KARVER

sailing experience

www.karver-systems.com

TECHNICAL BROCHURE

BLOCKS

KBO

KB

KBTi

KBR

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KARVER BLOCKS

Driven by a common passion for sailing, a team of engineers and naval architects associated with manufacturers have created Karver Systems. Always a step ahead, the company invests in R&D every year to provide next generation of world leading deck gear. Karver products associate simplicity and great care on design to provide innovative solutions to top racing sailors as well as every day sailors.

Karver blocks are carefully designed to offer:

- The best working load to size ratio available on the market
- The most ergonomic block
- The best materials available
- An appealing aesthetic
- Innovative and unique engineering solutions

COMMON FEATURES TO ALL KARVER BLOCKS

ATTACHMENT THROUGH THE CENTER

SAFETY

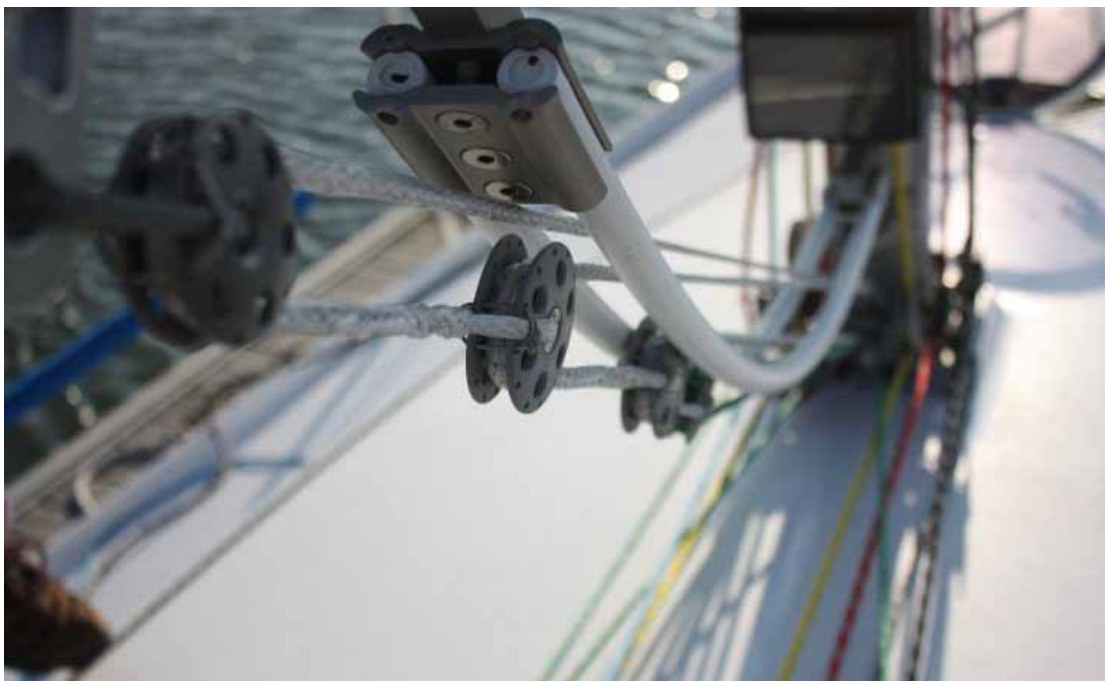
Attaching the block through the center guarantee that the block will not fall apart as even if the block suffer from over load, the line will remain captive with the lashing line. If the backstay blocks break, the mast will stand still.

LIGHT WEIGHT

With attachment of the block through the center, one part of the block only remains structural as the side plates will not hold the load as a traditional block would. A traditional block needs to be designed so that both the shackle's attachment and the sheave will hold the maximum load, thereby resulting in larger and heavier blocks.

MULTIPLE ATTACHMENT POSSIBILITIES

The center hole has been enlarged on purpose to enable multiple attachments through the center. It is important to note that every line that is used to attach the block needs to be captive with the holding line (cf lashing section below). Every block can be used with a becket or converted into a fiddle block or even double, triple block.



COMMON FEATURES TO ALL KARVER BLOCKS

SOFT ATTACHMENT

UNLIMITED BLOCK ROTATION

Soft attachment enables the block to rotate accordingly with the load angle. Therefore, unless metallic shackle, there are no angle restrictions which will optimize the use of the block.

LIGHT WEIGHT

Using soft attachment reduces greatly the weight as no metallic material is used to install the blocks.

SILENCE ONBOARD

Unlike metallic shackles, the use of textile fibers avoids metallic impact on the deck which contributes in silence onboard.

MAINTENANCE

SOFT ATTACHMENT

Soft attachment requires high alertness. It is important that soft attachment is inspecting every time before sailing. Replace damage line immediately and replace line every two years if there are no visible damages.

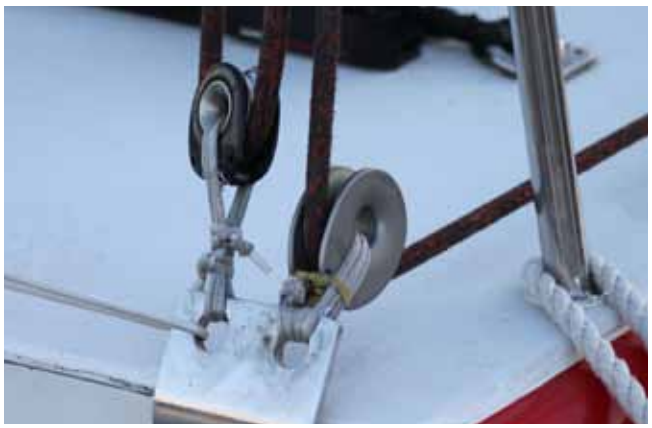
BLOCK

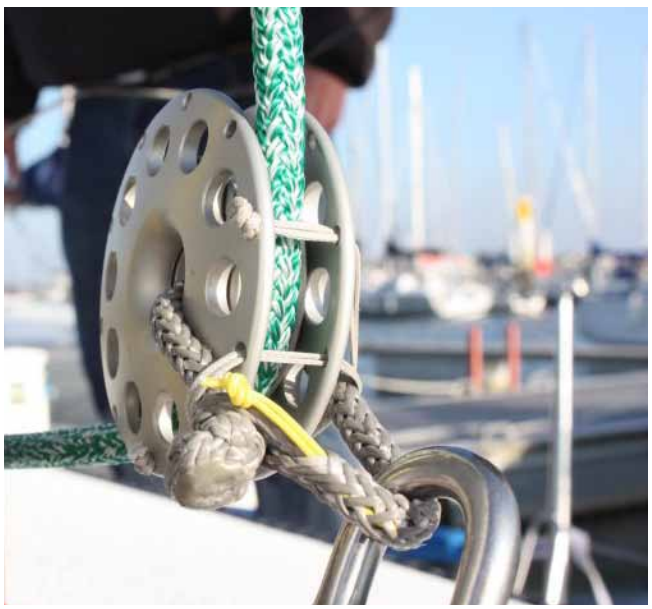
Karver blocks are designed to require minimal maintenance. However, Karver recommends to keep the equipment clean and free-running by frequently flushing with fresh water.

THE LASHING

ATTACHMENT TO THE DECK HARDWARE

Lashing should be attached to object with round edge. Never attached it to stamped eye strap nor a sharp corner that will result in causing the line to chafe and break suddenly that may be leading to an accident, damage to the vessel, personal injury or death.



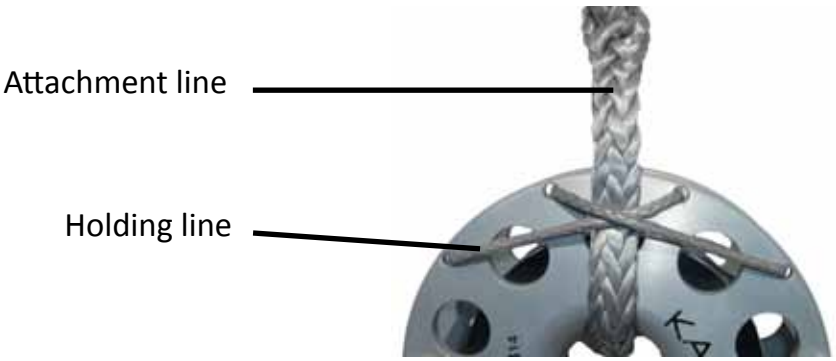


THE LASHING

TWO LINES, TWO FUNCTIONS

Two lines are required to install Karver blocks:

- The attachment line, which pass through the centre of the block
- The holding line, which pass through the outer holes



THE ATTACHMENT LINE

The attachment line is lashed through the center of the block. Karver recommend using “high modulus” ropes such as Dyneema® to attach the block. The high modulus line can be covered to increase its UV resistance. The line should hold a working load of two times the block working load minimum.

The block can be attached through a splice or making a loop. It is extremely important not to use self-tightening knots as these types of knots might damage the side plates under load.

ATTACHING WITH LOOPS

The number of loop in your lashing needs to follow the rule below:

$$\frac{2.5 \times \text{block working load}}{\text{rope breaking load}} = \text{number of loops}$$

For instance, to attach a KB8 (WL: 400 kg / 1,322 lbs), with a 3 mm line (BL: 350 kg / 771 lbs):

$$\frac{2.5 \times 400\ \text{kg}}{350\ \text{kg}} = 2.85$$

Therefore, a minimum of 3 loops is necessary for a safe attachment.

The attachment line should be tighten with smaller line to secure the lashing and contain the running line. It is important not to tighten the line too close from the side plates as it might damage those under load.

THE LASHING

TWO LINES, TWO FUNCTIONS

ATTACHING WITH SPLICE

The splicing line should hold a working load of two times the block working load. It is important not to make the splicing to tight as it might damages the side plates under load.

THE HOLDING LINE

Its purpose is to prevent the block from moving and to contain the running line. The outer holes should be used to contain the attachment line and hold it tight to the side plates.

Use a square knot to tie up the holding line. Leave at least 25 mm (1’) of line beyond knot and melt the end of the line to secure the knot. Do not Do not melt the end of the line by blazing it from under the block.

THE LASHING

TUNNING YOUR BLOCK INTO A SNATCH BLOCK

Karver blocks may be used as snatch block. In order to do as such, two holding line should be used to hold the attachment line on each side plates independently.

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KB BLOCKS

Created in 2004, the KB block has won many awards including the Freeman K. Pittman Award 2006, for innovation and design. Seven years later, Karver blocks have become a worldwide recognized product in the sailboat deck gear market and used by some of the top sailors in the world.

Today, the KB range design is still unique. Attached with a basic lashing, KB has an unequalled weight to working load ratio. Assembled with ball or roller bearings, KB guarantees exceedingly low friction.

FOCUS ON THE KBc (self lubricated plain bearing)

Unless the other Karver blocks, the KBc blocks are assembled with self lubricating plain bearing ensuring a very high working load for a minimal size. The plain bearing provides a high friction ratio but will last longer as bearing will not deform under load. Therefore, the KBc blocks are ideal for applications when the blocks remain under load for a long time and the line has to run on a tight radius.

The KBc blocks are recommended for the following applications: Backstay, Cascading systems, Cunninghams, Vang, and Hauler.

LASHING

The holding line may be tight up with a square knot within the two outer holes surrounding the attachment line. It may also be laced through more of the outer holes in order to contain the running line

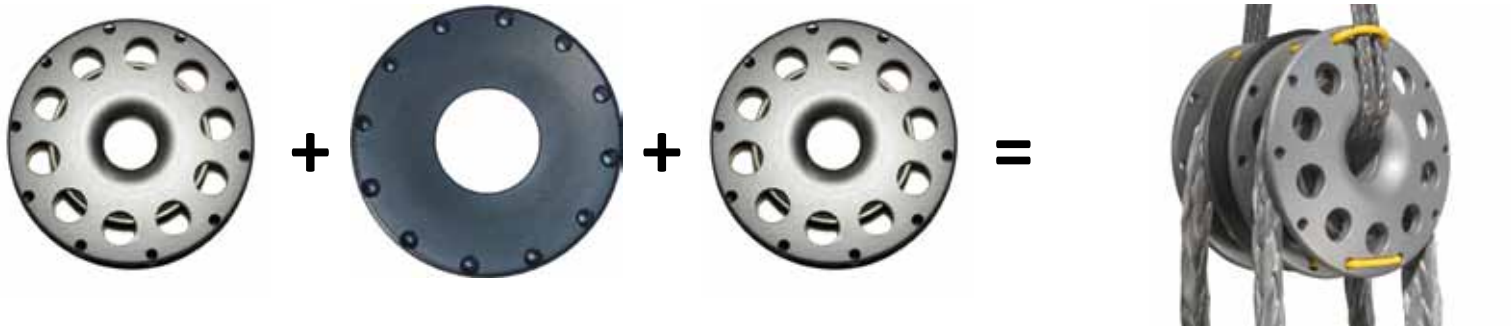
KB BLOCKS

DOUBLE BLOCKS AND TRIPLE BLOCKS

Two block of the same size can be attached together through a link plate that will fit perfectly their shape. Made of composite fiber, this link plate should be connected with the holding line on both the attachment line and through the outer holes opposite of the attachment line.

With a piece of high modulus rope, a third block can be attached through the center hole of the two blocks above.

DOUBLE BLOCK MOUNTING



/!\ /!\ Do not forget to tie up the block on both attachment line opposite side as well.

TRIPLE BLOCK MOUNTING

/!\ /!\ Do not forget to tie up the block on both attachment line opposite side as well. The holding line should capture the line attaching the third block as well on both side.
Notice that the attachment line

KB BLOCKS

ATTACHMENT POSSIBILITIES

SIMPLE LASHING

ROPE SHACKLE

DOUBLE LASHING

BECKET BLOCK

FIDDLE BLOCK

BECKET & MULTIPLE ATTACHMENTS

BACKSTAY

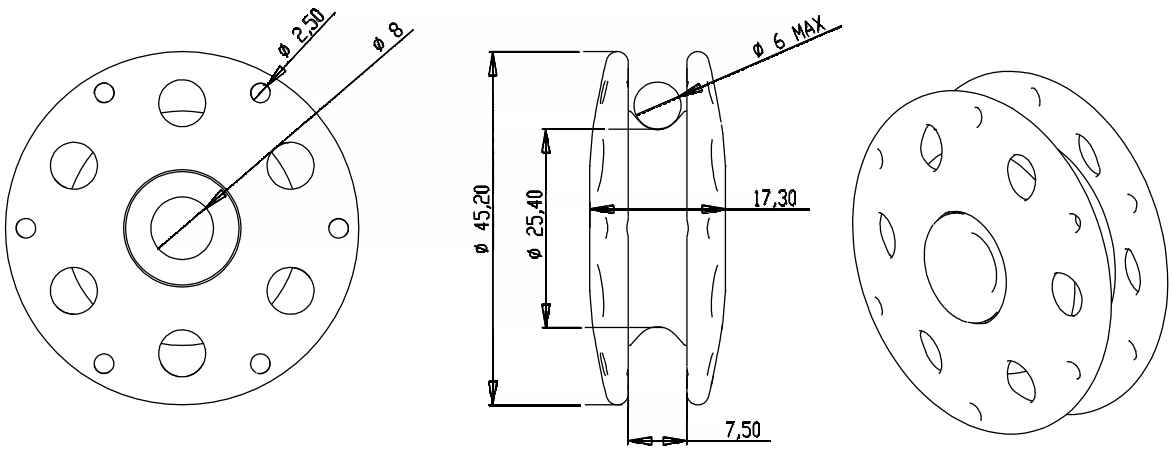
MAST FOOT

KB BLOCKS

KB 6

The KB 6 block is available in grey or yellow.

Material Specifications		
Side plates	Composite fiber-reinforced	
Sheave	Aluminum	
Inner hub	Stainless steel	
Bearing	Ball bearing (Polyacetal)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1”	25 mm
Weight	0.7 oz	20 g
Max Line Diameter	1/4”	6 mm
Safe Working Load	485 lbs	220 kg
Breaking Load	970 lbs	440 kg



KB BLOCKS

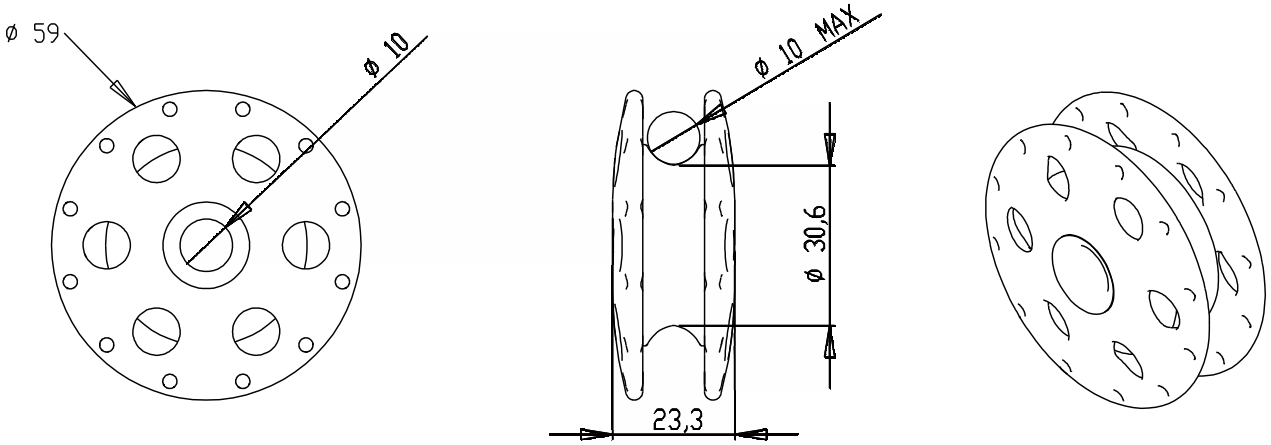
KB 8

The KB 8 block is available in grey or yellow.

Material Specifications		
Side plates	Composite fiber-reinforced	
Sheave	Aluminum	
Inner hub	Stainless steel	
Bearing	Roller bearing (Peek®)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1.1”	28 mm
Weight	1.8 oz	51 g
Max Line Diameter	3/8”	10 mm
Safe Working Load	1,322 lbs	600 kg
Breaking Load	2,644 lbs	1,200 kg

In 2011, Karver is launching the first eco block produced with recyclable materials. The side plates are produced with of PLA* composite strengthened with flax fibers LINTEX®

*PLA: Poly-Lactic Acid resulting from corn stem

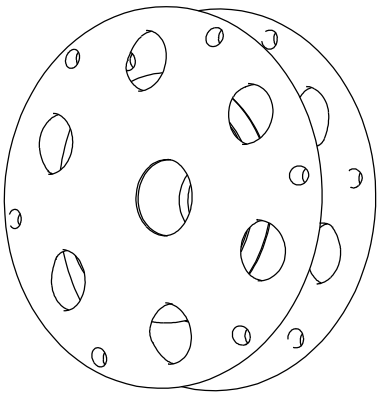


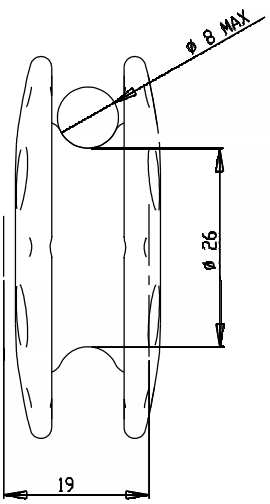
KB BLOCKS

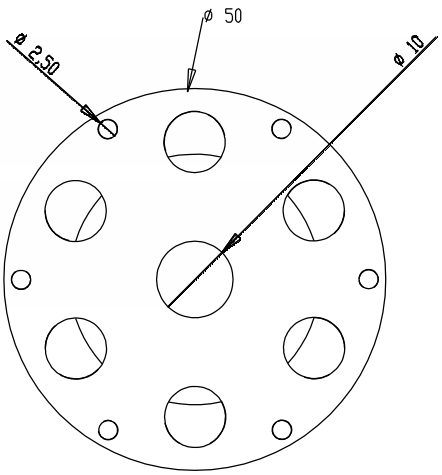
KB 8c

The KB8c features a self lubricating plain bearing. It is ideal for static load.

Material Specifications		
Side plates	Aluminum	
Sheave	Aluminum	
Inner hub	Stainless steel	
Bearing	Plain bearing (Teflon impregnated PVC)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1”	26 mm
Weight	1.55 oz	44 g
Max Line Diameter	5/16”	8 mm
Safe Working Load	1,763 lbs	800 kg
Breaking Load	3,526 lbs	1,600 kg



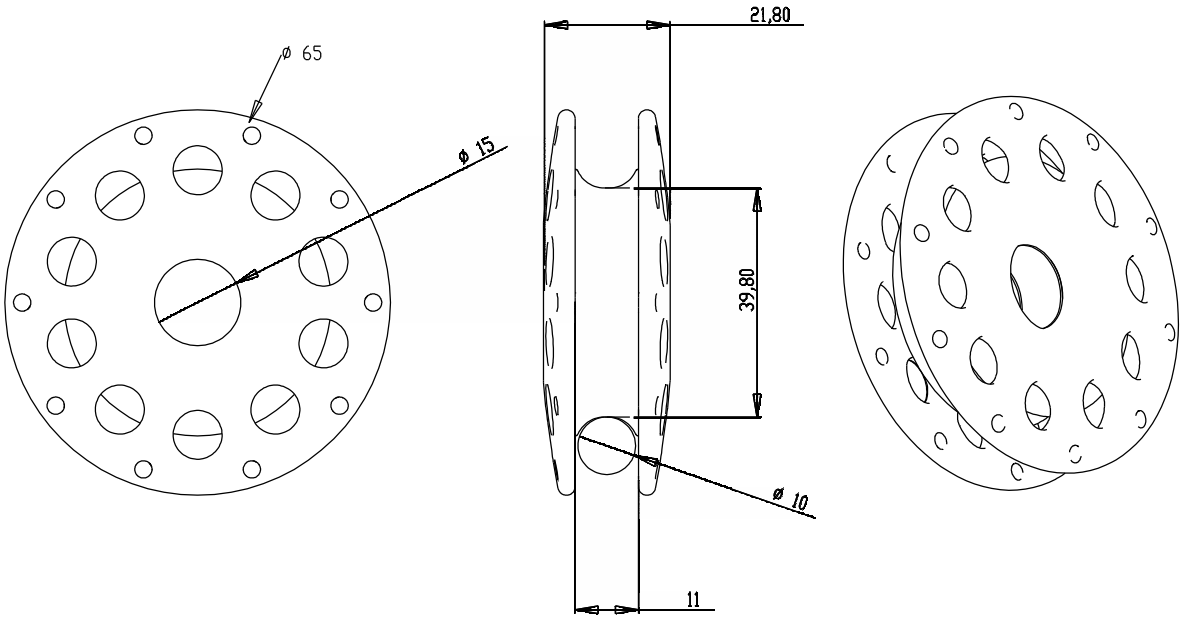




KB BLOCKS

KB 10

Material Specifications		
Side plates	Aluminum	
Sheave	Aluminum	
Inner hub	Aluminum	
Bearing	Roller bearing (Peek®)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1.6”	40 mm
Weight	3 oz	86 g
Max Line Diameter	3/8”	10 mm
Safe Working Load	2,204 lbs	1,000 kg
Breaking Load	4,408 lbs	2,000 kg

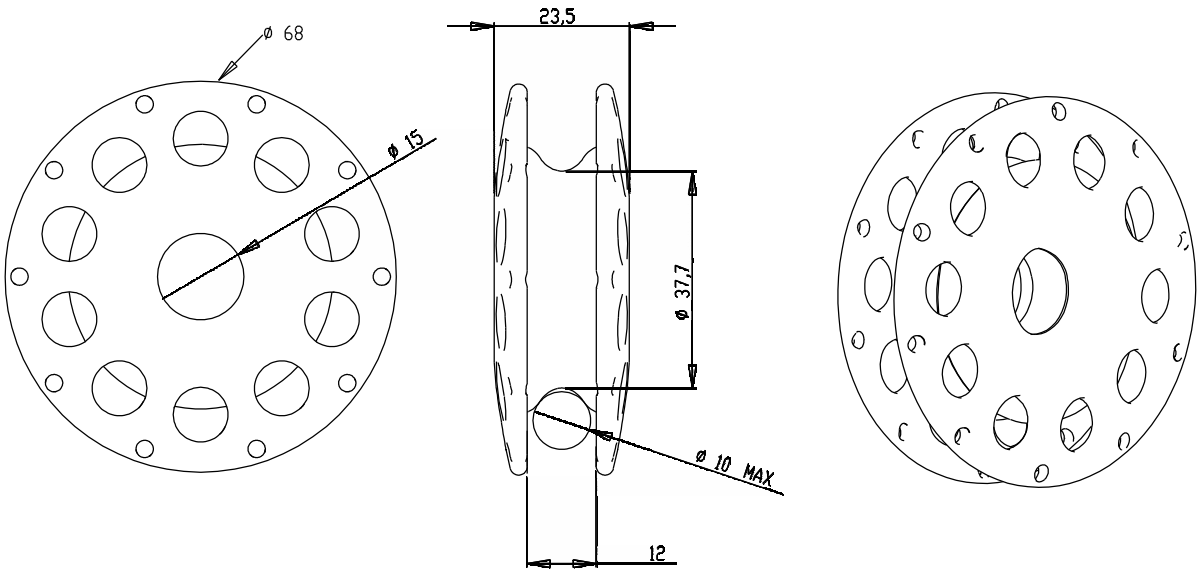


KB BLOCKS

KB 10c

The KB10c features a self lubricating plain bearing. It is ideal for static load.

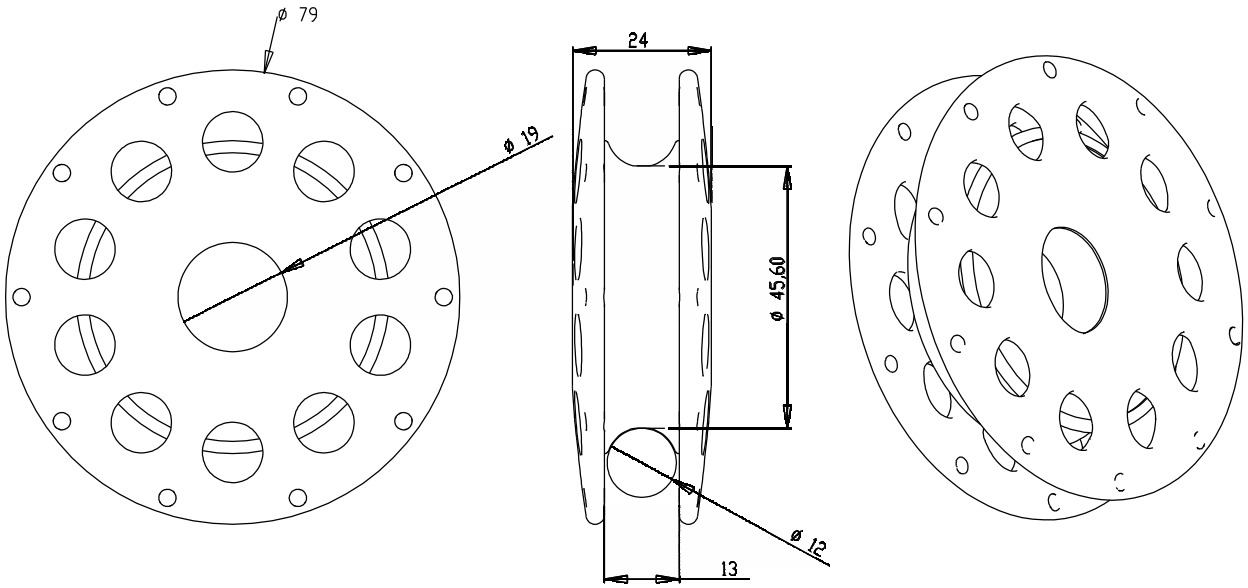
Material Specifications		
Side plates	Aluminum	
Sheave	Aluminum	
Inner hub	Aluminum	
Bearing	Plain bearing (Teflon impregnated PVC)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1.5"	38 mm
Weight	3.38 oz	96 g
Max Line Diameter	3/8”	10 mm
Safe Working Load	4,188 lbs	1,900 kg
Breaking Load	8,376 lbs	3,800 kg



KB BLOCKS

KB 12

Material Specifications		
Side plates	Aluminum	
Sheave	Aluminum	
Inner hub	Aluminum	
Bearing	Roller bearing (Peek®)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1.8”	46 mm
Weight	4.2 oz	119 g
Max Line Diameter	1/2”	12 mm
Safe Working Load	3,086 lbs	1,400 kg
Breaking Load	6,172 lbs	2,800 kg

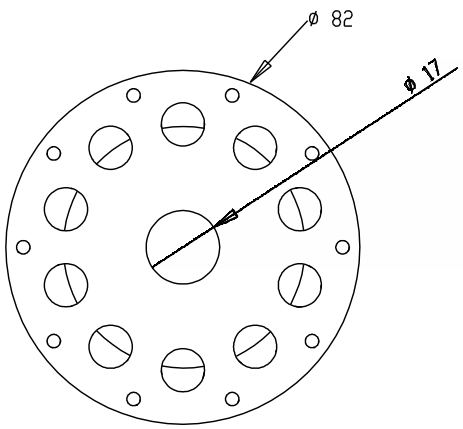


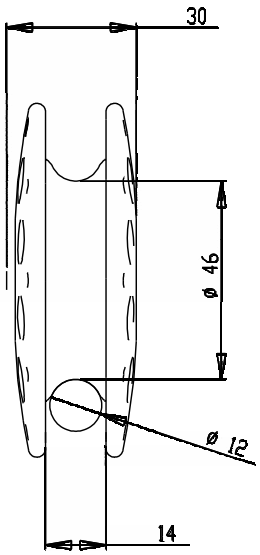
KB BLOCKS

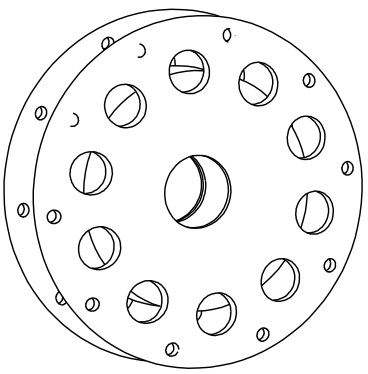
KB 12c

The KB12c features a self lubricating plain bearing. It is ideal for static load.

Material Specifications		
Side plates	Aluminum	
Sheave	Aluminum	
Inner hub	Aluminum	
Bearing	Plain bearing (Teflon impregnated PVC)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1.8”	46 mm
Weight	5.9 oz	167 g
Max Line Diameter	1/2”	12 mm
Safe Working Load	6,613 lbs	3,000 kg
Breaking Load	13,226 lbs	6,000 kg



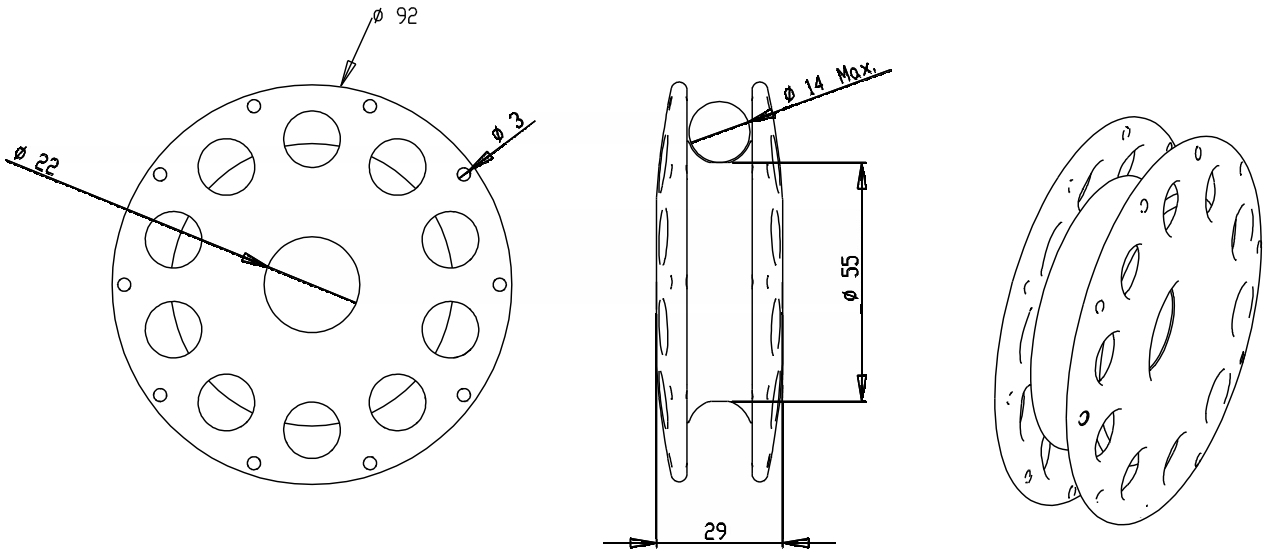




KB BLOCKS

KB 14

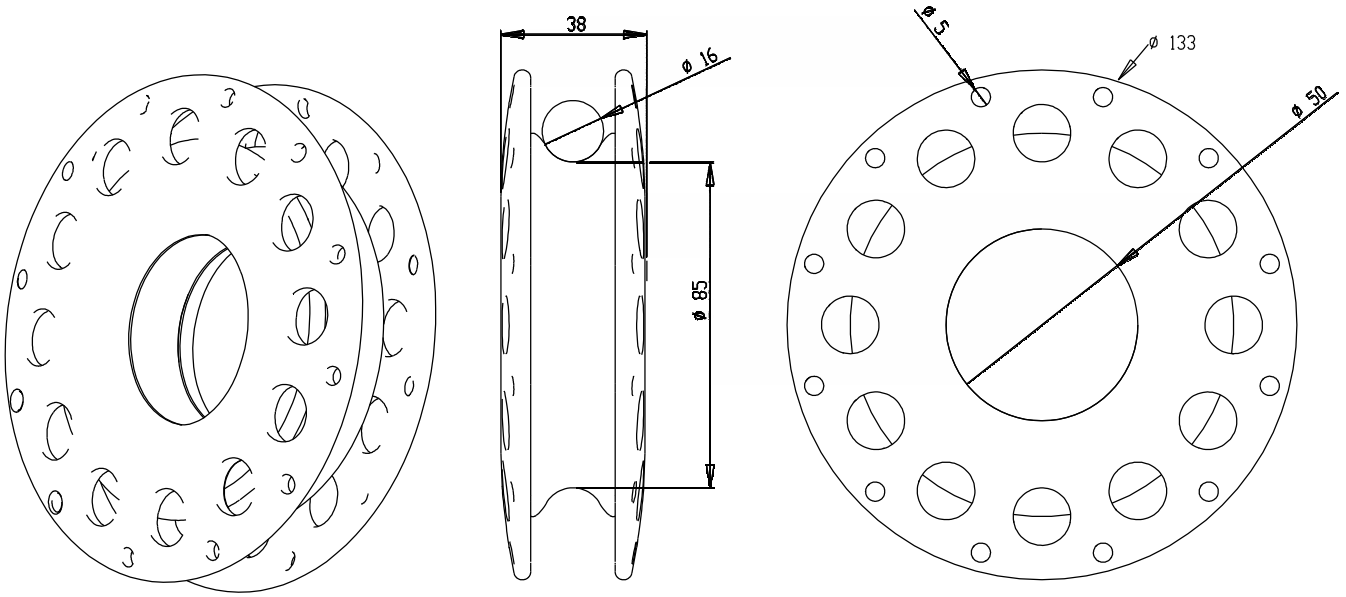
Material Specifications		
Side plates	Aluminum	
Sheave	Aluminum	
Inner hub	Aluminum	
Bearing	Roller bearing (Peek®)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	2.2”	55 mm
Weight	6.8 oz	194 g
Max Line Diameter	9/16”	14 mm
Safe Working Load	4,409 lbs	2,000 kg
Breaking Load	8,818 lbs	4,000 kg



KB BLOCKS

KB 16

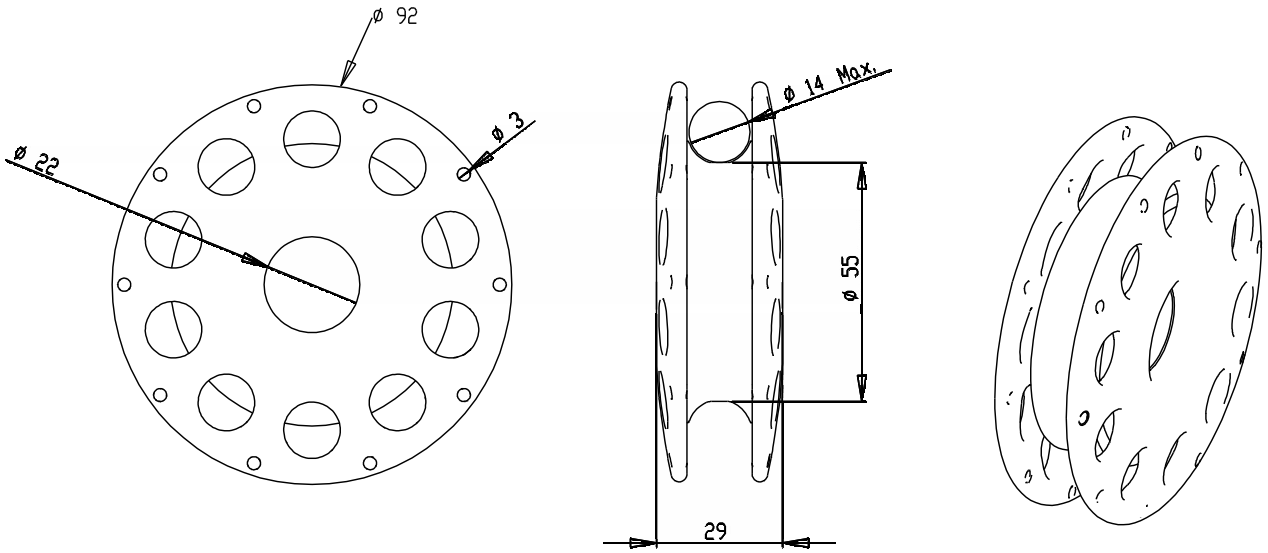
Material Specifications		
Side plates	Aluminum	
Sheave	Aluminum	
Inner hub	Aluminum	
Bearing	Roller bearing (Peek®)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	3.3””	85 mm
Weight	17.5 oz	497 g
Max Line Diameter	5/8”	16 mm
Safe Working Load	7,716 lbs	3,500 kg
Breaking Load	15,432 lbs	7,000 kg



KB BLOCKS

KB 14

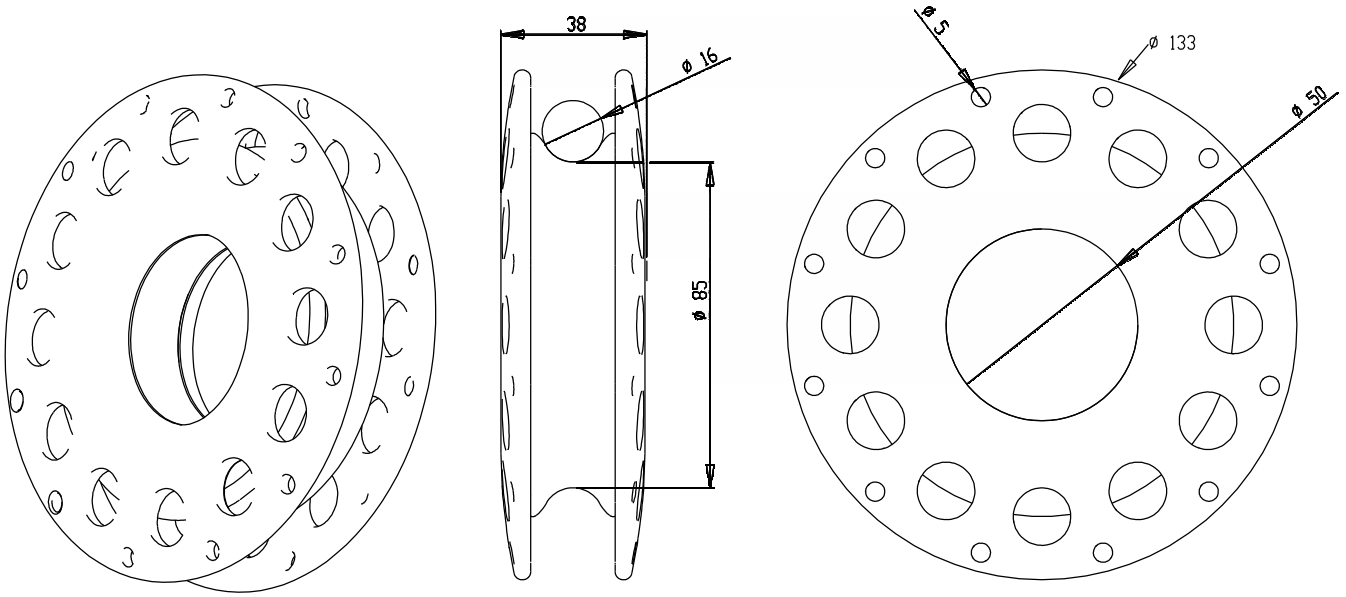
Material Specifications		
Side plates	Aluminum	
Sheave	Aluminum	
Inner hub	Aluminum	
Bearing	Roller bearing (Peek®)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	2.2”	55 mm
Weight	6.8 oz	194 g
Max Line Diameter	9/16”	14 mm
Safe Working Load	4,409 lbs	2,000 kg
Breaking Load	8,818 lbs	4,000 kg



KB BLOCKS

KB 16

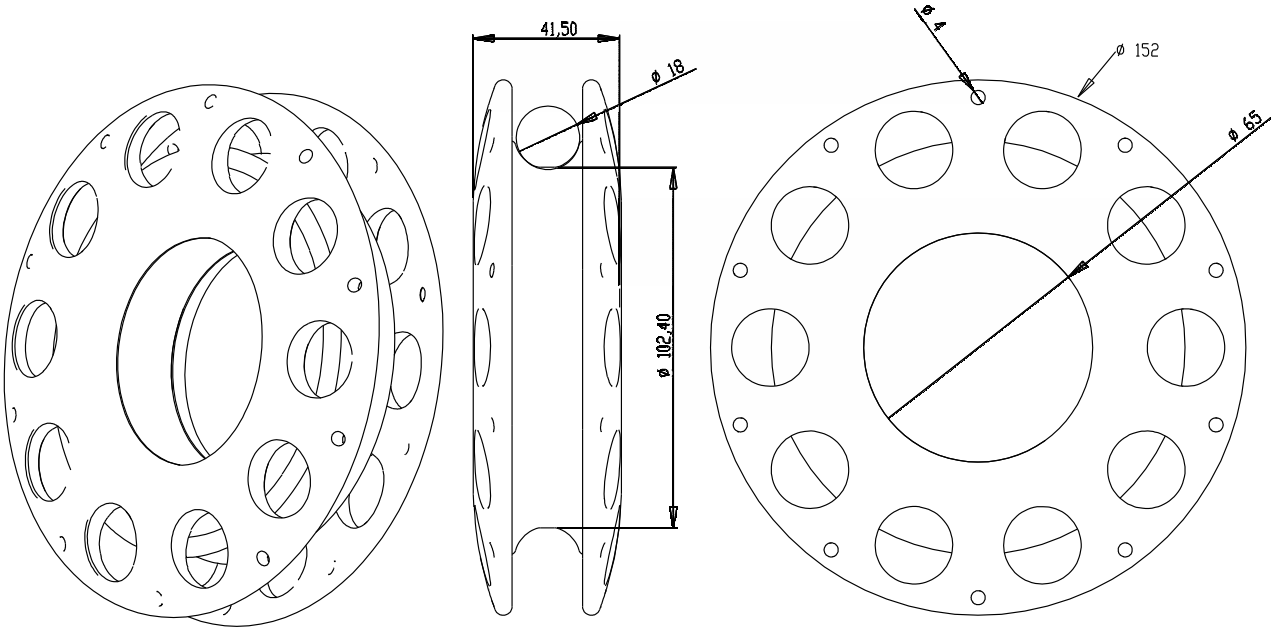
Material Specifications		
Side plates	Aluminum	
Sheave	Aluminum	
Inner hub	Aluminum	
Bearing	Roller bearing (Peek®)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	3.3”	85 mm
Weight	17.5 oz	497 g
Max Line Diameter	5/8”	16 mm
Safe Working Load	7,716 lbs	3,500 kg
Breaking Load	15,432 lbs	7,000 kg



KB BLOCKS

KB 18

Material Specifications		
Side plates	Aluminum	
Sheave	Aluminum	
Inner hub	Aluminum	
Bearing	Roller bearing (Peek®)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	4”	103 mm
Weight	22.9 oz	650 g
Max Line Diameter	3/4”	18 mm
Safe Working Load	9,920 lbs	4,500 kg
Breaking Load	19,841 lbs	9,000 kg



KBO BLOCKS

Designed from discussion between users and Karver R&D office, KBO blocks have been born to simplify use. Every sailor can enjoy lashing advantages with less manipulation than standard metallic block attachment: It is even easier and faster to install a KBO than a regular block with stainless steel shackle.

DESIGN

The KBO blocks have a design more traditional remaining with all the Karver benefits: lashing through the center, soft attachment, and maintenance free.

PERFORMANCE BEARINGS

KBO bearing has been designed to enhance the free spinning of the sheave. KBO blocks feature two stage of bearing (Roller bearings for radial loads, ball bearings for axial loads). Thus, it ensures low friction even when the line is running through a tricky angle.

ROPE SHACKLE AND REMOVABLE GUIDE

The KBO blocks are provided with Dyneema® rope shackle, offering easy fitting and light weight.

Link by screws, the guide is composed of two composite fiber parts and maintains the rope shackle, making installation/removal very simple. The guide can be removed to attach the block with a splice and thereby gain weight. Two holes on each cheek will enable the holding line to go through.

KB BLOCKS

ATTACHMENT POSSIBILITIES

STANDARD

LASHING

STANDARD FIDDLE

BECKET

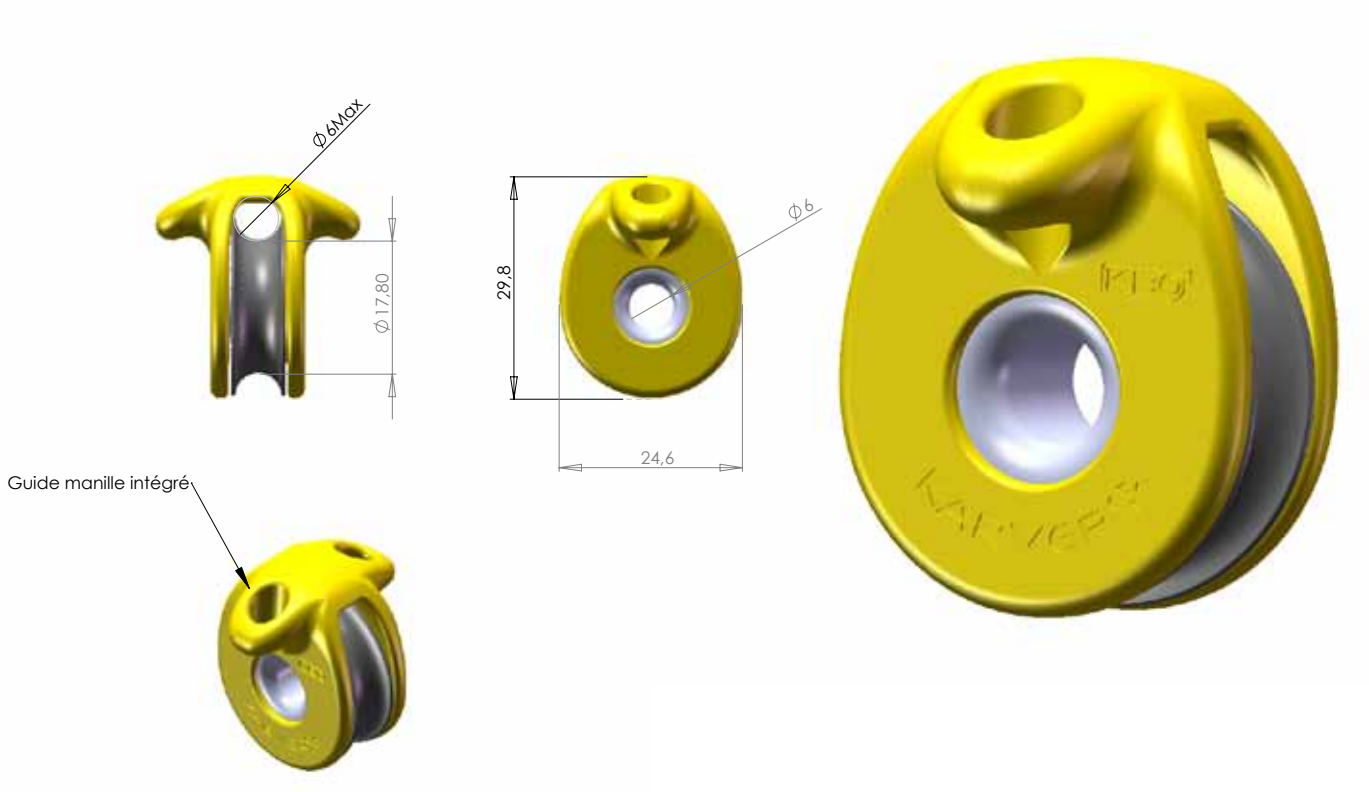
BOOM TACKLE

FIDDLE AND TWIST

KBO BLOCKS

KBO 1

Material Specifications		
Side plates	Composite fiber-reinforced	
Sheave	Aluminum	
Inner hub	Stainless steel	
Bearing	Ball bearing (Polyacetal)	
Rope shackle	Dyneema®	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	0.7”	18 mm
Weight	0.4 oz	11 g
Max Line Diameter	1/4”	6 mm
Safe Working Load	264 lbs	120 kg
Breaking Load	528 lbs	240 kg

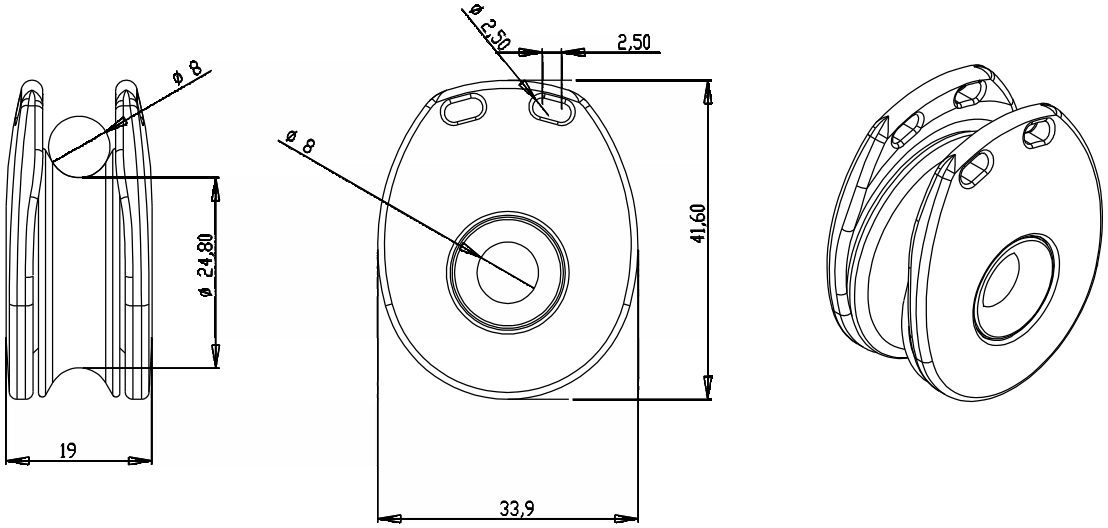


KBO BLOCKS

KBO 2

The KBO 2 block is available in grey or yellow.

Material Specifications		
Side plates	Composite fiber-reinforced	
Sheave	Aluminum	
Inner hub	Stainless steel	
Bearing	Ball bearing (Polyacetal)	
Rope shackle	Dyneema®	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1”	25 mm
Weight	0.9 oz	27 g
Max Line Diameter	5/16”	8 mm
Safe Working Load	485 lbs	220 kg
Breaking Load	970 lbs	440 kg

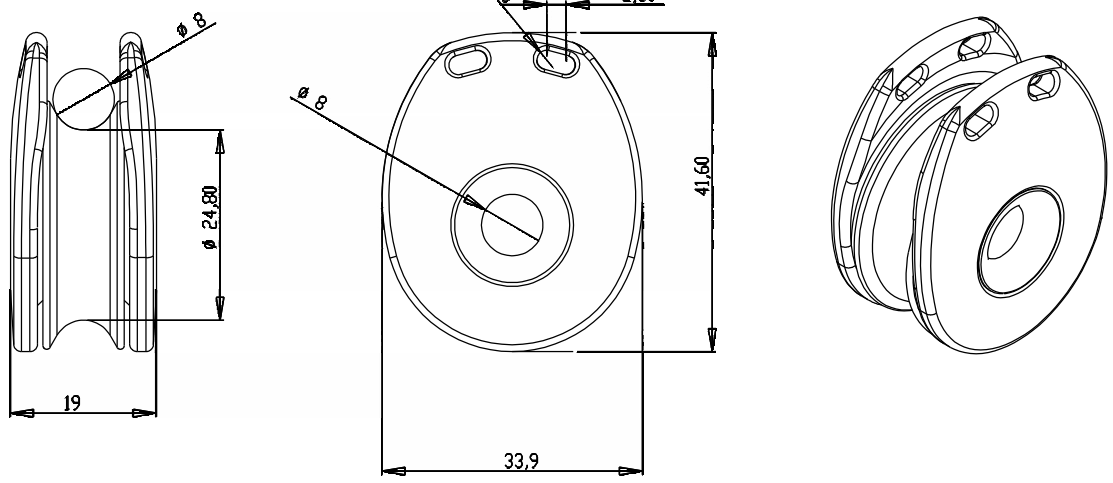


KBO BLOCKS

KBO 4

The KBO 4 block is available in grey or yellow.

Material Specifications		
Side plates	Composite fiber-reinforced	
Sheave	Aluminum	
Inner hub	Stainless steel	
Bearing	Roller bearing (Peek®)	
Rope shackle	Dyneema®	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1”	25 mm
Weight	0.9 oz	27 g
Max Line Diameter	5/16”	8 mm
Safe Working Load	881 lbs	400 kg
Breaking Load	1,762 lbs	800 kg

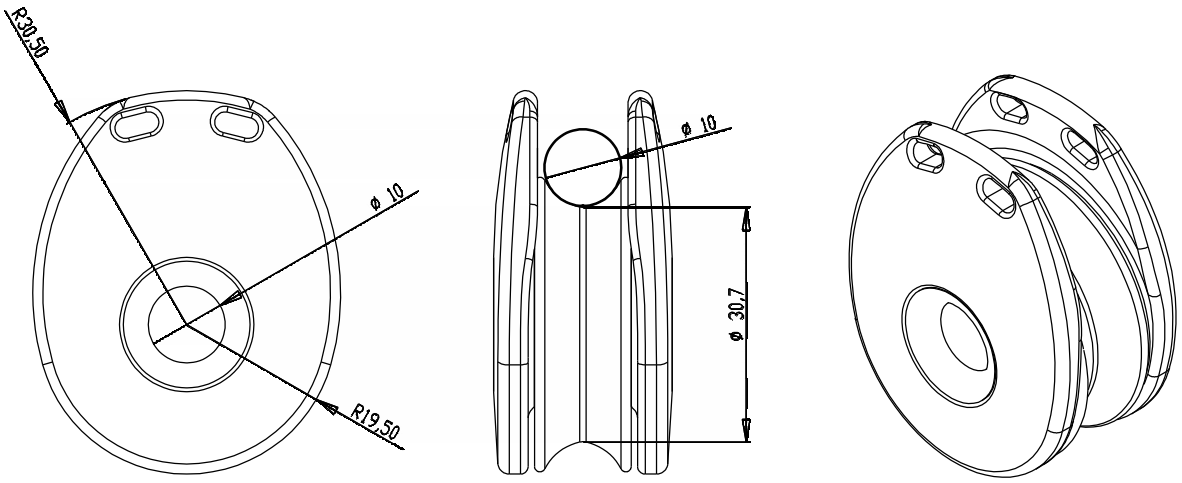


KBO BLOCKS

KBO 6

The KBO 6 block is available in grey or yellow.

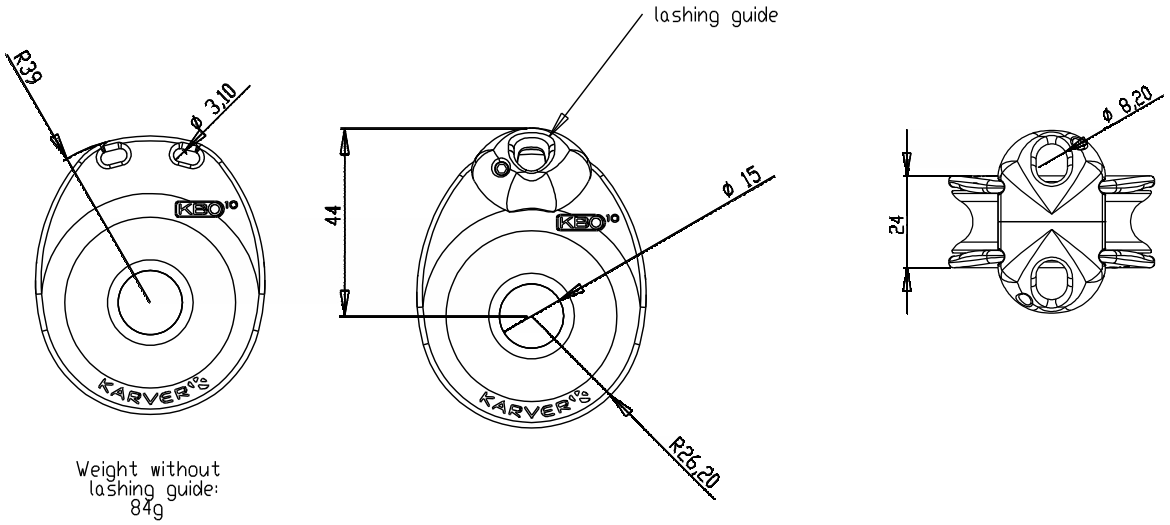
Material Specifications		
Side plates	Composite fiber-reinforced	
Sheave	Aluminum	
Inner hub	Stainless steel	
Bearing (radial load)	Roller bearing (Peek®)	
Bearing (axial load)	Ball bearing (Polyacetal)	
Rope shackle	Dyneema®	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1.2”	31 mm
Weight	1.6 oz	46 g
Max Line Diameter	3/8"	10 mm
Safe Working Load	1,322 lbs	600 kg
Breaking Load	2,644 lbs	1,200 kg



KBO BLOCKS

KBO 10

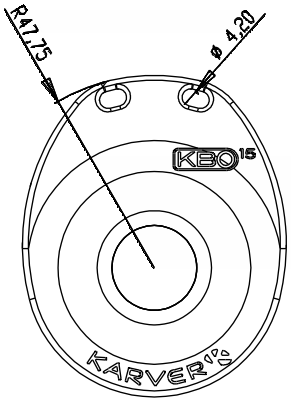
Material Specifications		
Side plates	Aluminum	
Sheave	Aluminum	
Inner hub	Stainless steel	
Bearing (radial load)	Roller bearing (Peek®)	
Bearing (axial load)	Ball bearing (Polyacetal)	
Lashing guide	Composite fiber-reinforced	
Rope shackle	Dyneema®	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1.6”	42 mm
Weight	2.9 oz	83 g
Max Line Diameter	1/2"	12 mm
Safe Working Load	2,645 lbs	1,200 kg
Breaking Load	5,290 lbs	2,400 kg



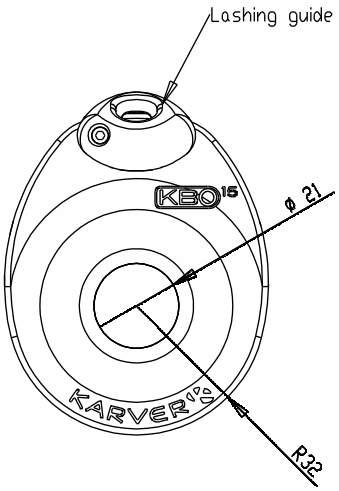
KBO BLOCKS

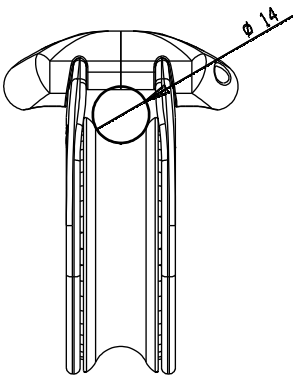
KBO 15

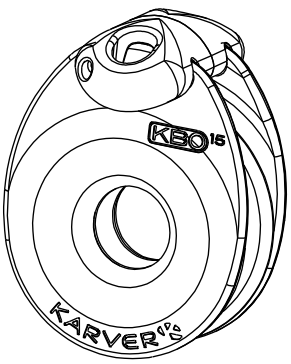
Material Specifications		
Side plates	Aluminum	
Sheave	Aluminum	
Inner hub	Stainless steel	
Bearing (radial load)	Roller bearing (Peek®)	
Bearing (axial load)	Ball bearing (Polyacetal)	
Lashing guide	Composite fiber-reinforced	
Rope shackle	Dyneema®	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	2”	50 mm
Weight	4.8 oz	138 g
Max Line Diameter	9/16”	14 mm
Safe Working Load	3,968 lbs	1,800 kg
Breaking Load	7,936 lbs	3,600 kg



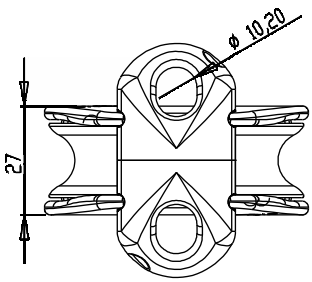
Weight without lashing guide: 144g







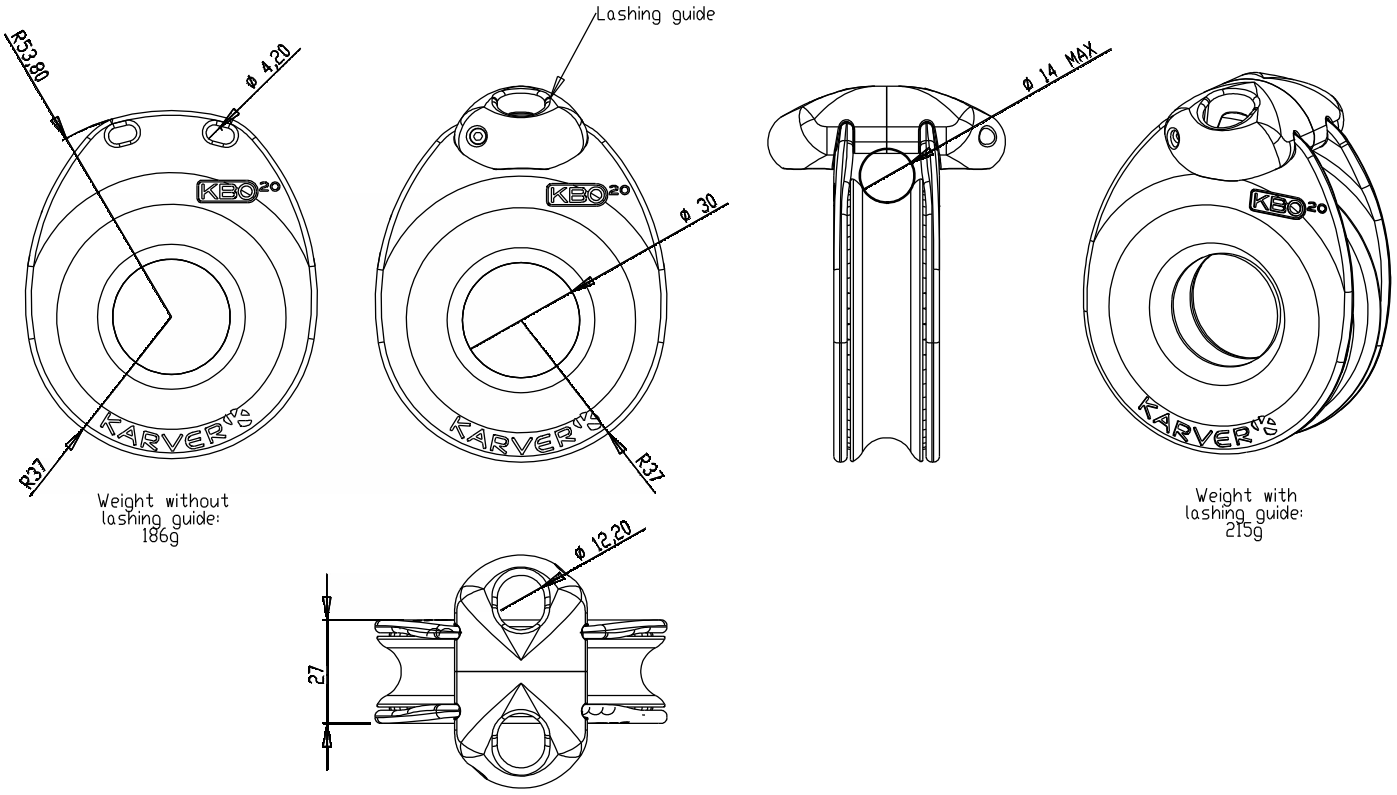
Weight with lashing guide: 165g



KBO BLOCKS

KBO 20

Material Specifications		
Side plates	Aluminum	
Sheave	Aluminum	
Inner hub	Stainless steel	
Bearing (radial load)	Roller bearing (Peek®)	
Bearing (axial load)	Ball bearing (Polyacetal)	
Lashing guide	Composite fiber-reinforced	
Rope shackle	Dyneema®	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	2.4”	61 mm
Weight	6.5 oz	186 g
Max Line Diameter	9/16”	14 mm
Safe Working Load	5,732 lbs	2,600 kg
Breaking Load	11,464 lbs	5,200 kg

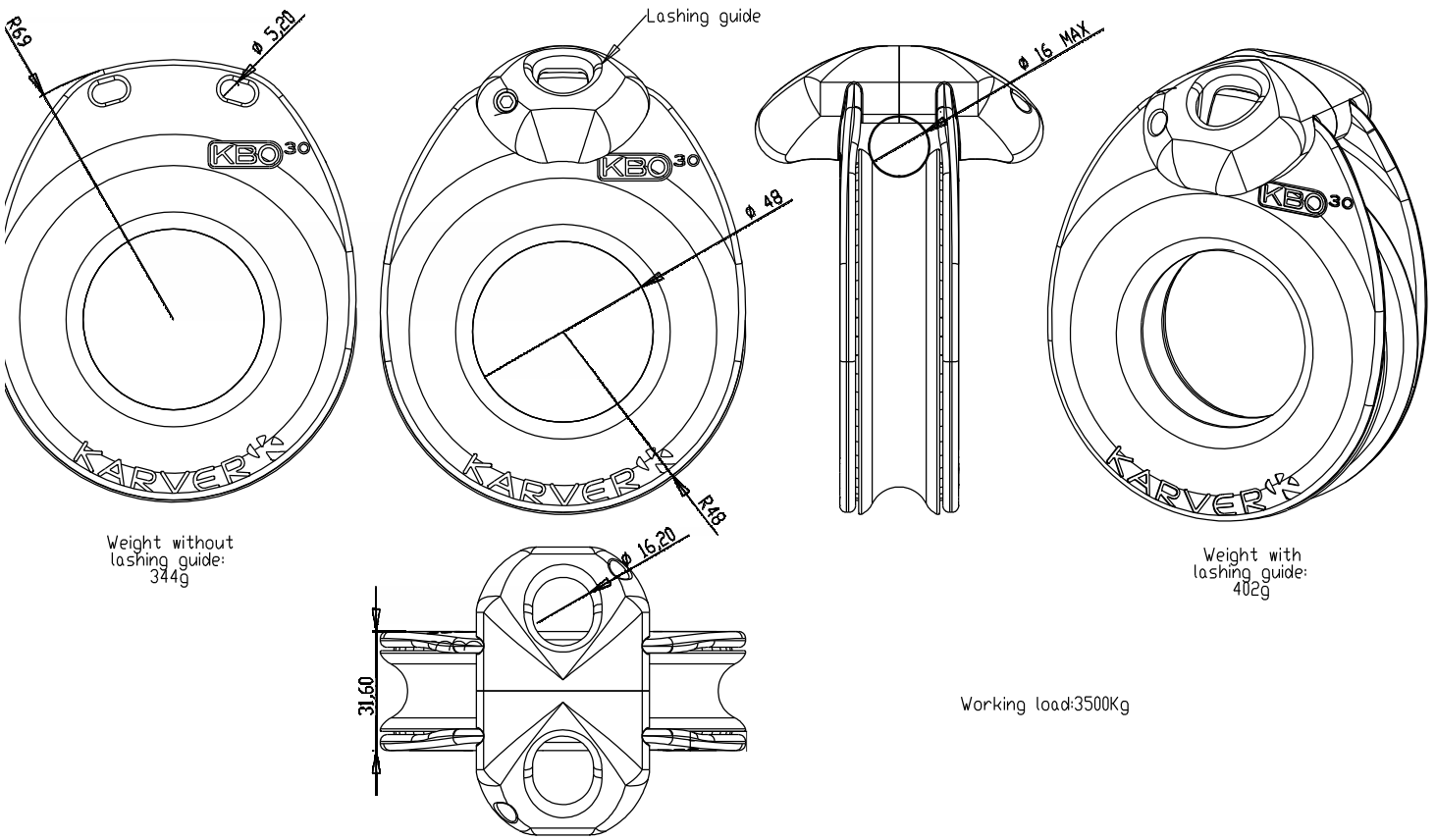


KBO BLOCKS

KBO 30

Material Specifications	
Side plates	Aluminum
Sheave	Aluminum
Inner hub	Stainless steel
Bearing (radial load)	Roller bearing (Peek®)
Bearing (axial load)	Ball bearing (Polyacetal)
Lashing guide	Composite fiber-reinforced
Rope shackle	Dyneema®

Measure Specifications		
	Imperial	Metric
Sheave Diameter	3.8”	98 mm
Weight	11.7 oz	334 g
Max Line Diameter	5/8”	16 mm
Safe Working Load	7,716 lbs	3,500 kg
Breaking Load	15,432 lbs	7,000 kg

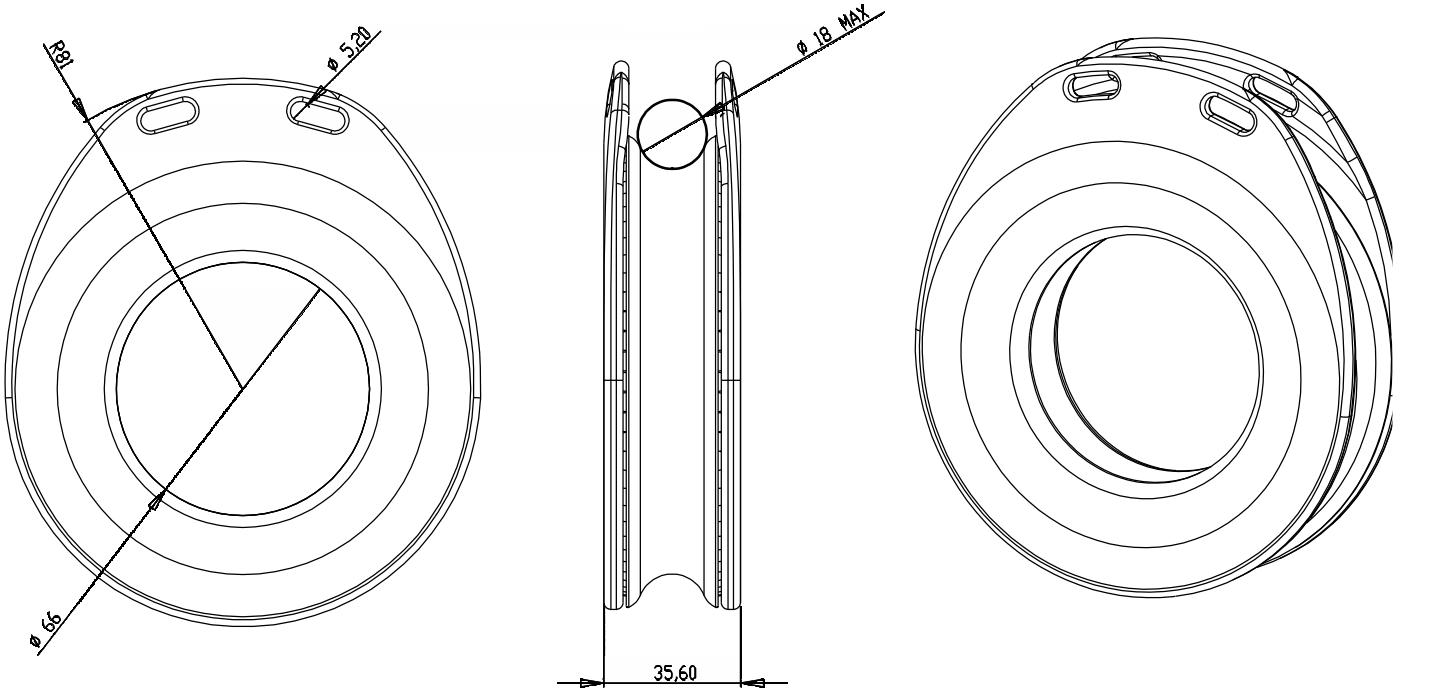


KBO BLOCKS

KBO 50

Material Specifications	
Side plates	Aluminum
Sheave	Aluminum
Inner hub	Stainless steel
Bearing (radial load)	Roller bearing (Peek®)
Bearing (axial load)	Ball bearing (Polyacetal)
Lashing guide	Composite fiber-reinforced
Rope shackle	Dyneema®

Measure Specifications		
	Imperial	Metric
Sheave Diameter	4.1”	105 mm
Weight	21.5 oz	610 g
Max Line Diameter	11/16”	18 mm
Safe Working Load	11,023 lbs	5,000 kg
Breaking Load	22,046 lbs	10,000 kg



KBTi BLOCKS

Designed with the Volvo and the Cup sailing teams, the 4th KBTi's generation launched in 2008 has two patents registered. Improvements in high modulus ropes make possible to use small sheave diameter, leading to the new high load block concept. The KBTi's remains today the lightest and most efficient blocks on the market.Made of carbon and titanium, and featuring ceramic bearings, these blocks are an exclusive Karver solution. Today, the KBTi blocks remains the lightest and the most efficient blocks on the market.

A stainless steel version(KBs) is also available for those who race in a class that does not allowed titanium.

UNIQUE DESIGN AND MATERIALS

70% LIGHTER

To ensure light weight and minimal size, unique materials are used:

- Carbon for cheeks,
- Titanium for the bearings, sheaves, and the central hub.
- Ceramic ball bearings

FRICTION COEFFICIENT LOWER THAN 3%

KBTi feature a unique bearing two stage system composed by ceramic ball bearings for axial loads and titanium roller bearings for radial loads. The roller bearing benefit from a special Titanium treatment (patented), which ensure to hold high load on smaller sheaves. This technology makes these blocks still unmatched on the market.

UNIQUE DESIGN AND MATERIALS

Manufactured with high tech materials, the attachment line should not be too tight on the cheeks. If the attachment line is too tight, the line may damage the cheeks when the block is under load.

MAINTENANCE

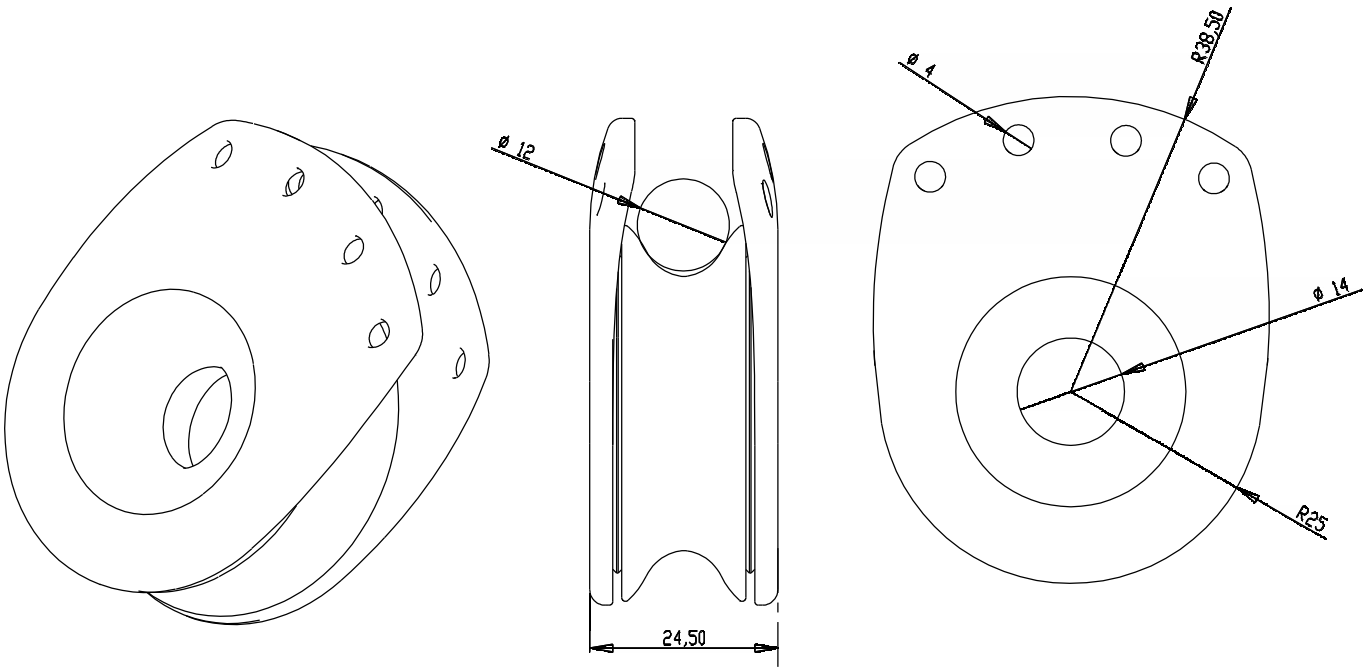
The block can be easily opened for maintenance. The two side plates are screwed one into the other. Karver recommends to open the block above a recipient case only not to lose balls that could escape during the opening.

Every part of the block can be replaced independently.

KBTi BLOCKS

KBTi 30

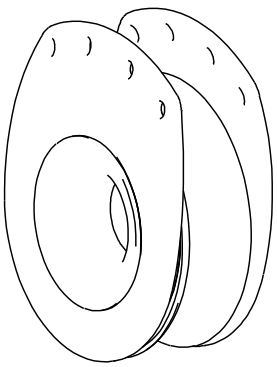
Material Specifications		
Side plates	Carbon	
Sheave	Titanium (or Stainless steel)	
Inner hub	Titanium (or Stainless steel)	
Bearing (radial load)	Roller bearing (Titanium)	
Bearing (axial load)	Ball bearing (Ceramic)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1.4”	36 mm
KBTi weight	3.2 oz	92 g
KBs weight	5.3 oz	150 g
Max Line Diameter	1/2”	12 mm
Safe Working Load	6,614 lbs	3,000 kg
Breaking Load	13,228 lbs	6,000 kg

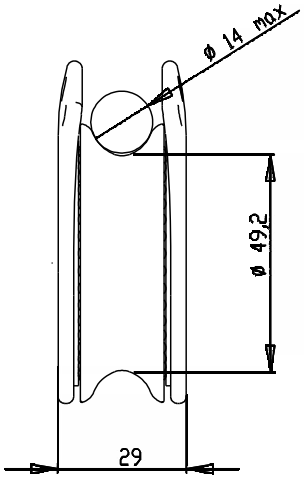


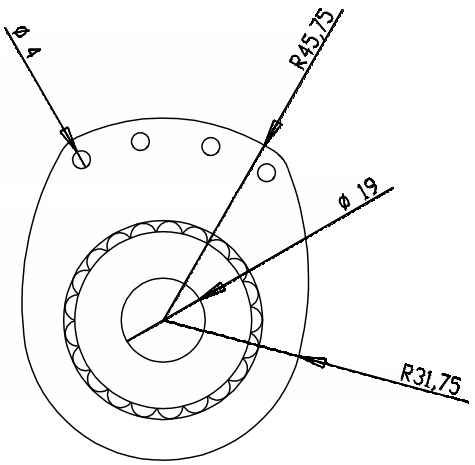
KBTi BLOCKS

KBTi 50

Material Specifications		
Side plates	Carbon	
Sheave	Titanium (or Stainless steel)	
Inner hub	Titanium (or Stainless steel)	
Bearing (radial load)	Roller bearing (Titanium)	
Bearing (axial load)	Ball bearing (Ceramic)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1.9”	36 mm
KBTi weight	6.3 oz	92 g
KBs weight	oz	g
Max Line Diameter	9/16”	14 mm
Safe Working Load	11,023 lbs	5,000 kg
Breaking Load	22,046 lbs	10,000 kg



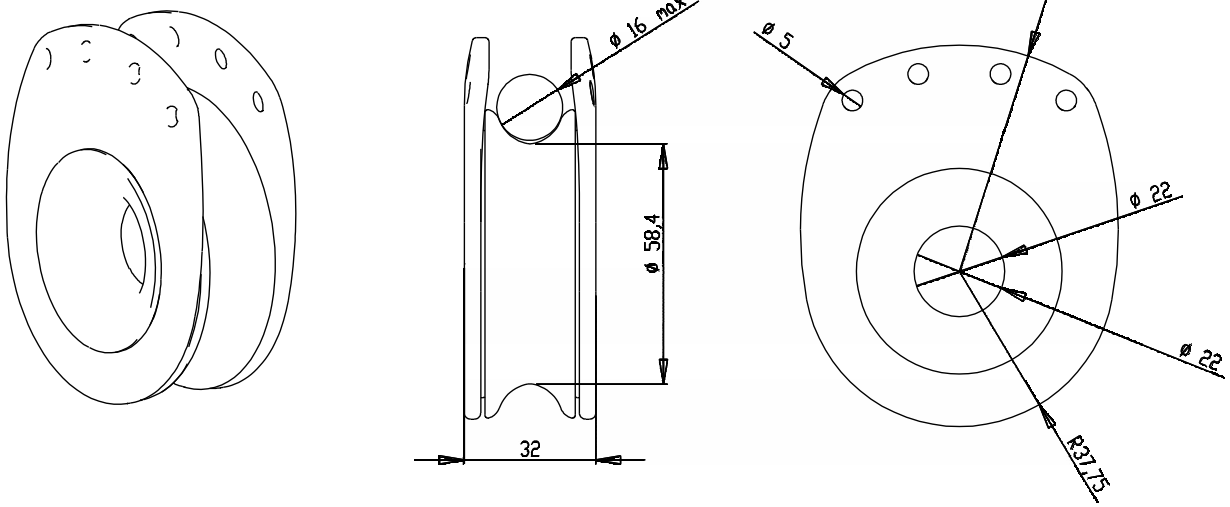




KBTi BLOCKS

KBTi 65

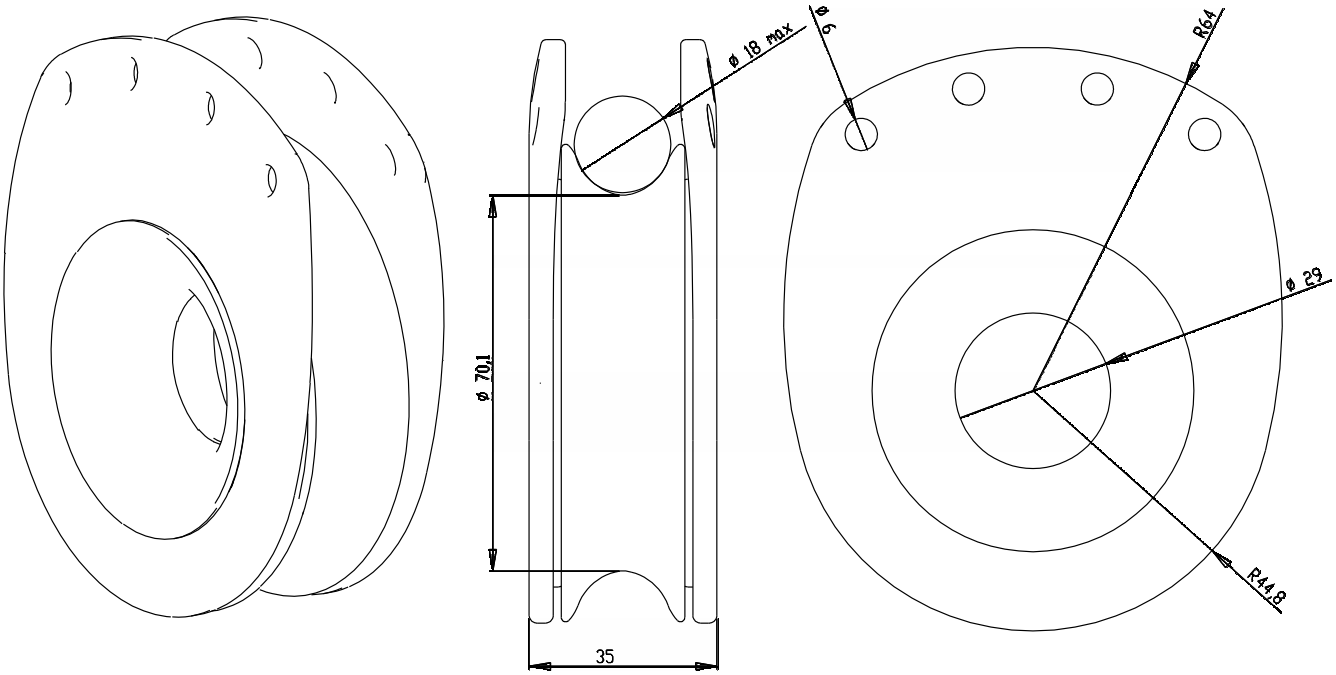
Material Specifications		
Side plates	Carbon	
Sheave	Titanium (or Stainless steel)	
Inner hub	Titanium (or Stainless steel)	
Bearing (radial load)	Roller bearing (Titanium)	
Bearing (axial load)	Ball bearing (Ceramic)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	2.3”	58 mm
KBTi weight	10.6 oz	300 g
KBs weight	15.8 oz	447 g
Max Line Diameter	5/8”	16 mm
Safe Working Load	14,330 lbs	6,500 kg
Breaking Load	28,660 lbs	13,000 kg



KBTi BLOCKS

KBTi 80

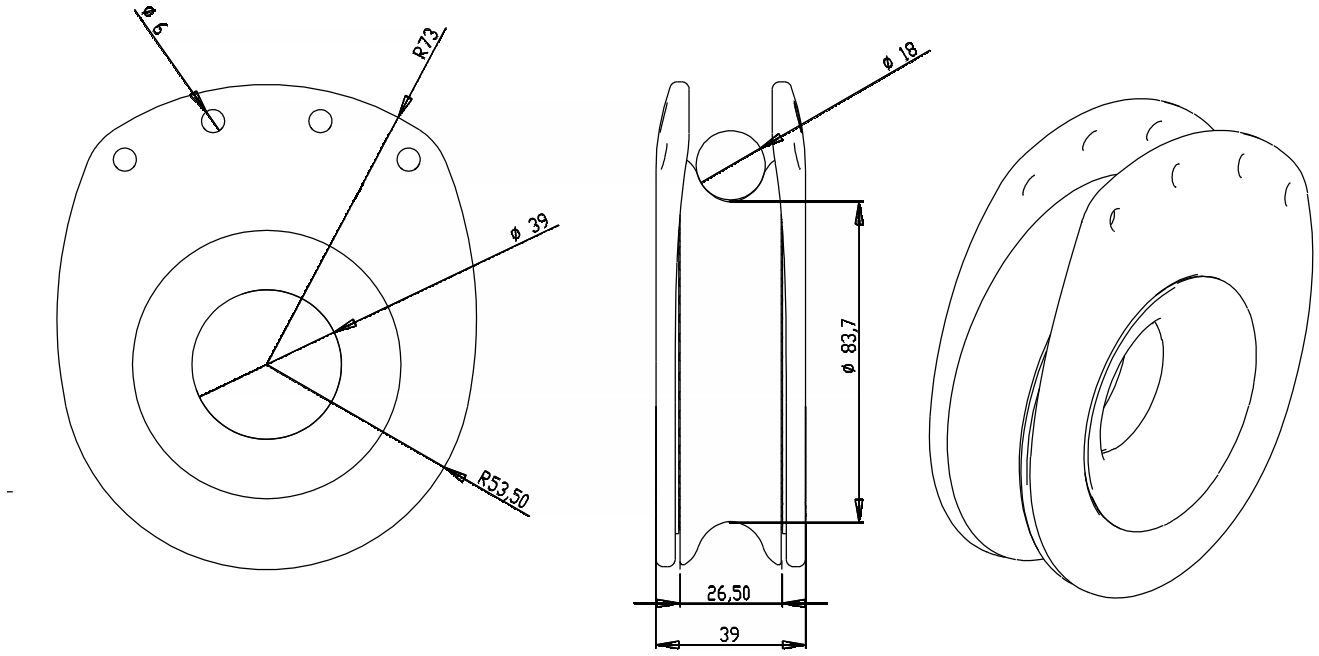
Material Specifications		
Side plates	Carbon	
Sheave	Titanium (or Stainless steel)	
Inner hub	Titanium (or Stainless steel)	
Bearing (radial load)	Roller bearing (Titanium)	
Bearing (axial load)	Ball bearing (Ceramic)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	2.8”	70 mm
KBTi weight	15.9 oz	450 g
KBs weight	23.5 oz	666 g
Max Line Diameter	11/16”	18 mm
Safe Working Load	17,636 lbs	8,000 kg
Breaking Load	35,274 lbs	16,000 kg



KBTi BLOCKS

KBTi 105

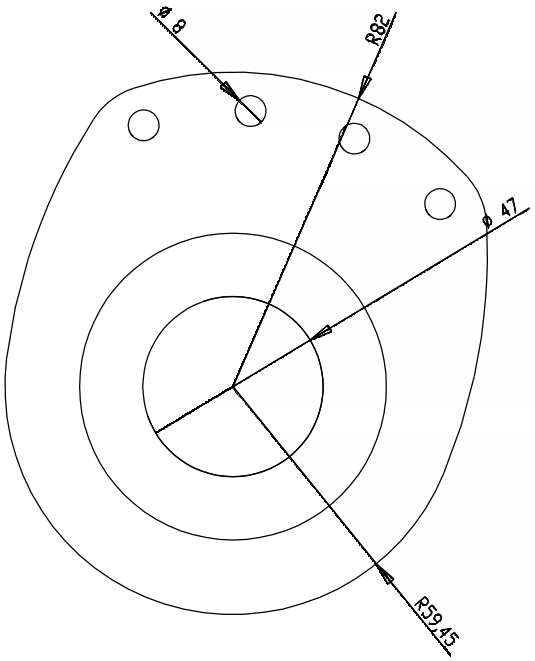
Material Specifications		
Side plates	Carbon	
Sheave	Titanium (or Stainless steel)	
Inner hub	Titanium (or Stainless steel)	
Bearing (radial load)	Roller bearing (Titanium)	
Bearing (axial load)	Ball bearing (Ceramic)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	3.3”	83 mm
KBTi weight	24.7 oz	700 g
KBs weight	40.6 oz	1,150 g
Max Line Diameter	11/16”	18 mm
Safe Working Load	23,148 lbs	10,500 kg
Breaking Load	46,297 lbs	21,000 kg

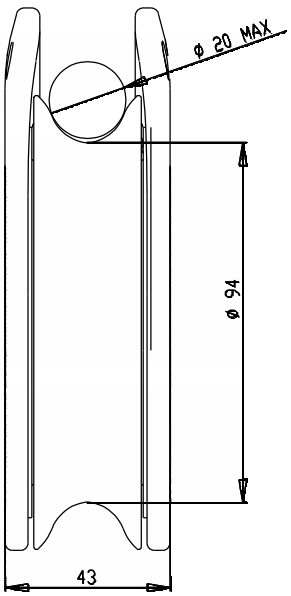


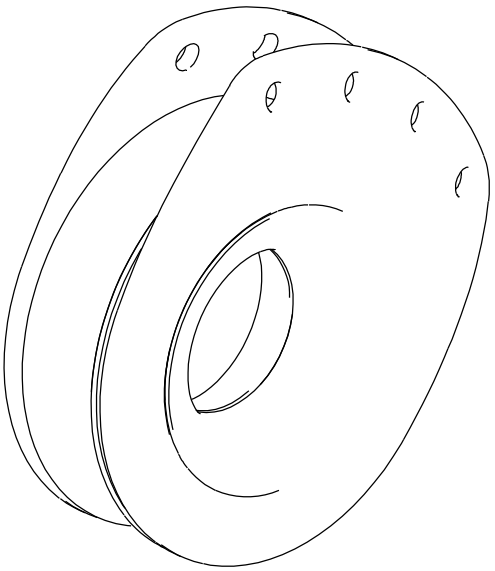
KBTi BLOCKS

KBTi 130

Material Specifications		
Side plates	Carbon	
Sheave	Titanium (or Stainless steel)	
Inner hub	Titanium (or Stainless steel)	
Bearing (radial load)	Roller bearing (Titanium)	
Bearing (axial load)	Ball bearing (Ceramic)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	3.7”	95 mm
KBTi weight	34.1 oz	966 g
KBs weight	53.7 oz	1,523 g
Max Line Diameter	3/4”	20 mm
Safe Working Load	28,660 lbs	13,000 kg
Breaking Load	57,320 lbs	26,000 kg







KBR BLOCKS

Designed for the America's Cup, the KBR blocks feature HR aluminum side plates and the patented KBTi bearing technology. Its new design offers a lower friction ratio through its closed side plates, especially with tight lashings.

For the 33rd America's Cup, Team Alinghi saved up to 30 kg (66 lbs) using KBR blocks.

SIDE PLATES DESIGN

CLOSED SIDE PLATES

Unlike the other Karver blocks, the KBR is featuring closed side plates. Therefore, the cheeks shall not be damages when the block is under load even with a tight lashing attachment.

PENTAGON SHAPE

The shape of the KBR is designed to prevent the block from flipping over.

PATENTED BEARING TECHNOLOGY

The KBR features the patented bearing technology from the KBTi, which is a unique bearing two stage system composed by ceramic ball bearings for axial loads and titanium roller bearings for radial loads. The roller bearing benefit from a special Titanium treatment (patented), which ensure to hold high load on smaller sheaves.

MAINTENANCE

The block can be easily opened for maintenance. The two side plates are screwed one into the other. Karver recommends to open the block above a recipient case only not to lose balls that could escape during the opening.

Every part of the block can be replaced independently.

KBR BLOCKS

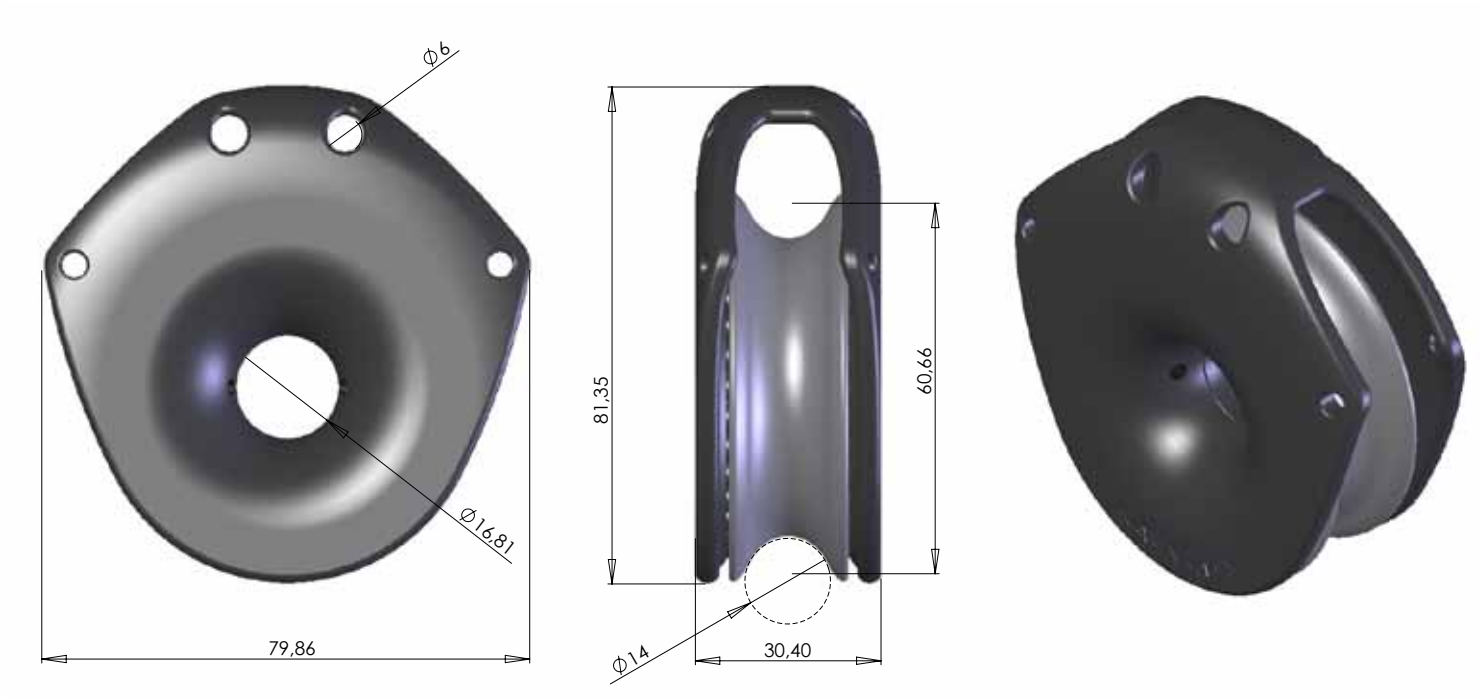
KBR 30

Material Specifications		
Side plates	HR Aluminum	
Sheave	Titanium	
Bearing (radial load)	Roller bearing (Titanium)	
Bearing (axial load)	Ball bearing (Torlon)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1.4”	35 mm
KBR weight	4.9 oz	139 g
Max Line Diameter	1/2”	12 mm
Safe Working Load	6,614 lbs	3,000 kg
Breaking Load	13,228 lbs	6,000 kg

KBR BLOCKS

KBR 50

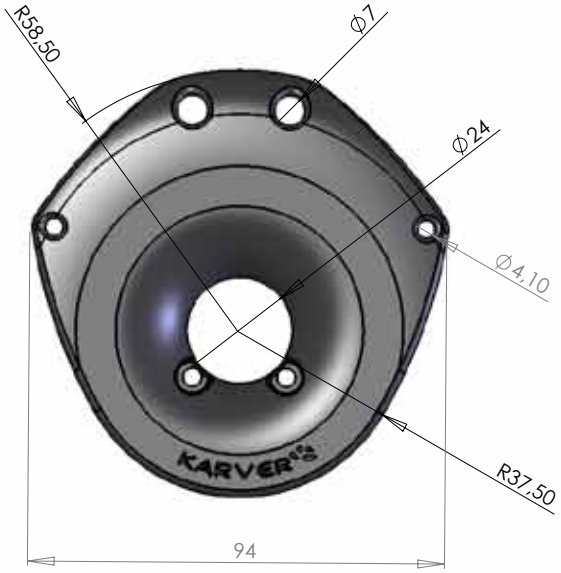
Material Specifications		
Side plates	HR Aluminum	
Sheave	Titanium	
Bearing (radial load)	Roller bearing (Titanium)	
Bearing (axial load)	Ball bearing (Torlon)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	1.9”	48 mm
KBR weight	8 oz	227 g
Max Line Diameter	9/16"	14 mm
Safe Working Load	11,025 lbs	5,000 kg
Breaking Load	22,050 lbs	10,000 kg

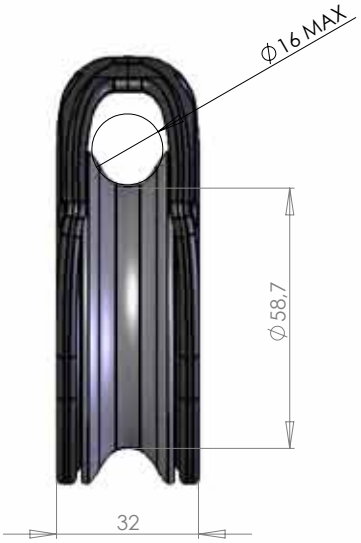


KBR BLOCKS

KBR 65

Material Specifications		
Side plates	HR Aluminum	
Sheave	Titanium	
Bearing (radial load)	Roller bearing (Titanium)	
Bearing (axial load)	Ball bearing (Torlon)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	2.3”	58 mm
KBR weight	11.4 oz	323 g
Max Line Diameter	5/8"	16 mm
Safe Working Load	14,330 lbs	6,500 kg
Breaking Load	28,660 lbs	13,000 kg

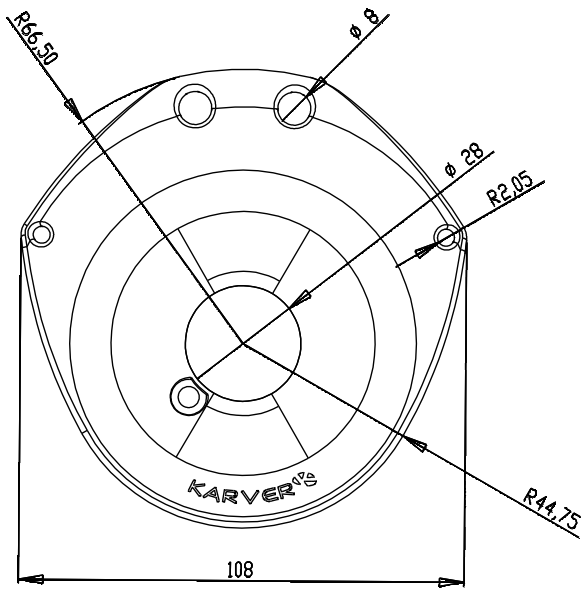


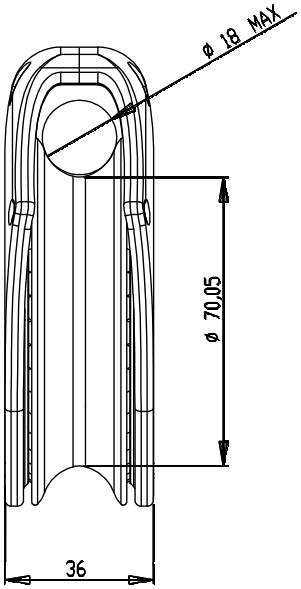


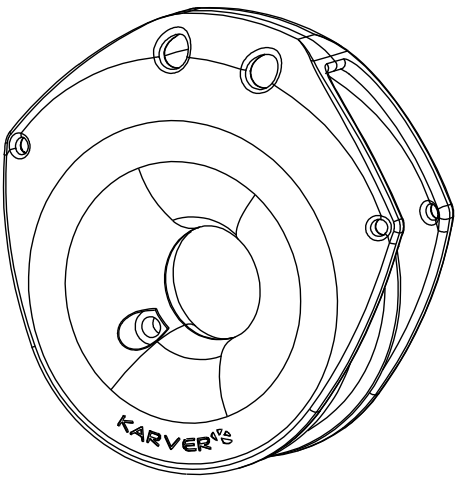
KBR BLOCKS

KBR 80

Material Specifications		
Side plates	HR Aluminum	
Sheave	Titanium	
Bearing (radial load)	Roller bearing (Titanium)	
Bearing (axial load)	Ball bearing (Torlon)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	2.8”	70 mm
KBR weight	17.4 oz	494 g
Max Line Diameter	11/16”	18 mm
Safe Working Load	17,650 lbs	8,000 kg
Breaking Load	35,300 lbs	16,000 kg



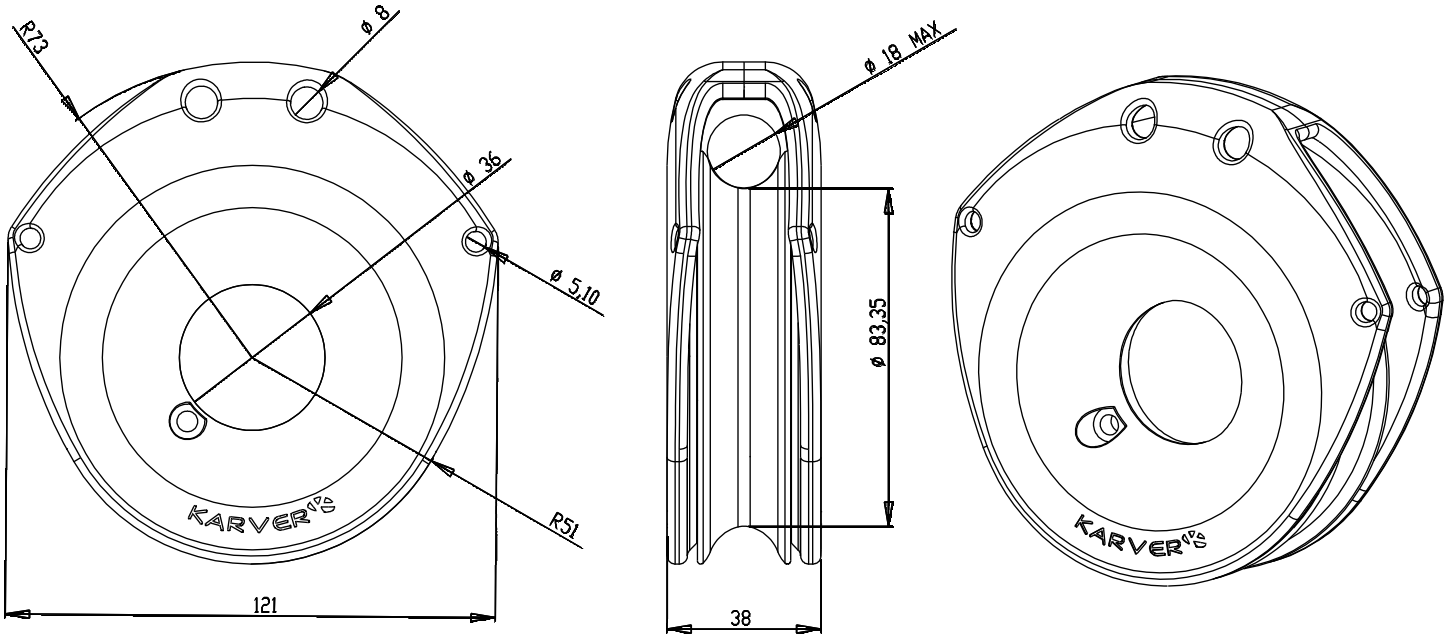




KBR BLOCKS

KBR 105

Material Specifications		
Side plates	HR Aluminum	
Sheave	Titanium	
Bearing (radial load)	Roller bearing (Titanium)	
Bearing (axial load)	Ball bearing (Torlon)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	3.3”	83 mm
KBR weight	23.3 oz	660 g
Max Line Diameter	11/16”	18 mm
Safe Working Load	23,150 lbs	10,500 kg
Breaking Load	46,300 lbs	21,000 kg



KBR BLOCKS

KBR 130

Material Specifications		
Side plates	HR Aluminum	
Sheave	Titanium	
Bearing (radial load)	Roller bearing (Titanium)	
Bearing (axial load)	Ball bearing (Torlon)	
Measure Specifications		
	Imperial	Metric
Sheave Diameter	3.7”	94 mm
KBR weight	35 oz	994 g
Max Line Diameter	3/4”	20 mm
Safe Working Load	28,660 lbs	13,000 kg
Breaking Load	57,320 lbs	26,000 kg