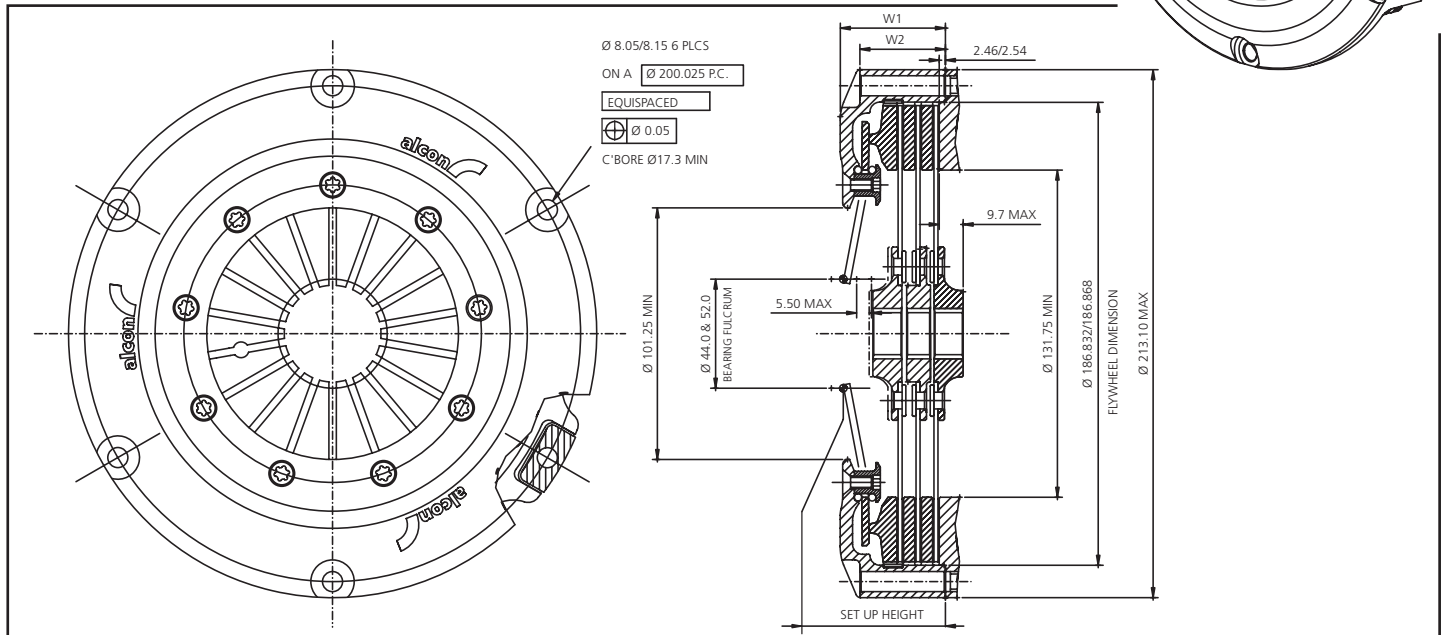
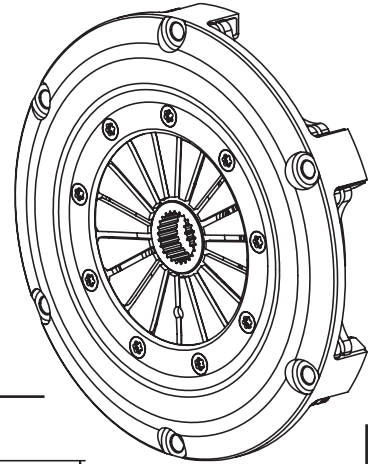


SPLINE SIZE				PRODUCT REF		
NOMINAL	Ø	TEETH	NEW THICKNESS	A-TYPE	B-TYPE	C-TYPE
				(11.7 HUB LENGTH)	(9.6 HUB LENGTH)	(5.6 HUB LENGTH)
21 x 18	21.1	18	2.64	KDS550FA17X001	KDS550FB17X001	KDS550FC17X001
22 x 28	22.0	26	2.64	KDS550FA35X001	KDS550FB35X001	-
7/8" x 20	22.2	20	2.64	KDS550FA25X001	KDS550FB25X001	KDS550FC25X001
24.25 x 21	24.3	21	2.64	KDC550FA27X001	KDS550FB27X001	KDS550FC27X001
1" x 23	25.4	23	2.64	KDS550FA30X001	KDS550FB30X001	KDS550FC30X001
1" x 24	25.4	24	2.64	KDS550FA33X001	KDS550FB33X001	-
1 1/16" x 10	27.0	10	2.64	KDS550FA05X001	KDS550FB05X001	-
1 5/32" x 26	29.5	26	2.64	KDS550FA36X001	KDS550FB36X001	KDS550FC36X001
1 1/4" x 10	31.8	10	2.64	KDS550FA07X001	KDS550FB07X001	-

multi-plate race clutch assembly 184mm / 7.25"

KEY FEATURES AND BENEFITS

- **Compact design**
Low weight and moment of inertia
- **High stiffness cover design**
Improved startline control
- **Optimised fulcrum position**
Reduced pressure plate distortion
- **Interchangeability with other manufacturers' clutches**
- **Open lug type design**
Improved cooling & dust removal
- **Interchangeability with other manufacturers' plates**



FLOATER PLATE

PRODUCT REF

KPS184L6F180

PRESSURE PLATE (PLEASE REFER TO DRAWING ON OPPOSITE PAGE)

PRODUCT REF

RATIO

DIM H

D1

KPS184L6H444

High

11.3

157

KPS184L6U444

Ultra high

11.3

152

PRODUCT REF	Ø	PLATES	MAX TORQUE	SPRING RATE	W1 MAX	W2 MIN	SET UP HEIGHT	
							NEW MIN	WORN MAX
KKS1841HSGSR01	184	1	305	Grey	27.9	19.7	21	26.2
KKS1842HORSR01	184	2	522	Orange	35.2	27	32.6	38.2
KKS1842HSGSR01	184	2	610	Grey	35.2	27	32.6	38.2
KKS1842HDGSR01	184	2	678	Double grey	35.2	27	32.6	38.2
KKS1843HDGSR01	184	3	1002	Double grey	42.4	34.3	35.5	39.5
KKS1843UDGSR01	184	3	1320	Double grey	42.4	34.3	35.5	39.5

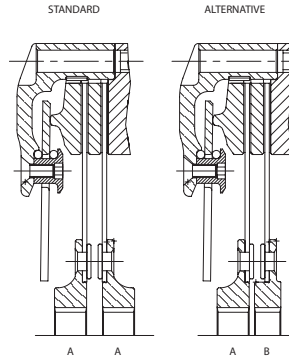
race drive plates

184mm / 7.25"

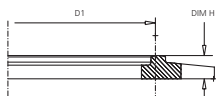
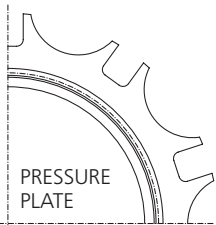
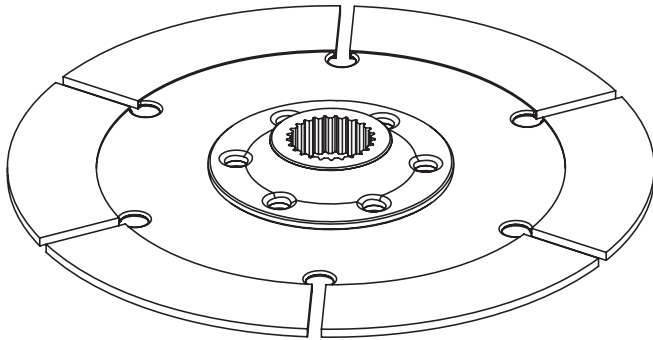
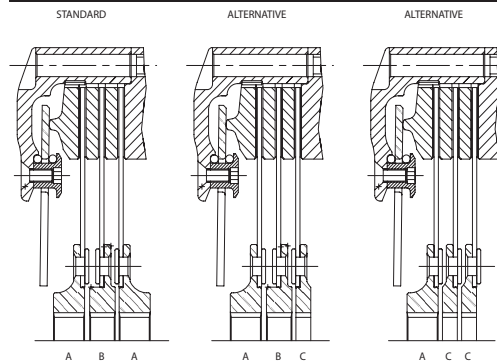
KEY FEATURES AND BENEFITS

- **Optimised hub length**
Low inertia with minimum input shaft wear
- **Sintered material**
High energy capacity
- **High strength spring steel core plate**
- **Interchangeability with other manufacturers' plates**

KKS1842 TWIN PLATE INSTALLATION



KKS1843 TRIPLE PLATE INSTALLATION OPTIONS



SPLINE SIZE				PRODUCT REF		
NOMINAL	Ø	TEETH	NEW THICKNESS	A-TYPE (11.7 HUB LENGTH)	B-TYPE (9.6 HUB LENGTH)	C-TYPE (5.6 HUB LENGTH)
19 x 17	19.0	17	2.64	KDS720FA15X001	KDS720FB15X001	-
21 x 18	21.1	18	2.64	KDS720FA17X001	KDS720FB17X001	-
22 x 26	22.0	26	2.64	KDS720FA35X001*	KDS720FB35X001	-
7/8" x 20	22.2	20	2.64	KDS720FA25X002	KDS720FB25X002	KDS720FC25X001
15/16" x 21	23.8	21	2.64	KDS720FA91X001	KDS720FB91X001	-
24.25 x 21	24.3	21	2.64	KDS720FA27X001	KDS720FB27X001	-
24.25 x 23	24.3	23	2.64	KDS720FA58X001	KDS720FB58X001	KDS720FC58X001
25 x 14	25.0	14	2.64	KDS720FA12X001	KDS720FB12X001	-
1" x 22	25.4	22	2.64	KDS720FA29X001*	KDS720FB29X001	-
1" x 23	25.4	23	2.64	KDS720FA30X001*	KDS720FB30X001	KDS720FC30X001
1" x 24	25.4	24	2.64	KDS720FA33X001	KDS720FB33X001	-
25.8 x 24	25.8	24	2.64	KDS720FA86X001	-	-
1.10" x 10	27.9	10	2.64	KDS720FA04X001	KDS720FB04X001	-
1 1/8" x 10	28.6	10	2.64	KDS720FA06X001*	KDS720FB06X001	-
29 x 10	29.0	10	2.64	KDS720FA10X001*	KDS720FB10X001	-
29 x 21	29.0	21	2.64	KDS720FA28X001	KDS720FB28X001	-
1 5/32" x 26	29.5	26	2.64	KDS720FA36X001	KDS720FB36X001	-
1 1/4" x 10	31.75	10	2.64	KDS720FA07X001	KDS720FB07X001	-
1 1/4" x 29	31.75	29	2.64	KDS720FA38X001	KDS720FB38X001	KDS720FC38X001

* Made using 12 rivet hub

heavy duty clutch covers and plates

HEAVY DUTY AND GROUP N CLUTCH COVERS				
MAKE	MODEL	Ø	SPLINE SIZE	PRODUCT REF
Ford	Escort / Sierra Cosworth Grp N	240	1" x 23	KCS95113X001
Ford	Escort RS Turbo series 2	220	19mm x 17	KCS86113X002
Mitsubishi	Lancer Evo 4, 5 and 6	230	1" x 23	KCS91113X001
Mitsubishi	Lancer Evo 7	240	1" x 23	KCS95113X003
Mitsubishi	Lancer Evo 8 / 9	240	1" x 23	KCS95113X011
Renault	Clio RS	215	22mm x 26	KCS85113X002
Subaru	Sti	240	24.2mm x 24	KCS95113X002
Subaru	Impreza WRX	230	24.2mm x 24	KCS91113X002

HEAVY DUTY AND GROUP N CLUTCH DRIVE PLATES						
MAKE	MODEL	Ø	SPLINE SIZE	RIGID	SPRUNG CENTRE	PRODUCT REF
Alfa Roméo	147	230	7/8" x 20	KDC910625X001		KDC916625X001
BMW	M3 E30	230	29mm x 10	KDC900610X001		N/A
BMW	M3 E36	240	29mm x 10	KDC950610X001		KDC956610X001
Citroen	Saxo VTS 1.6 8V / 16V	200	21.1mm x 18	KDC780417X003		KDC786417X001
Citroen	Xsara MV Gearbox	215	24.2mm x 21	KDC850427X001		KDC856427X003
Citroen	ZX / Xsara	215	21.1mm x 18	KDC850417X001		KDC856417X003
Fiat	Cinquecento / Seicento Sporting	180	17.7mm x 20	KDC710390X001		KDC714390X001
Fiat	Uno 1 turbo 88-89	190	7/8" x 20	N/A		KDC77425X001
Fiat	Uno 2 turbo 90-	200	7/8" x 20	KDC780425X005		KDC786425X001
Ford	Escort / Sierra Cosworth	240	1" x 23	KDC950630X001		KDC956630X001
Ford	Escort Mk1 / Mk2	215	7/8" x 20	KDC850425X001		KDC856425X001
Ford	Escort RST S1	200	20mm x 17	KDC780415X001		KDC786415X001
Ford	Escort RST S2, XR3i	215	20mm x 17	KDC850615X001		KDC856615X001
Ford	Focus 2.0i	230	25.4mm x 23	N/A		KDC916630X008
Lancia	Integrale 16v Incl Evo	230	7/8" x 20	KDC910625X001		KDC916625X001
MG Rover	MGF 1.8 (incl VVC)	220	25.5mm x 24	KDC850633X001		KDC856433X001
Mitsubishi	Lancer Evo 5, 6	230	1" x 23	KDC910630X001		KDC916630X001
Mitsubishi	Lancer Evo 7, 8, 9	240	1" x 23	KDC950630X001		KDC956630X002
Mitsubishi	Pajero	260	1" x 23	N/A		KDC106630X002
Nissan	Terrano / Pathfinder / Sunny Gti-R	240	25.5mm x 24	N/A		KDC956633X001
Opel	Calibra 2.0i 16v turbo	228	25mm x 14	KDC900612X001		KDC906612X001
Opel	Corsa Gsi 16v	200	18.7mm x 14	KDC780437X001		N/A
Peugeot	106 & 205 Rallye	180	21.1mm x 18	KDC710317X002		KDC714317X001
Peugeot	106 s16 Cup	200	24.2mm x 21	KDC780427X001		KDC786427X005
Peugeot	205Gti 1.6 & 1.9 / 309Gti 8s	200	21.1mm x 18	KDC780417X003		KDC786417X001
Peugeot	306 2.0L / 309 Gti 16s / 405 Mi16	215	21.1mm x 18	KDC850417X001		KDC856417X003
Peugeot	306 S16 / 309 16v	215	24.2mm x 21	KDC850427X001		KDC856427X003
Proton	Compact Satria HHMS gearbox	200	7/8" x 20	KDC780425X005		KDC786425X001
Renault	Clio 2 RS / Mégane 96-00 / Moteurs F4R & F7R	215	22mm x 26	KDC850435X004		KDC856635X001
Renault	Clio Williams / R5GT Turbo	200	22mm x 26	KDC780435X002		N/A
Seat	Cupra	240	24.2mm x 23	KDC950658X002		KDC956658X001
Subaru	Impreza Sti	240	24.2mm x 24	KDC950550X001		KDC956550X001
Subaru	Impreza TURBO /WRX	230	24.2mm x 24	N/A		KDC916550X001
Toyota	HDJ80 up to 1995	260	32mm x 14	N/A		KDC106670X001
Toyota	HDJ82 SW100	300	32mm x 14	N/A		KDC126870X001
Toyota	Landcruiser 70 / 73 & 90 / 95 KZT & D engines	260	29mm x 21	N/A		KDC106628X001
Toyota	LD 110	276	32mm x 14	N/A		KDC1086870X001
Vauxhall	Astra 16v XE	228	20.5mm x 24	KDC910632X001		KDC916632X001
Volkswagen	Golf 1.6 / 1.8	200	20.5mm x 24	KDC780432X001		KDC786432X001
Volkswagen	Golf GTI 16v	210	22mm x 18	KDC820495X001		KDC826695X001
Volkswagen	Golf GTI 8V	210	20.5mm x 24	KDC820632X001		KDC826632X001
Volvo	240 2.1l / 760 2.3l	215	1" x 22	KDC850429X001		N/A
Volvo	260 2.4l / 740 16s & turbo / 760 turbo / 940 2.3l	230	1" x 22	KDC910629X001		N/A

TERMS AND CONDITIONS OF SALE

1. Definitions

"The Company" means Alcon Components Limited.
"Conditions" means the standard terms and conditions set out in this document and (unless the context otherwise requires) includes any special terms and conditions agreed in writing between the Company and the Buyer. "The Buyer" means the person, firm or company placing an order. "The Goods" means the goods, articles and materials which are to be supplied by the Company and shall include accessories and services when specified. "The Contract" means any contract whatsoever made for the Goods between the Company and the Buyer and shall incorporate the Quotation, and these Conditions. "The Quotation" (if any) means the terms as set out therein and shall include these Conditions.

2. Acceptance of contract

The Company shall sell and the Buyer shall purchase the Goods in accordance with any written quotation of the Company which is accepted by the Buyer or any written order of the Buyer which is accepted by the Company. No order submitted by the Buyer shall be deemed to be accepted by the Company unless and until the Company issues an acknowledgement of the Buyer's order in writing to the Buyer. These Conditions shall govern the Contract to the exclusion of any other terms and conditions subject to which any such quotation is accepted or purported to be accepted, or any such order is made or purported to be made by the Buyer. Receipt of the Goods by the Buyer shall be deemed to be conclusive proof that the Buyer has accepted these Conditions.

3. Variation

(a) No variation to these Conditions shall be binding unless agreed in writing between the authorised representatives of the Buyer and the Company.
(b) The Company's employees or agents are not authorised to make any representations concerning the Goods unless confirmed by the Company in Writing. In entering into the Contract the Buyer acknowledges that it does not rely on, and waives any claim for breach of any such representations which are not so confirmed.
(c) Any advice or recommendations given by the Company or its employees or agents to the Buyer or its employees or agents as to the storage application or use of the Goods which is not confirmed in writing by the Company is followed or acted upon entirely at the Buyer's own risk, and accordingly the Company shall not be liable for any such advice or recommendation which is not so confirmed.

4. Orders and specifications

(a) The Buyer shall be responsible to the Company for ensuring the accuracy of the terms of any order (including any applicable specification) submitted by the Buyer and for giving the Company any necessary information relating to the Goods within a sufficient time to enable the Company to perform the Contract in accordance with its terms.
(b) The quantity, quality and description of and any specification for the Goods shall be those set out in the Company's quotation (if accepted by the Buyer) or the Buyer's order (if accepted by the Company).
(c) The Company reserves the right to make any changes in the specification of the Goods which are required to conform with any applicable safety or other statutory or EU requirements or, where the Goods are to be supplied to the Company's specification, which do not materially affect their quality or performance.

5. Delivery/Acceptance of goods

(a) The place of delivery shall be "ex-works" the Company's place of business. Risk in the Goods shall pass to the Buyer on delivery. Delivery dates are given in good faith but are not guaranteed. Time is not of the essence, and the Company shall be under no liability for any loss or damage arising directly or indirectly out of late delivery. Subject to the warranties hereinafter contained, the Buyer shall be deemed to have accepted the Goods as being in conformity with the Contract and shall be bound to pay for them unless written notice of defect or shortage is given within 7 days of delivery.
(b) If Goods have been correctly despatched and comply with the Contract, the Buyer shall not be entitled to return the Goods for credit unless in exceptional circumstances the Company at its discretion agrees in writing prior to the return of the Goods by the Buyer.
(c) Where delivery of the Goods is to be made by the Company in bulk, the Company reserves the right to deliver up to 10 per cent more or 10 per cent less than the quantity ordered without any adjustment in the price, and the quantity so delivered shall be deemed to be the quantity ordered.
(d) Where the Goods are to be delivered in instalments, each delivery shall constitute a separate contract and failure by the Company to deliver any one or more of the instalments in accordance with these Conditions or any claim by the Buyer in respect of any one or more instalments shall not entitle the Buyer to treat the Contract as a whole as repudiated.

6. Insurance

The Buyer shall insure the Goods to the full value against loss or damage from delivery and shall maintain such insurance until the Company has been paid. Where the Quotation includes carriage prior to delivery, the Company will repair or replace free of charge Goods damaged in transit provided the carrier or the Company receive written notification of such damage within three days of delivery, but not otherwise, and provided nothing has been done or left undone by the Buyer which might invalidate any claim against the carrier.

7. Storage

If the Buyer fails to take delivery of the Goods or fails to give the Company adequate delivery instructions at the time stated for delivery (otherwise than by reason of any cause beyond the Buyer's reasonable control or by reason of the Company's fault) then, without prejudice to any other right or remedy available to the Company, the Company may:
(a) store the goods until actual delivery and charge the Buyer for the reasonable cost of storage, including insurance; or
(b) sell the Goods at the best price readily obtainable and, after deducting all reasonable storage and selling expenses, account to the Buyer for the excess over the price under the Contract or charge the Buyer for any shortfall below the price under the Contract.

8. Price/Payment

(a) The price of the Goods shall be the Company's quoted price, or where no price has been quoted or a quoted price is no longer valid, the price listed in the Company's appropriate published price list current at the date of acceptance of the order or, in default of any such price list, a reasonable price. All prices quoted are valid for 30 days or until earlier acceptance by the Buyer, after which time they may be altered by the Company without giving notice to the Buyer.
(b) The Buyer shall pay the price of the Goods in pounds sterling without deduction or set-off within 30 days of the end of the month of the Company's invoice. The Company shall be entitled to recover the price notwithstanding that delivery may not have taken place and the property in the Goods has not passed to the Buyer. The time of payment of the price shall be of the essence of the Contract.

(c) Where it is agreed that the Contract is to be or may be fulfilled by stage payments or deliveries then payment for each shall be invoiced and shall be separately due as in (a) above. If a stage payment becomes overdue then the whole balance shall become due without prejudice to any other rights hereunder.
(d) The Company reserves the right, by giving notice to the Buyer at any time before delivery, to increase the price of the Goods to reflect any increase in the cost to the Company which is due to any factor beyond the control of the Company (such as, without limitation, any foreign exchange fluctuation, currency regulation, alteration of duties, increase in the costs of labour, materials or other costs of manufacture), any change in delivery dates, quantities or specifications for the Goods which is requested by the Buyer, or any delay caused by any instructions of the Buyer or failure of the Buyer to give the Company adequate information or instructions.
(e) All prices are given by the Company on an ex works basis, and where the Company agrees to deliver the Goods otherwise than at the Company's premises, the Buyer shall be liable to pay the Company's charges for transport, packaging and insurance.
(f) If the Buyer fails to make any payment on the due date then, without prejudice to any other right or remedy available to the Company, the Company shall be entitled to:
(i) suspend all or any further deliveries to the Buyer made under that or any other contract with the Buyer and in such event the Buyer shall not be released from its obligations to the Company under that or any other contract or cancel the Contract or any other contract with the Buyer and to claim damages from the Buyer for breach of contract;
(ii) appropriate any payment made by the Buyer to such of the Goods (or the goods supplied under any other contract between the Buyer and the Company) as the Company may think fit (notwithstanding any purported appropriation by the Buyer); and
(iii) charge the Buyer interest (both before and after any judgement) on the amount unpaid, at the rate of 4 per cent per annum above National Westminster Bank Plc base rate from time to time accruing daily, until payment in full is made.
(g) Prices are exclusive of VAT and all and any other taxes or governmental charges in connection with the shipment or sale of the Goods, for which the Buyer shall be additionally liable.

9. Warranties and liabilities

(a) Subject to the Conditions set out below, the Company warrants that the Goods will be free from defects in material and workmanship for a period of 12 months from the date of delivery.
(b) The above warranty is given by the Company subject to the following conditions:
(i) the Company shall be under no liability in respect of any defect in the Goods arising from any drawing, design or specification supplied by the Buyer;
(ii) the Company shall be under no liability in respect of any defect arising from fair wear and tear, wilful damage, negligence, abnormal working conditions, failure to follow the Company's instructions (whether oral or in writing), misuse or alteration or repair of the Goods without the Company's approval;
(iii) the Company shall be under no liability in connection with any defect arising out of use of the Goods in connection with motor racing, rallying or any form of motor sport;
(iv) if the total price for the Goods has not been paid by the due date for payment, the Company shall be under no liability under the above warranty, or any other warranty, condition or guarantee until the total price for the Goods has been paid;
(v) (v) the above warranty does not extend to parts, materials or equipment not manufactured by the Company, in respect of which the Buyer shall only be entitled to the benefit of any such warranty or guarantee as is given by the manufacturer to the Company.
(c) Subject as expressly provided in these Conditions, and except where the Goods are sold to a person dealing as a consumer (within the meaning of the Unfair Contract Terms Act 1977), all warranties, conditions or other terms implied by statute or common law are excluded to the fullest extent permitted by law.
(d) Where the Goods are sold under a consumer transaction (as defined by the Consumer Transactions (Restrictions on Statements) Order 1976) the statutory rights of the Buyer are not affected by these Conditions.
(e) Any claim by the Buyer which is based on any defect in the quality or conditions of the Goods or their failure to correspond with specification shall, whether or not delivery is refused by the Buyer, be notified to the Company within 7 days from the date of delivery or, where the defect or failure was not apparent on reasonable inspection, within a reasonable time after discovery of the defect or failure. If delivery is not refused, and the Buyer does not notify the Company in accordance with this Condition, the Buyer shall not be entitled to reject the Goods and the Company shall have no liability for such defect or failure, and the Buyer shall be bound to pay the price as if the Goods had been delivered in accordance with the Contract.
(f) Where any valid claim in respect of any of the Goods which is based on any defect in the quality or condition of the Goods or their failure to meet specification is notified to the Company in accordance with these Conditions, the Company shall be entitled to replace or repair the Goods (or the part in question) free of charge or, at the Company's sole discretion, refund to the Buyer the price of the Goods (or a proportionate part of the price) but the Company shall have no further liability to the Buyer.
(g) Except in respect of death or personal injury caused by the Company's negligence, the Company shall not be liable to the Buyer by reason of any representation, or any implied warranty, condition or other term, or any duty at common law, or under the express terms of the Contract, for any consequential loss or damage (whether for loss of profit or otherwise), costs, expenses or other claims for compensation whatsoever (whether caused by the negligence of the Company, its employees or agents or otherwise) which arise out of or in connection with the supply of the Goods or their use or resale by the Buyer and the entire liability of the Company under or in connection with the Contract shall not exceed the price of the Goods, except as expressly provided in these Conditions.
(h) The Company shall not be liable to the Buyer or be deemed to be in breach of the Contract by reason of any delay in performing, or any failure to perform, any of the Company's obligations in relation to the Goods, if the delay or failure was due to any cause beyond the Company's reasonable control.

10. Property in goods

(a) The property in the Goods shall remain in the Company until such time as the Company has been paid in full for the Goods and until all other outstanding accounts due from the Buyer to the Company have been paid in full.
(b) Whilst the Goods are being stored awaiting sale or further processing or where they have been processed but remain identifiable and capable of severance the Buyer shall label or distinguish them or shall maintain records in such manner as the Goods can be identified as having been supplied by the Company.

(c) Until such time as the property in the Goods passes to the Buyer (and provided the Goods are still in existence and have not been re-sold), the Company shall be entitled at any time to require the Buyer to deliver up the Goods to the Company or at the Company's election to allow the Company, its employees or agents to label mark or list the Goods and, if the Buyer fails to do so forthwith, to enter upon any premises of the Buyer or any third party where the Goods are stored and repossess or label mark or list the Goods and for that purpose the Buyer hereby authorises and licences the Company, its officers, employees and agents and to enter upon any land or building upon which the Goods are situated to recover those Goods and/or label mark or list the same.

11. Indemnity

(a) The Buyer will indemnify and keep the Company indemnified against all claims, costs and expenses resulting from any infringement of any industrial or intellectual property rights and assist in the defence of any action brought against the Company in so far as any such infringement is due to designs or specifications stipulated by the Buyer.
(b) Without prejudice to (a) above the Company reserves the right to cease work on any order being carried out if it should have reason to believe that the Goods are subject to an infringement claim, in which case the property in the work done shall not pass to the Buyer (except at the Company's discretion) and the Company shall be entitled to be paid for the work done and materials supplied.

12. Testing

If the Buyer requires to test or to inspect the Goods before delivery the Company reserves the right to stipulate the venue for such testing or inspection and all expenses in connection with such testing or inspection shall be paid by the Buyer. An adequate supply of suitable materials for proving and testing purposes must be supplied by the Buyer. If after seven days' notice that the Company is to proceed with the tests there is any delay on the part of the Buyer or its representatives in supplying the materials or in attending such tests, payment shall be deemed to be due as if the tests have been completed and despatch has been made.

13. Lien

Without prejudice to any other rights and remedies which the Company may have under the Contract, the Company shall in respect of all debts of the Buyer to the Company have a general lien on all goods and property belonging to the Buyer in the Company's possession (whether worked on or not) and shall be entitled upon the expiration of fourteen days notice to the Buyer, to dispose of such goods or property as it thinks fit and to apply any proceeds of sale thereof towards the payment of such debts.

14. Consignment Stock

In addition to all other items hereof the following procedures shall apply if the parties mutually agree that consignment stock is to be stored at the Buyer's premises. When the Company delivers Goods designated as consignment stock the details of which shall be on the delivery note, the Buyer shall check sign and return the delivery and place the consignment stock indoors in a distinct area designated for the Company's consignment stock and shall keep the same clearly labelled as being the property of the Company. The Buyer shall keep the consignment stock fully insured against fire, theft and associated risks. Risk of loss or damage to any consignment stock shall pass to the Buyer on delivery to the Buyer's premises and shall revert to the Company upon delivery up to the Company. The Company may in business hours on giving notice, as often as it wishes, enter the Buyer's premises and inspect, audit or remove the consignment stock. In the event that the Buyer sells or uses any consignment stock, it shall simultaneously raise and despatch an order on the Company who will raise an acknowledgement and invoice under the terms hereof.

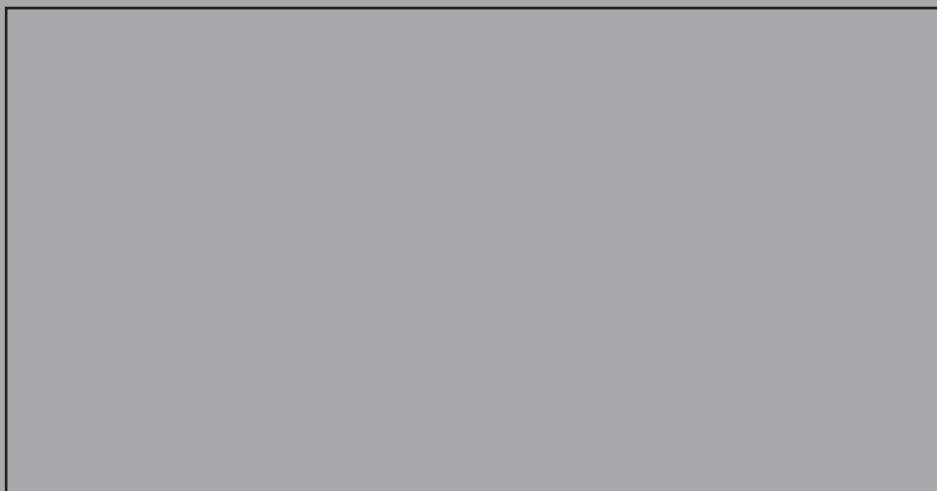
15. Insolvency of buyer

(a) This clause applies if:
(i) the Buyer makes any voluntary arrangement with its creditors or becomes subject to an administration order (or being an individual or firm) becomes bankrupt or (being a company) goes into liquidation, otherwise than for the purpose of amalgamation or reconstruction; or
(ii) an encumbrancer takes possession, or a receiver is appointed, of the Buyer's undertaking or any of its property or assets; or
(iii) the Buyer ceases, or threatens to cease, to carry on business; or
(iv) the Company reasonably apprehends that any of the events mentioned above is about to occur in relation to the Buyer and notifies the Buyer accordingly.
(b) If this clause applies then, without prejudice to any other right or remedy available to the Company, the Company shall be entitled to cancel the Contract or suspend any further deliveries under the Contract without any liability to the Buyer, and if the Goods have been delivered, but not paid for, the price shall become immediately due and payable notwithstanding any previous agreement or arrangement to the contrary.

16. General

(a) The Company shall be entitled to sub-contract the whole or any part of the Contract.
(b) Neither the Buyer nor the Company shall be entitled to assign the whole or any part of its rights and/or obligations under the Contract without the prior written consent of the other.
(c) Any notice required or permitted to be given by either party to the other under these Conditions shall be in Writing addressed to that other party at its registered office or principal place of business or such other address as may at the relevant time have been notified pursuant to this provision to the party giving the notice. A notice shall be deemed to have been received, in the case of a facsimile, upon transmission and, in the case of a letter, forty eight hours after posting. In proving service by letter, it shall be sufficient to show that the envelope containing the notice was properly addressed and stamped and duly posted. In proving service by facsimile transmission, it shall be necessary only to produce a report confirming uninterrupted transmission to the recipient.
(d) No waiver by the Company of any breach of the Contract by the Buyer shall be considered as a waiver of any subsequent breach of the same or any other provision.
(e) If any provision of these Conditions is held by any competent authority to be invalid or unenforceable in whole or in part the validity of the other provisions of these Conditions and the remainder of the provision in question shall not be affected thereby unless such provision goes to the root of the Contract.
(f) The Conditions shall constitute the entire agreement in relation to the sale of the Goods and no modification or waiver thereof shall be valid unless made in Writing expressly for the purpose and signed by an authorised officer of the Company and of the Buyer provided that nothing in these Conditions shall exclude or limit liability in the event of fraud.
(g) The Contract shall be governed by the laws of England and the Buyer agrees to submit to the non-exclusive jurisdiction of the English courts.

For further information about Alcon, Alcon products or the advantage range, please contact your local distributor or visit the Alcon web site



www.alcon.co.uk



Every effort has been made to ensure the accuracy of the information contained in this brochure, however the company reserves the right to amend specifications without notice. E & OE

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