

General Pulley Information

The breaking load of pulleys is normally determined by attaching the head fixing of the block to one end of a testing machine while both legs of a U-bolt [or a loop of rope] are placed over the sheave and attached to the other end of the machine. The machine then pulls apart the head and the sheave until it fails. If the pulley fails at 1,000 kg then that is generally the manufacturer's stated breaking load.

However, if you attach the head of the pulley to your theatre grid and reeve a rope through it and attach one end to a **1,000 kg weight** on the floor you will need to **exert 2,000 kg headload** to actually lift the weight because it will require a 1,000 kg pull while still suspending a 1,000 kg weight. Therefore, to determine a safe working load, Flints would recommend that the breaking load is immediately halved and then divided by eight [which is the ABTT code for wire rope]. For example: For our popular Opera Web Block, which would fail at 2,500 kg on a test bed, we give a working load limit of 156 kg [$2,500 \div 2 = 1,250 \div 8 = 156$ kg]. The WLL is more than you would want to haul by hand but considerably below the breaking load.

Marine equipment tends to state the safe working load as half the breaking load, other suppliers use different calculations. We have tried to clarify the situation in this catalogue by giving the information as clearly and boldly as we can in the special safety boxes.

Choosing the correct pulley size

To obtain the maximum working life, strength and the least friction the pulley sheave diameter should be at least 8 times the diameter of the rope. In the case of wire ropes the sheave diameter should ideally be 30 times the diameter of the wire. However, there are many applications where these large diameter sheaves would be completely impractical in which case choose a pulley that fits the job but take into account a shorter working life and reduced breaking load. Regularly inspect the rope or wire for signs of wear. Be careful when choosing pulleys to fit fibre ropes. Rope diameters can vary, three-strand ropes often reduce in diameter when under load but can exceed their stated diameter when not under tension.

Bearings or not

Bearings are necessary to obtain highly efficient blocks. Small pulleys with bearings were originally developed for land yachts by Harken where there was a need for extremely rapid rope movement with low friction.

Choose blocks with bearings when your rope needs to run very fast or when a series of blocks are being used together and the combined friction will build up. The maximum rolling load on bearings is often below a plain bearing block.

Generally, a plain bearing is either a plain hole or a hole lined with a brass or Oilite bush. For most uses they are perfectly adequate and for pulleys subjected to long periods just supporting a static load they are the preferred choice. They are generally stronger, more reliable and cheaper.

It is important that any equipment purchased for lifting purposes is selected by a person competent to do so.

Is it a Block or is it a Pulley?

They're sometimes called "blocks" and sometimes "pulleys"; and sometimes both in the same paragraph. Halls and Doughty products are made up of multiple sheaves [aka "pulleys"] that rotate independently and when put with end plates are "blocks". "Block" is also used in marine environments, see the Barton pages [page 211]. "Pulley" is the short version of "pulley block". We'll keep using both terms so no one feels left out.

Fun and Games Ordering Pulleys

It all seems quite simple. You choose your blocks and you choose your brackets and place the order. That is fine until you order a 1-way pulley, a 2-way pulley and a 3-way pulley and two parallel mounting brackets and one across-mounting bracket. We need to know which pulley has which bracket! So in an ideal world this is what we would like:

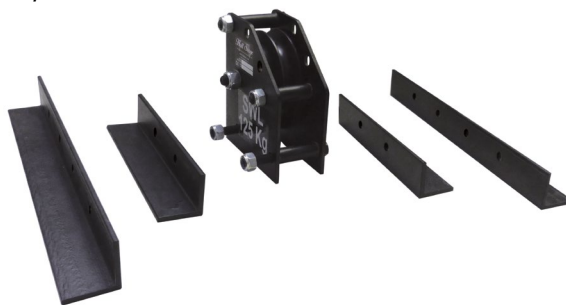
Please supply:

One off: 1-way 150mm wire block DYNL8228 c/w DYNL8273 parallel mount

One off: 2-way 150mm wire block DYNL8229 c/w DYNL8273 parallel mount

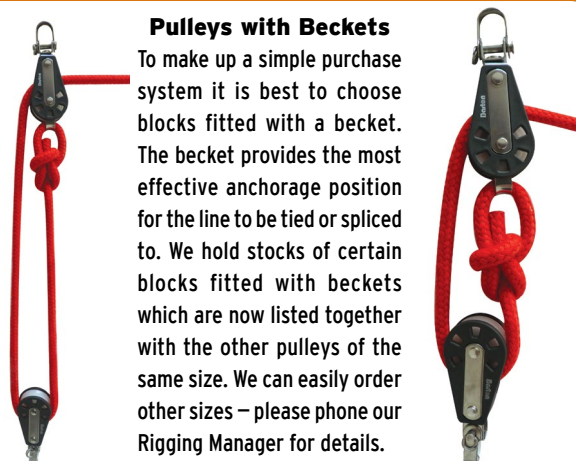
One off: 3-way 150mm wire block DYNL8230 c/w DYNL8270 across mount

Probably best to leave us a mobile number too!



Pulleys with Becketts

To make up a simple purchase system it is best to choose blocks fitted with a beckett. The beckett provides the most effective anchorage position for the line to be tied or spliced to. We hold stocks of certain blocks fitted with becketts which are now listed together with the other pulleys of the same size. We can easily order other sizes – please phone our Rigging Manager for details.



Reverse Shackles

It's all about the pin. These products have a removable pin and shackle.

The pin and shackle dismantled.



The pin placed like this allows the block to move at a 90° angle to the sheave.



The pin placed like this allows the block to move in-line to the sheave.



MINI PULLEYS



Single

Double

Upright



Single and Double Mini Pulleys Invaluable as guides for small trip lines. The pulleys can be secured with a small shackle [4 mm pin], Dyneema or polyester cord or even cable ties for light loads. The axles are hollow so they can be fixed with a screw for side mounting purposes. We also have a small upright block. Made from 316-grade stainless steel with acetal sheaves.



SAFETY

Breaking Load
275 kg

Mini Pulleys	sheave Ø	rope Ø	weight	code	price
Single	16 mm	2 - 5 mm	5 g	PUL530	£4.72
Double	16 mm	2 - 5 mm	10 g	PUL533	£8.93
Upright	16 mm	2 - 5 mm	7 g	PUL534	£10.69

MINI PULLEYS FOR WIRE ROPE OR CORD



Single

Double

Triple



16 mm High Tension Blocks This High Tension range is made from 316-grade stainless steel throughout giving incredible strength to weight ratios. The ball race is machined using the latest CNC technology which ensures absolute consistency in production. Ideal for use with 4 mm Dyneema Pro [page 202] or flexible wire ropes. Shackle pin: Ø 4 mm.

SAFETY

Breaking Load
400 kg

- ✓ Maximum sheave efficiency
- ✓ Minimum friction for all high load applications

High Tension 16	sheave Ø	rope Ø	weight	code	price
Single	16 mm	2 - 4 mm	11 g	HA4568	£19.24
Double	16 mm	2 - 4 mm	25 g	HA4569	£41.17



Single

Double

Triple

25 mm High Tension Blocks A larger and stronger version of the 16 mm blocks listed above. These incredible lightweight blocks are perfect for use with highly technical lines such as Dyneema Pro [page 202] or flexible wire ropes. Shackle pin: Ø 5 mm.

SAFETY

Breaking Load
750 kg

- ✓ Amazing strength with virtually no weight

High Tension 25	sheave Ø	rope Ø	weight	code	price
Single	25 mm	2 - 5 mm	25 g	HA4379	£22.83
Double	25 mm	2 - 5 mm	54 g	HA4679	£49.73



Mini Upright Block A small stainless steel block with a 25 mm diameter chromed brass sheave designed for small wire ropes or high tech ropes such as Dyneema. Useful for model theatre grids and working props. The maximum wire size is 4 mm [although the ABTT would have something to say about running a 4 mm wire around a 25 mm sheave!] The manufacturers only state the breaking load of a similar pulley in the range which is 950 kg. The breaking load of this pulley is dependent on the fixings through the lugs.

Mini Upright Block	code	price
sheave Ø		
25 mm	PULSS0108	£13.57
max wire Ø		
4 mm		
weight		
35 g		



Brass Sheave Block A small stainless steel and brass block which can be mounted by means of a Pad Eye [page 190] or shackle. Useful for guiding small wire ropes or can be used inverted to act as bobbins along catenary wires. The axle is a removeable clevis pin so the pulley can be dismantled and inserted into wires.

SAFETY

Breaking Load	Safety Factor	WLL
750 kg	2 to 1	375 kg

Brass Sheave Block	code	price
sheave Ø		
45 mm	BAR91300	£21.44
max wire Ø		
5 mm		
weight		
106 g		



High Load Wire Rope Block Side cheeks are made from 316-grade stainless steel. The brass sheave runs on a stainless steel centre bush. A useful pulley for unobtrusive guiding of small wire ropes, such as awning rigging etc.

SAFETY

Breaking Load	Safety Factor	WLL
1300 kg	2 to 1	650 kg

High Load Wire Rope Block	code	price
sheave Ø		
45 mm	BAR91301	£32.02
max wire Ø		
5 mm		
weight		
163 g		



Aluminium Wire Rope Cheek Block Side cheeks are made from marine-grade aluminium grey anodised for durability. The sheaves are precision turned from aluminium bar which is then silver anodised. They run on nylon bearings to reduce friction under load. The rivets are 316-grade stainless steel. A similar pulley in this range has a break load of 1,750 kg but the strength of this

block will depend on its fixings. For maximum strength, fixings should pass through the hollow centres of the rivets. Fastening diameter: 5 mm. Base size: 103 x 53 mm.

Aluminium Wire Rope Cheek Block	code	price
sheave Ø		
51 mm	BAR91650	£64.02
max wire Ø		
4 mm		
weight		
141 g		

For a full range of Rope Cheek Blocks see pages 212, 217 - 220.

BARTON PULLEYS

Barton Pulleys

This range of tough lightweight blocks is made from the highest quality materials to ensure ultimate efficiency and long working life. The plain brass bearing ensures free running even under high loads. They are available with a swivel head or a reverse shackle which allows the block to be fixed in parallel or at right angles. Blocks can also be supplied with ball bearing sheaves to order.

I can personally vouch for the reliability of these Barton blocks as I have used them in demanding applications on my yacht for well over 20,000 nautical miles over the last 21 years with no failures or even signs of wear.

And I'm not the only one impressed. In the German magazine *Die Yacht* they tested Barton Size 4 and a Barton Cruiser block against 14 other blocks from eight leading manufacturers. Both the Barton blocks finished in the top five and the Barton Cruiser block won overall for "its smooth running under maximum load and attractive price". *Voiles et Voiliers* magazine was also full of praise "both Barton pulleys were least expensive on offer, yet performed most satisfactorily under load". A sad note in the reports was that many of the blocks by other leading manufacturers failed well below the manufacturer's stated breaking load. Well done Barton!

Made in Whitstable!

SMALL BARTON BLOCKS

UP TO 550 KG BREAKING LOAD



Single fixed eye



Double swivel



Triple fixed eye



Single fitted with becket



Size 0 Blocks A strong and lightweight range of blocks for use with lines up to 5 mm. Fitted with plain bearings for greater load capacity and good static loading.

SPECIFICATION: Sheave size: 20 x 8 mm. Max rope Ø: 5 mm.

SAFETY

Breaking Load	Safety Factor	WLL
550 kg	2 to 1	275 kg

Size 0 Blocks	weight	code	price
Single Fixed Eye	13 g	BARN00110	£5.60
Single Swivel	20 g	BARN00130	£16.06
Single Swivel with Becket	25 g	BARN00131	£17.40
Double Fixed Eye	37 g	BARN00210	£14.28
Double Swivel	46 g	BARN00230	£23.93
Double Swivel with Becket	47 g	BARN00231	£25.53
Triple Fixed Eye	55 g	BARN00310	£23.83
Triple Swivel	60 g	BARN00330	£32.59
Triple Swivel with Becket	64 g	BARN00331	£33.91

MEDIUM-DUTY YACHT BLOCKS

UP TO 1,500 KG BREAKING LOAD



Single fixed eye



Double swivel



Triple swivel



Fitted with becket



Size 1 Blocks Hugely popular general purpose blocks. Flints holds very large stocks of these pulleys. Swivels now fitted with mini shackle for easy attachment.

SPECIFICATION: Sheave size: 30 x 12 mm. Max rope Ø: 8 mm.

See also page 216 for economical Cloth Stretching Runners.

SAFETY

Breaking Load	Safety Factor	WLL
710 kg	2 to 1	355 kg

Size 1 Blocks	weight	code	price
Single Fixed Eye	33 g	BARN01110	£7.77
Single Swivel	43 g	BARN01130	£12.79
Single Swivel Becket	51 g	BARN01131	£15.68
Double Fixed Eye	59 g	BARN01210	£12.92
Double Swivel	67 g	BARN01230	£23.17
Triple Fixed Eye	80 g	BARN01310	£19.93
Triple Swivel	89 g	BARN01330	£22.80



Size 2 Blocks The slightly larger sheave diameter on these blocks will help reduce friction and rope wear. Choose them in preference to Size 1 blocks for more demanding applications.

SPECIFICATION: Sheave size: 35 x 12 mm. Max rope Ø: 8 mm.

SAFETY

Breaking Load	Safety Factor	WLL
740 kg	2 to 1	370 kg

Size 2 Blocks	weight	code	price
Single Fixed Eye	40 g	BARN02110	£9.68
Single Swivel	48 g	BARN02130	£14.21
Single Swivel Becket	56 g	BARN02131	£17.26
Double Fixed Eye	76 g	BARN02210	£15.12
Double Swivel	84 g	BARN02230	£26.22
Double Swivel Becket	92 g	BARN02231	£29.27
Triple Fixed Eye	115 g	BARN02310	£27.56
Triple Swivel	108 g	BARN02330	£29.55



Size 3 Blocks SPECIFICATION: Sheave size: 45 x 13 mm. Max rope Ø: 10 mm.

SAFETY

Breaking Load	Safety Factor	WLL
800 kg	2 to 1	400 kg

Size 3 Blocks	weight	code	price
Single Fixed Eye	60 g	BARN03110	£11.09
Single Swivel	73 g	BARN03130	£15.62
Double Fixed Eye	111 g	BARN03210	£18.71
Double Swivel	119 g	BARN03230	£29.66
Triple Fixed Eye	142 g	BARN03310	£29.11
Triple Swivel	162 g	BARN03330	£34.93



Size 5 Blocks Great value and capable of handling up to 12 mm diameter ropes. SPECIFICATION: Sheave size: 54 x 17 mm. Max rope Ø: 12 mm.

**SAFETY**

Breaking Load	Safety Factor	WLL
1,500 kg	2 to 1	750 kg

Size 5 Blocks	weight	code	price
Single Swivel	197 g	BARN05130	£36.14
Single Reverse Shackle	178 g	BARN05120	£25.02
Single Swivel with Becket	220 g	BARN05131	£40.76
Double Swivel	274 g	BARN05230	£45.00
Double Reverse Shackle	274 g	BARN05220	£36.36
Double Swivel with Becket	300 g	BARN05231	£48.80
Triple Swivel	490 g	BARN05330	£53.69
Triple Reverse Shackle	382 g	BARN05320	£43.92

HEAVY-DUTY YACHT BLOCKS

UP TO 2,500 KG BREAKING LOAD



Single swivel



Double reverse shackle



Triple reverse shackle

This range of rugged quiet high load blocks are made from injection moulded side plates with all load-bearing components in 316-grade stainless steel. The acetal sheaves run smoothly under extremely high loads on a stainless steel centre pin with a brass bush. Ball bearing versions are available to order.



Size 6 Blocks SPECIFICATION: Sheave size: 64 x 17 mm. Max rope Ø: 12 mm

SAFETY

Breaking Load	Safety Factor	WLL
2,000 kg	2 to 1	1,000 kg

Size 6 Blocks	weight	code	price
Single Swivel	227 g	BARN06130	£50.47
Single Reverse Shackle	206 g	BARN06120	£34.27
Double Reverse Shackle	325 g	BARN06220	£44.09
Triple Reverse Shackle	449 g	BARN06320	£52.97



Size 7 Blocks Toughest yacht pulleys we hold in stock. Capable of demanding work. SPECIFICATION: Sheave size: 70 x 20 mm. Max rope Ø: 14 mm

SAFETY

Breaking Load	Safety Factor	WLL
2,500 kg	2 to 1	1,250 kg

Size 7 Blocks	weight	code	price
Single Swivel	354 g	BARN07130	£63.16
Single Reverse Shackle	308 g	BARN07120	£41.83
Double Reverse Shackle	461 g	BARN07220	£52.02
Triple Reverse Shackle	616 g	BARN07320	£62.42

UPRIGHT YACHT BLOCKS

Upright Yacht Blocks A range of well-made, quiet, upright blocks which are competitively priced and will give years of reliable service. Please note that the breaking loads given below will depend on the strength of the fixings.

Fastenings: 4 off 5 mm Ø on all sizes.

Upright Blocks	sheave Ø	max rope Ø	Min BL	code	price
Single Size 1	30 mm	8 mm	710 kg	BARN01150	£16.48
Double Size 1	30 mm	8 mm	710 kg	BARN01250	£20.56
Single Size 3	45 mm	10 mm	800 kg	BARN03150	£20.83
Double Size 3	45 mm	10 mm	800 kg	BARN03250	£28.42
Single Size 4	54 mm	12 mm	1,500 kg	BARN04150	£30.58
Double Size 4	54 mm	12 mm	1,500 kg	BARN04250	£43.35

For more Upright Blocks, see pages 210 and 217 - 220.

SIDE MOUNTING CHEEK BLOCKS [Single & Double]

Side Mounting Turning Blocks [Cheek Blocks] These economical quiet and tough blocks can be mounted directly to

timber, steel or alloy

battens. Supplied with a plastic base shield to isolate dissimilar metals [necessary in salt water environments]. Flints has some of these blocks specially made for us as doubles.

Fastenings: 5 mm Ø on all sizes except size 1 which requires 4 mm Ø.

Side Mounting Turning Blocks [Cheek Blocks]	code	price
max rope Ø base plate Size No. of sheaves BL		
8 mm 55 x 30 mm 1 single 710 kg	BARN01160	£7.32
8 mm 79 x 43 mm 2 single 740 kg	BARN02160	£14.39
8 mm 79 x 43 mm 2 double 740 kg	BARN99554	£11.79
10 mm 92 x 52 mm 3 single 800 kg	BARN03160	£16.99
10 mm 92 x 52 mm 3 double 770 kg	BARN99556	£19.66
12 mm 107 x 66 mm 4 single 1,500 kg	BARN04160	£25.11
12 mm 107 x 66 mm 4 double 1,260 kg	BARN99557	£27.92

For more Cheek Blocks, see pages 210 and 217 - 220.

Changes to the Barton Pulley Range

A few years ago Barton updated their range of pulleys. The new pulleys are still manufactured in the UK, and have been developed to meet the existing design endurance and reliability. With a sleek dark graphite sheave, they look stylish and clean in situ. The specifications are not significantly different from previous ranges, though in some cases the WLL is improved, and the weight reduced. See also the BIG BLOCK 32 on page 216 for large diameter ropes. NB: The Size 4 blocks have now transitioned to Size 5 blocks - except for the side-mounted cheek blocks - it's all a bit complicated!

Flints have swapped out the ranges from the old design to the new style. We can still order the old style if required so please don't hesitate to get in touch and we will do our best to ensure you get what you need.



HAULING PULLEYS

SNATCH BLOCKS



Snatch Blocks The sides of these blocks hinge open allowing them to be inserted into previously rigged lines making them useful for brailing purposes. The rugged blocks that we supply are excellent value. We now stock a smaller version for ropes up to 12 mm Ø. See also the Petzl Rescue Pulley [page 215].

SAFETY

Safety Factor 2 to 1

Breaking load WLL	code	price
1,300 kg 650 kg	BARCW1451	£72.74
1,100 kg 550 kg	BARCW1452	£96.86

Snatch Blocks

Fitted with	max rope Ø
Stainless D shackle	16 mm
Stainless snap shackle	16 mm

ROPE ORGANISERS



Rope Organisers Useful for tidying up complicated rope arrangements and for guiding ropes into clutches. Fixings should go through the axle of the sheaves with 6 mm machine screws [not supplied]. Takes rope up to 12 mm diameter and the sheaves are grooved to accept wire as well.

Rope Organisers	max rope Ø	weight	code	price
4-way	12 mm	171 g	BAR584	£60.52

For other ways to organise your rope why not look at One Wrap [page 279], and Clummetts With Loops [page 149].

SNATCHET BLOCKS



Harken Snatchet Block Harken quality pulley with combined carabiner. Two versions available; one is ratcheting, one is not! Snatchet pulleys can be inserted into the middle of an existing rig eliminating the need to take the load off a loaded line and rerig. The ratcheting version can grip loaded hauling lines to help relieve the operator of much of the strain!

Specification: Height: 72 mm. Width: 146.5 mm. Weight: 178 g. Maximum line Ø: 14 mm. Breaking load: 38 kN. Maximum working load: 10 kN

Harken Snatchet Block	code	price
Ratcheting	HARSN65R	£206.25
Non-Ratcheting	HARSN65	£178.13

See the new **BIG BLOCK 32** on page 216 for large diameter ropes!

TACKLE



Buy both for 15% less



Fiddle swivel becket with cams



Fiddle swivel

Quadruple Purchase Tackle Tackles can solve many lifting problems. They are much faster than hand winches and more economical. This tackle arrangement will give a quadruple purchase. The sheaves we have selected are fitted with ball races to reduce friction. They can be supplied with or without adjustable angle cam-locks to temporarily hold the load. A useful general purchase tackle.

SPECIFICATION: Sheave size: 44 mm & 70 mm x 17 mm. Max rope Ø: 12 mm [10 or 12 mm preferred].

SAFETY

Breaking Load	Safety Factor	WLL
2,000 kg	2 to 1	1,000 kg

Tackle with Rope Lock	weight	code	price
Fiddle Swivel Becket Cam with bearings	554 g	BARN16631	£112.47
Fiddle Swivel with bearings	346 g	BARN16430	£78.24
Both together [15% less]		BARRKITN1	£141.48
Tackle without Rope Lock		code	price
Fiddle Swivel Becket with bearings	358 g	BARN16431	£81.35
Fiddle Swivel with bearings	346 g	BARN16430	£78.24
Both together [15% less]		BARRFKITN2	£118.39

JAG SYSTEM



Jag Pulley CE EN 12278



Jag Traxion CE EN 567

Jag System This hauling kit provides optimal efficiency and compactness. The mesh cover prevents the hauling line from getting tangled. The sheaves are mounted on sealed ball bearings for extra efficiency. A versatile 4:1 advantage system allows for easy pickoffs, makes a releasable anchor, or provides tension in a system. When coupled with an I'D descender [page 339] it makes a reversible rescue kit to pickoff and rescue a victim. Extremely compact – the smallest version has a collapsed length of just 320 mm [1000 mm extended]. The Jag System comes with two Am'D Triact-Lock auto-locking karabiners. The pulleys are also available for individual purchase so that longer hauling systems can be made. SPECIFICATION: Sheave Ø: 25 mm. Max rope Ø: 11 mm. Rope supplied: 8 mm. Efficiency: 91%.

SAFETY

Breaking Load	Safety Factor	WLL
16 kN	2.66 to 1	6 kN

Jag System	length collapsed	extended	weight	code	price
Complete System	320 mm	1000 mm	610 g	PETP044AA00	£177.50
Complete System	340 mm	2000 mm	805 g	PETP044AA01	£192.50
Complete System	400 mm	5000 mm	1460 g	PETP044AA02	£232.00
Jag Pulley alone			120 g	PETP45	£51.50
Jag Traxion alone			145 g	PETP54	£87.00

HARKEN® HEXARATCHETS [Industrial & Marine]



The rigger's favourite!

Harken® Hexaratchets These popular ratchet blocks will grip loaded hauling lines to relieve the operator of much of the strain. The design of the sheave is such that when the rope is eased off it will slide around the sheave without the sheave turning. Hence a hefty lantern can be lifted and held in place without having to hold the full weight. It gives an 8:1 advantage with a 180° wrap. These blocks do NOT lock the rope so the load can be gently lowered against the fixed sheave.

Industrial version [HAR441549] is individually marked and supplied with instructions. Conformity: EN1315.

Marine version [HAR1549] is not certified.

- ✓Very popular with professional riggers
- ✓Now fully certified and individually marked
- ✓The set screw in the 3-way head [] allows the head to be fixed parallel, at right angles or to freely swivel

SAFETY	Breaking Load	Safety Factor	WLL
	20 kN	4 to 1	5 kN [509 kgf]

Harken® Hexaratchet	code	list	Tradeline
type sheave Ø max rope Ø turns			
Industrial 76 mm 14 mm clockwise	HAR441549	£197.44	£184.24
Marine 76 mm 14 mm clockwise	HAR1549	£192.07	£178.39

SELF-JAMMING



Pro Traxion P51A For effective and comfortable haulage of heavy loads, the rope grab provides temporary relief for the operator. Fitted with a large diameter sheave with sealed ball bearings and a side-opening plate for insertion onto ropes. The rope gripping cam has inclined teeth which operate on even icy ropes. If

you are working onstage and your ropes get icy then I reckon you have cause to moan.

Takes ropes from 8 - 13 mm Ø. CE EN 567, NFPA 1983 Technical Use. Efficiency: 95%

SAFETY	Working Load Limit	Working Load Limit of grab
	2 x 2.5 kN = 5 kN headload	2.5 kN [254 kgf]

Petzl Pro Traxion P51A	max rope Ø	weight	code	price
sheave Ø: 38 mm	13 mm	265 g	PETP51A	£93.45



91% efficient and just 85 g!

Micro Traxion An ultralight compact progress capture pulley which is 50% lighter and smaller than the Mini Traxion. Ideal for work and rescue kits. Designed for crevasse rescue, hauling and self-rescue. It can also be used as an emergency ascender. The aluminium sheave is fitted

with sealed ball bearings giving a remarkable 91% efficiency.

SPECIFICATION: Takes ropes from 8 - 11 mm Ø. CE EN 567, UIAA. Efficiency: 91%

SAFETY	Working Load Limit	Working Load Limit of grab
	2 x 2.5 kN = 5 kN headload	2.5 kN [254 kgf]

Petzl Micro Traxion	max rope Ø	weight	code	price
sheave Ø: 25 mm	11 mm	85 g	PETP53	£62.34

OPERA WEB BLOCK™



Hugely popular and great value!

Opera Web Block Flints designed this block to meet the need for a pulley which can be quickly rigged to flying bars for the purpose of hoisting lanterns and sound equipment into position before their final fixing. It is not acceptable under current health and safety legislation to carry items up a Tallelescope, ladder or tower. By rigging this quick block, items can be raised into position by a crew member at stage level. The pulley is simply passed through its own tested CE marked web [EN 566] and it is ready to use. The sheave is fitted with a Delrin® ball race for low friction even at high loads. There is a

becket underneath so that purchase arrangements can be made. It will take 14 mm rope but we would recommend hauling with 10 or 12 mm Matt Braided Polyester Rope [page 201]. A very useful and popular bit of kit at a competitive price.

SAFETY	Breaking Load	Safety Factor	WLL
	2,500 kg	16 to 1	156 kg

Opera Web Block	max rope Ø	code	price	Tradeline 10+
sheave Ø: 70 mm	14 mm	PUL99002	£43.47	
£39.18				

BARTON RATCHET BLOCK 55MM



Barton Ratchet Block 55mm 55mm Ratchet Block from Barton made from high density nylon and glass fibre reinforced polymer with a high level of UV protection. Internal components are made from marine grade 316 stainless steel and the 12 faced aluminium sheave is anodised in gunmetal silver.

SAFETY	Breaking Load	Safety Factor	WLL
	1,200 kg	4 to 1	300 kg

Barton Ratchet Block	max rope Ø	code	price
sheave Ø: 55 mm	11 mm	BAR90500	£43.47

PULLEYS TO EN 12278

LARGE PRUSSIK PULLEY



Large Single Prussik We stock this pulley primarily to be used with the ALF - Auto Locking Fall Arrest Pulley [page 338] but it has many other heavy-duty uses. The large diameter sheave holds ropes apart which can be useful in hauling applications. Conformity: EN 12278.

SAFETY	Breaking Headload Limit
	70 kN [7,138 kgf]

Large Prussik Pulley	max rope Ø	weight	code	price
sheave Ø: 75 mm	16 mm	440 g	SAFRP066	£42.96

RESCUE BLACK



Rescue Black P50AN Pulley With pivoting side plates so it can be inserted anywhere along a rope [see also Snatch Blocks page 213]. This is the most advanced rescue pulley, made for professionals. It will accept up to three karabiners and the sealed ball bearing yields a maximum efficiency of 95%. Designed for heavy loads and intensive use. The side plates are clearly marked showing both the WLL for the head [8 kN] and the WLL for the individual lines [4 kN]. Individually tested. Conformity: CE EN 12278, NFPA 1983 General Use.

SAFETY	Breaking Headload	Safety Factor	Working Headload
	3,669 kgf	4.5 to 1	815 kgf

Petzl Rescue P50AN	rope Ø	weight	code	price
sheave Ø: 38 mm	7 - 13 mm	185 g	PETP50AN	£48.00

OSCILLANTE



Oscillante Side Swing Pulley A useful and very popular pulley for emergency use. Designed for occasional use when hauling or in a pulley system. Good strength to weight ratio. Nylon sheave and aluminium side plates. Conformity: CE EN 12278, UIAA SPECIFICATION: WLL: 4 kN [2 kN on one rope end] Min BL: 15 kN. Efficiency: 71%.

SAFETY	Working Headload Limit
	407 kgf

Oscillante Side Swing	rope Ø	weight	code	price
sheave Ø: 25 mm	7 - 11 mm	42 g	PETP02A	£13.24

FIXE



Fixe Pulley Black A pulley with fixed side plates to allow very quick installation onto a rope and karabiner. Ideal for use with any oval-shaped karabiner such as the OK Screw-lock Karabiner [page 185]. Compact and lightweight. Conformity: CE EN 12278, UIAA. SPECIFICATION: WLL: 5kN. Efficiency: 71%.

SAFETY	Working Headload Limit
	509 kgf

Fixe Pulley	rope Ø	weight	code	price
sheave Ø: 21 mm	7 - 13 mm	90 g	PETP05WN	£19.30

TRANSPORT



Tandems In-line double pulleys for use as transport pulleys on ropes or cables. They can operate at speeds of up to 10 m/s. Great for adventure parks. Individually tested. Conformity: CE EN 12278. **Tandem** is designed for fibre ropes up to 13 mm Ø with a maximum working efficiency of 71%. **Tandem Speed** has stainless steel sheaves with sealed ball bearings and can be used on wire ropes up to 12 mm Ø [or fibre ropes up to 13 mm Ø] with a maximum working efficiency of 95%.

SAFETY	Breaking Load	Safety Factor	Safe Working Load
	2,446 kgf	2.4 to 1	1,019 kgf

Tandem Pulleys	max fibre Ø	max wire Ø	code	price
Tandem	12 mm	n/a	PETP21	£37.41
Tandem Speed	13 mm	12 mm	PETP21SPE	£54.51

OTHER PULLEYS

SASH WINDOW



Sash Window Pulley Designed for raising and lowering window sashes but have hosts of other uses. The cast iron sheave is mounted in a steel housing. Takes No.6 Sash Cord [page 203].

SPECIFICATION: Sheave Ø: 45 mm. Face plate: 25 x 111 mm. Face - back dimensions: 46 mm.

Sash Window Pulley	code	price
	DOR066	£4.15

CLOTH STRETCHING PULLEYS



Cloth Stretching Pulley Occasionally when stretching a cloth or gauze between two vertical wires it is preferable to use pulleys to run along the wires rather than Gauze Hanks [page 138]. This quiet smooth-running pulley has a removable clevis pin so it can be inserted onto made-up wires. Its weight and lack of friction helps the cloth fly in. The clevis pin can go straight through a well-placed eyelet in the cloth but, if there are no eyelets, why not take a look at Holdons [page 138] and Spaniflex, the useful adjustable bungee loops [page 205]?



Cloth Stretching Pulley	code	price	Tradeline
	BARN99115	£5.58	50+ £5.09

WOODEN BLOCKS



As used on Treasure Island

Double with becket

Traditional Ash Blocks These blocks are strong, simple and functional. They are often used for period set dressings. Bindings are heavy-gauge stainless steel with a fixed eye head. Sheaves are a generous size made from Tufnol running on a stainless steel spindle. The shell is high quality ash formed into a smooth oval shape and varnished. SPECIFICATION: Sheave Ø: 50 mm. Suits rope sizes: 10 - 12 mm.

Other sizes for ropes up to 26 mm diameter are available to order.

SAFETY

Safety Factor 2 to 1

Ash Blocks [Type AH088]	Breaking load	SWL	code	price
Single	3,500 kg	1,750 kg	PUL0610	£88.19
Single with becket	3,500 kg	1,750 kg	PUL0611	£95.51
Double	4,000 kg	2,000 kg	PUL0612	£118.50
Double with becket	4,000 kg	2,000 kg	PUL0613	£134.52

LARGE DIAMETER ROPE PULLEYS



Big Block 32 This brilliant new pulley has been made especially for us by Barton Marine [see their other excellent pulleys from page 211]. Quite often when working on stage the designer requires a much larger rope than is actually required in regards to the weight it has to lift - to make it look more 'real', or to exaggerate the perceived weight. As such, a heavy duty pulley is not necessarily required, and the expense of one not justified, thus this pulley was born!

- ✓ Up to 32 mm rope capacity
- ✓ Swing Cheeks; allows the block to inserted onto pre-rigged lines and the over large hole will take any connector.
- ✓ Economical
- ✓ Good for all large diameter ropes [page 198]

Specification: takes up to 32 mm Ø rope. WLL 225 kg [4:1 safety factor]. 316 grade stainless steel with a "Spectro" anodised aluminium sheave. CE marked.

Big Block 32	max rope Ø	WLL	code	price
sheave Ø: 72 mm	32 mm	225 kg	FHSSC32	£118.62

HALL STAGE PULLEYS

Which Hall Stage Pulley to use when?

Equipment used for suspending loads which are not over people are usually certified with a safety factor of 5:1; in these circumstances think of using the good value DL-Lite Range. When suspending loads over people, generally an 8:1 safety factor is used and recommended by the ABTT, then the Dynaline Range would be suitable. These pulley ranges are marked with a SWL and replace the familiar old Classic Style blocks on all sizes over 100 mm. The Classic Style blocks are still available in the smaller sizes for fibre ropes [and in size 75 mm 1-way for 4 mm wire rope]; and they remain popular for lighter applications.

HALLS CLASSIC STYLE BLOCKS

Halls recommended sheave sizes

A 38 mm diameter sheave takes fibre ropes up to 6 mm.

A 50 mm diameter sheave takes fibre ropes up to 10 mm.

A 75 mm diameter sheave takes fibre ropes up to 14 mm.

A 75 mm diameter sheave takes wire ropes up to 4 mm.*

*Many of the other pulleys can also be supplied with sheaves with wire rope profiles – please ask our Rigging Manager for details.

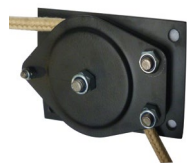


Awning Pulleys 245 Capable of being mounted to a variety of fixing points, this pulley type solves a variety of problems. It can be fixed via a shackle to eyebolts, girder clamps or chain, and always self-adjusts to find the correct pulling angle, regardless of irregular fixing points.

Awning Pulleys	1-way	2-way	3-way	4-way
38 mm	HAL235 £26.76	HAL236 £37.43	HAL237 £52.94	HAL238 £70.20
50 mm	HAL240 £30.40	HAL241 £47.10	HAL242 £65.55	HAL243 £82.24
75 mm	HAL245 £63.40	HAL246 £97.30	HAL247 £141.24	HAL248 £184.32

Awning Pulley for Wire Rope This pulley takes 4 mm wire using an 18:1 D:d ratio. A pulley for 5 mm is available on special order.

Awning Pulleys	1-way	price
75 mm	HAL08278	£73.93



Side Fixing Pulleys 244 A useful pulley with a variety of uses. Fixed to the wall it is used for curtain tracks, safety curtain releases and scenery track lines. It can be used on the floor to divert ropes or it can be fixed to scenery for effect lines.

Side Fixing Pulley	1-way	2-way	3-way
38 mm	HAL220 £26.76	HAL221 £37.53	HAL222 £52.94
50 mm	HAL225 £30.40	HAL226 £47.10	HAL227 £65.55
75 mm	HAL230 £61.50	HAL231 £95.40	HAL232 £139.34



Ceiling Fixing Pulley 183 Intended for use either as a ceiling, wall or timber fixing pulley. These pulleys have bolted angle iron supports which are more substantial than the upright pulleys listed below.

Ceiling Pulley	1-way	2-way	3-way	4-way
75 mm	HAL170 £79.89	HAL171 £94.82	HAL172 £131.44	HAL173 £164.34



Upright Guide Pulleys 243 A general purpose pulley with a variety of uses. Used principally for curtain track diverters or for release or operating cables.

Upright Pulley	1-way	2-way	3-way	4-way
38 mm	HAL200 £26.76	HAL201 £37.43	HAL202 £52.94	HAL203 £70.20
50 mm	HAL205 £30.40	HAL206 £47.10	HAL207 £65.55	HAL208 £82.24
75 mm	HAL215 £61.50	HAL216 £95.40	HAL217 £139.34	HAL218 £182.42

HALLS DYNALINE PULLEYS



Dynaline Pulleys This purposeful range are all ball raced with sealed bearings and a Nylacastmoly Nylon 6 sheave. They have 5 mm thick steel side plates. In three diameters with hemp and wire profiles. Conformity: BS 7905-1:2001, BS 6570:1986.

Ordering protocol

To order or price up, select the number of grooves needed and the diameter of the sheaves, then choose your mounting option. Dynaline pulleys have a comprehensive choice of mounting options [see next page]. Pulleys will be supplied to you assembled. When ordering for more than one line please be aware that the sheave will be a single block with multiple grooves. All the wires must be reeved in the same direction. If you have a special need to have wires contra-rotating please phone and ask for our Rigging Manager as we may be able to arrange it by using multiple single sheaves. We need to know which pulley has which bracket! So in an ideal world this is what we would like:

Please supply:

One off: 1-way 150mm wire block DYNL8228 c/w DYNL8273 parallel mount

SAFETY

Ø	Breaking Headload	Safety Factor	Safe Working Load
100 mm	1,000 kg	8 to 1	125 kg
150 mm	2,000 kg	8 to 1	250 kg
200 mm	4,000 kg	8 to 1	500 kg

Basic Pulley Blocks Choose your basic Dynaline block from below. Larger multiples are available. For mountings see the next page.

Dynaline Pulley 100 mm	fibre code	price	wire code	price
sheave Ø	no of grooves	12 mm Ø fibre	4 mm Ø wire	
100 mm	1	DYNL8242	DYNL8221	£58.87
100 mm	2	DYNL8243	DYNL8222	£85.06
100 mm	3	DYNL8244	DYNL8223	£104.68
100 mm	4	DYNL8245	DYNL8224	£143.94
Dynaline Pulley 150 mm	fibre code		wire code	
sheave Ø	no of grooves	18 mm Ø fibre	6 mm Ø wire	
150 mm	1	DYNL8249	DYNL8228	£91.60
150 mm	2	DYNL8250	DYNL8229	£117.77
150 mm	3	DYNL8251	DYNL8230	£170.11
150 mm	4	DYNL8252	DYNL8231	£209.38
Dynaline Pulley 200 mm	fibre code		wire code	
sheave Ø	no of grooves	24 mm Ø fibre	6 mm Ø wire	
200 mm	1	DYNL8256	DYNL8235	£111.53
200 mm	2	DYNL8257	DYNL8236	£148.10
200 mm	3	DYNL8258	DYNL8237	£219.56
200 mm	4	DYNL8259	DYNL8238	£266.68

HALLS DL-LITE PULLEYS



DL-Lite Pulleys The DL-Lite pulleys are significantly cheaper than the Dynaline pulleys and where the higher safety factor is not required, the DL-Lite pulleys offer a great alternative whilst still giving the security of a known and certified load capacity. DL-Lite pulleys use an oil-impregnated Nylacastmoly Nylon 6 sheave over a CDS tube. They have 3 mm thick steel side plates compared to the 5 mm thick steel side plates of the Dynaline – hence the “Lite” in their name. In two diameters with hemp profiles for 12 and 18 mm fibre rope or wire profiles for 4 and 6 mm wire rope. Larger multiples are available, just give us a ring.

Conformity: BS 7905-1:2001, BS 6570:1986. The test and product design conformity certification can be found on the download section of Flints’ website.

Ordering protocol

To order or price up, select the number of grooves needed and the diameter of the sheaves, then choose your mounting option. DL-Lite pulleys use the same comprehensive choice of mounting options ➡ as the Dynaline Pulleys. Pulleys will be supplied to you assembled. When ordering for more than one line please be aware that the sheave will be a single block with multiple grooves. All the wires must be reeved in the same direction. If you have a special need to have wires contra-rotating please phone and ask for our Rigging Manager as we may be able to arrange it by using multiple single sheaves. We need to know which pulley has which bracket! So in an ideal world this is what we would like:

Please supply:

One off: 2-way 150mm wire block HAL13014 c/w DYNL8273 parallel mount

SAFETY

Ø	Breaking Headload	Safety Factor	Safe Working Load
100 mm	750 kg	5 to 1	150 kg
150 mm	750 kg	5 to 1	150 kg

Basic Pulley Blocks Choose your basic DL-lite block from below and add your preferred brackets ➡ .

DL-Lite Pulley 100 mm Ø		fibre code	price	wire code	price
sheave Ø	no of grooves	12 mm Ø fibre		4 mm Ø wire	
100 mm	1	HAL12996	£40.40	HAL13008	£35.90
100 mm	2	HAL12997	£65.42	HAL13009	£65.42
100 mm	3	HAL12998	£87.22	HAL13010	£98.14
100 mm	4	HAL12999	£119.94	HAL13011	£130.86

DL-Lite Pulley 150 mm		fibre code	price	wire code	price
sheave Ø	no of grooves	18 mm Ø fibre		6 mm Ø wire	
150 mm	1	HAL13002	£60.61	HAL13012	£52.33
150 mm	2	HAL13003	£109.94	HAL13014	£91.60
150 mm	3	HAL13004	£150.47	HAL13015	£130.86
150 mm	4	HAL13005	£174.48	HAL13016	£183.20

DYNALINE & DL-LITE MOUNTING OPTIONS

All the brackets will be fitted to your pulleys unless requested otherwise.

Fixing Angles These pairs of angles bolt onto your chosen block to convert them into ceiling or grid blocks.



Ceiling Fixing Angle Simply, a pair of 50 x 50 x 250 mm angles with flanges drilled with 11 mm Ø holes at 210 mm centres.



Grid Fixing Angles Unfortunately, these 50 x 50 x 425 mm angles are only drilled to accept the block so they either need drilling onsite, welding in place, or we can arrange for them to be pre-drilled if you supply hole centres.

Angle Iron Adaptors [pairs]	length	code	pair
Ceiling Fixing	250 mm	DYNL8265	£41.16
Grid Fixing [no hook bolts]	425 mm	DYNL8263	£46.48
Grid Fixing + 4 hook bolts	425 mm	DYNL8264	£47.80



Shown attached to pulley

Side Mounting Plates Converts your Dynaline or DL-Lite pulley into a side-mounted pulley to act as a winch return or wall-mounted block. These plates require countersunk bolts to fit the block so it is best to ask for the side plates to be assembled to your choice of pulley.

Side Mounting Plates	code	price
To fit 100 mm	DYNL8267100	£17.32
To fit 150 mm	DYNL8267150	£17.32
To fit 200 mm	DYNL8267200	£17.32



Across Mounting Converts your Dynaline or DL-Lite pulley so that it can be attached to a bar at right angles.

Across Mounting Kit code	price
38 mm Ø	DYNL8269 £32.74
48 mm Ø	DYNL8270 £33.10
60 mm Ø	DYNL8271 £27.59



Parallel Mounting Converts your Dynaline or DL-Lite pulley so that it can be attached parallel to a bar.

Parallel Mounting code	price
38 mm Ø	DYNL8272 £32.38
48 mm Ø	DYNL8273 £38.11
60 mm Ø	DYNL8274 £31.77



Awning Eye Converts your Dynaline or DL-Lite pulley to an awning pulley which can be secured with a shackle to an eyebolt or suitable ring. Awning blocks will cant to the correct position regardless of the pulling angle. The side plates on this block are slightly different to those described left and on the previous page so these blocks must be ordered as made up units. They can be priced by adding the cost of the Awning Block Kit to the pulley units listed left or on page 217. Made to order.

Awning Eye code	price
DYNL8268	£36.65

DOUGHTY PULLEYS

Doughty Medium and Heavy-Duty Pulleys

Doughty introduced this updated heavy-duty range of pulleys a couple of years ago. Both the Doughty pulley systems are of modular construction. Sheaves can be ordered for fibre or wire rope and various fixing arrangements can be supplied fitted to your block. All Doughty pulleys are assembled to order by Doughty., and Certificates of conformity can be issued if required.

DOUGHTY MEDIUM-DUTY PULLEYS



Doughty Medium-Duty Pulleys The sheaves are plain bearing lubricated nylon and are profiled grooved for either fibre or wire rope.

Conformity: BS 7905-1:2001, BS EN ISO 12100:2010

Ordering protocol

When ordering for more than one line please be aware that the system is modular: single sheaves will be put together as a double, triple or quadruple. Should you require your sheaves to operate in reverse directions please phone us and we will advise on a way of achieving your objective. When you are ordering we need to know which pulley has which bracket! So in an ideal world this is what we would like:

Please supply:

One off: 2-way 100mm fibre block DOUT42837 c/w DOUT42870 girder bracket

SAFETY

Breaking Headload	Safety Factor	Safe Working Load
450 kg	3 to 1	150 kg

Basic Pulley Blocks Choose your basic medium-duty block from below and add your preferred brackets ➡.

Medium-Duty Pulleys 100 mm Ø		fibre code	price	wire code	price
sheave Ø	no of sheaves	12 mm Ø fibre		4 mm Ø wire	
100 mm	1	DOUT42836	£48.24	DOUT42800	£48.24
100 mm	2	DOUT42837	£91.35	DOUT42801	£91.35
100 mm	3	DOUT42838	£134.40	DOUT42812	£134.40
100 mm	4	DOUT42839	£177.44	DOUT42813	£177.44

Medium-Duty Pulleys 150 mm Ø		fibre code	price	wire code	price
sheave Ø	no of sheaves	18 mm Ø fibre		6 mm Ø wire	
150 mm	1	DOUT42846	£82.86	DOUT42820	£82.86
150 mm	2	DOUT42847	£155.35	DOUT42821	£155.35
150 mm	3	DOUT42848	£229.63	DOUT42822	£229.63
150 mm	4	DOUT42849	£302.94	DOUT42823	£302.94

Medium-Duty Pulleys 180 mm Ø		fibre code	price	wire code	price
sheave Ø	no of sheaves	18 mm Ø fibre		6 mm Ø wire	
180 mm	1	DOUT42855	£111.35	DOUT42830	£111.35
180 mm	2	DOUT42856	£210.36	DOUT42831	£210.36
180 mm	3	DOUT42857	£309.42	DOUT42832	£309.42
180 mm	4	DOUT42858	£408.57	DOUT42833	£408.57

DOUGHTY MOUNTING OPTIONS

Doughty pulleys can no longer be supplied without the brackets, so please specify requirements when ordering



Multibeam Girder Brackets

Pair of 50 x 50 x 5 mm angle brackets universally drilled and suitable for mounting your pulleys to grids with hook bolts or coach screws. Picture shows brackets mounted – the price is just for the brackets.

Multibeam Girder Brackets	length	code	price
Multibeam Bracket [pair]	270 mm	DOUT42885	£51.59
Multibeam Bracket [pair]	450 mm	DOUT42886	£59.88



Multifix Brackets Pair of 30 x 30 x 3 mm angle brackets 150 mm long universally drilled and slotted.

Multifix Brackets with Across Mounting Supplied with 48 mm diameter U-bolts to fit across a bar. NB: if you require the pulleys to run parallel with the tube you will need the parallel tube version shown below.

Multifix Brackets	code	price
Brackets [pair]	DOUT42860	£14.32
Brackets + 48 mm Ø U-bolts [set]	DOUT42861	£18.46



Multifix Brackets with Parallel Tube Plates

Consists of the brackets listed above but fitted with a plate so that the pulley can be mounted parallel to the bar.

Multifix Brackets with Parallel Tube Plates	code	price
Brackets [pair] + 48 mm Ø U-bolts + plate	DOUT42890	£49.63



Girder Brackets

A drilled and slotted pressed channel supplied with M12 Lindapters to fit RSJ's. [Can be fitted to the pulleys of your choice on request]. For single or double sheave setups, just 1 is required, for triple or quad, 2 are required.

Girder Brackets with Lindapters	length	code	price
3" - 6" beams	270 mm	DOUT42870	£48.49
6" - 12" beams	450 mm	DOUT42872	£55.43



Side Plates Converts your chosen block to a side mounted version ideal for wall mounting.

Side Plates	code	price
To fit 100 mm basic pulley	DOUT42897	£41.72
To fit 150 mm basic pulley	DOUT42898	£48.24
To fit 180 mm basic pulley	DOUT42899	£56.18



Awning Eye A casting to convert basic pulleys to awning blocks. These castings have now been reduced in width to 16 mm so that they will take a Crosby 1 t bow or D shackle. They can be fitted to singles, doubles or triples but will be positioned to one side on double blocks which makes the block cant over slightly when loaded. Made to order.

Awning Eye	code	price
	DOUT42865	£20.74

DOUGHTY HEAVY-DUTY PULLEYS



Doughty Heavy-Duty Pulleys The sheaves are constructed of MOS 2 nylon with ball races for smooth friction-free operation. The side plates are 5 mm thick steel to provide an immensely strong construction. The design has been tested to a stringent 10:1 ratio. As standard, the blocks are made up from single-, double- and triple-grooved sheaves with the quadruple being assembled from two doubles. 5-way blocks are made from a triple and a double. Should you require your sheaves to operate in reverse directions please phone us and we will advise on a way of achieving your objective. Conformity: BS 7905-1:2001, BS EN ISO 12100:2010

Ordering protocol

When you are ordering we need to know which pulley has which bracket! So in an ideal world this is what we would like:
Please supply:
One off: 3-way 100mm wire block DOUT42903 c/w DOUT42997 side mounting plate

SAFETY	Ø	Breaking Load	Safety Factor	Safe Working Load
	100 mm	2,000 kg	10 to 1	200 kg
	150 mm	4,000 kg	10 to 1	400 kg
	200 mm	6,000 kg	10 to 1	600 kg

Basic Pulley Blocks To order, firstly choose your basic block then select one of the fittings shown alongside ➔.

Heavy-Duty Pulleys 100 mm Ø		fibre code	price	wire code	price
sheave Ø	no of grooves	12 mm Ø fibre*		4 mm Ø wire*	
100 mm	1	DOUT42931	£90.68	DOUT42901	£90.68
100 mm	2	DOUT42932	£127.35	DOUT42902	£127.35
100 mm	3	DOUT42933	£164.03	DOUT42903	£164.03
100 mm	4	DOUT42934	£200.73	DOUT42904	£200.73
100 mm	5	DOUT42935	£237.42	DOUT42905	£237.42

NB: due to an unfortunate positioning of the bracket fixing bolts the 100 mm diameter pulleys can only be used with the bracket uppermost. All the other sizes below can be reeved either way.

Heavy-Duty Pulleys 150 mm Ø		fibre code	price	wire code	price
sheave Ø	no of grooves	18 mm Ø fibre*		6 mm Ø wire*	
150 mm	1	DOUT42941	£142.80	DOUT42911	£142.80
150 mm	2	DOUT42942	£179.71	DOUT42912	£166.40
150 mm	3	DOUT42943	£224.67	DOUT42913	£224.67
150 mm	4	DOUT42944	£269.63	DOUT42914	£269.63
150 mm	5	DOUT42945	£322.80	DOUT42915	£322.80

Heavy-Duty Pulleys 200 mm Ø		fibre code	price	wire code	price
sheave Ø	no of grooves	18 mm Ø fibre*		6 mm Ø wire*	
200 mm	1	DOUT42951	£194.92	DOUT42921	£194.92
200 mm	2	DOUT42952	£247.03	DOUT42922	£247.03
200 mm	3	DOUT42953	£299.14	DOUT42923	£299.14
200 mm	4	DOUT42954	£351.25	DOUT42924	£351.25
200 mm	5	DOUT42955	£413.95	DOUT42925	£413.95

*See the next page for information regarding D:d ratios.

DOUGHTY HEAVY-DUTY MOUNTING OPTIONS

Doughty pulleys can no longer be supplied without the brackets, so please specify requirements when ordering



One 225 mm Multi Beam Bracket

Multibeam Brackets A pair of universal drilled [13 mm Ø for M12] and slotted angle brackets. They can be used for upright, wall or ceiling fixings or used with 48 mm Ø U-bolts or half couplers to clamp to scaffold tubes. These brackets are tested to 600 kg WLL using the worst case of bolts utilising the end holes only.

Multibeam Bracket	length	code	price
		fits beams	
Multibeam Bracket [pair]	225 mm	3 - 6" DOUT42990	£58.57
Multibeam Bracket [pair]	450 mm	6 - 12" DOUT42995	£57.48



U-bolt and saddle.

U-Bolt and Saddle For use on the Multibeam Brackets to attach pulleys at right angles to 50 mm diameter tubes. 8 mm material. For more U-bolts and J-bolts see page 239.

U-Bolt and Saddle	code	price
U-bolt and saddle [see also page 239]	DOUT56900	£1.86



Side Mounting Plates Allows the blocks to be mounted against walls or on the floor to act as winch return pulleys. The price is for the mounting plate only. See also the Low Level Return Pulley [page 222]. Made to order with required block

Side Mounting Plates	code	price
Side Mounting Plate for 100 mm Ø	DOUT42997	£24.12
Side Mounting Plate for 150 mm Ø	DOUT42998	£27.30
Side Mounting Plate for 200 mm Ø	DOUT42999	£30.53



Awning Profile For use on the single, double and triple blocks only. Provides a centralised fixing point for a shackle enabling the pulley to cant to the desired position. Hole: Ø 16.5 mm for up to 2 t shackles. Made to order with required block.

Awning Profile	code	price
Awning Profile for 100 and 150 mm single	DOUT42984	£30.92
Awning Profile for 100 and 150 mm double	DOUT42985	£32.94
Awning Profile for 100 and 150 mm triple	DOUT42986	£35.99
Awning Profile for 200 mm single	DOUT42987	£29.71
Awning Profile for 200 mm double	DOUT42988	£30.92
Awning Profile for 200 mm triple	DOUT42989	£35.63

See the BIG BLOCK 32 on page 216 for large diameter fibre ropes!

Do you climb vertical ladders for your work? Have a look at the ALF Auto Locking Fall Arrest Pulley [page 338].

SHEAVES

Choice of Sheave

There is the "ideal world" and there is the "real world" and sadly they are often quite a long way apart.

Wire Ropes The Association of British Theatre Technicians state that the diameter of a wire rope sheave [D] should be 30 times the diameter of the wire being used [d]. This ratio is referred to as the D/d ratio. In fact, there are a whole series of factors which will affect the pulley sheave choice. With a D/d ratio of 30, using a flexible wire rope you should expect to get about 93% of the wire's strength and a good service life. In a theatre grid there should be adequate space for large diameter sheaves. However, on a small piece of scenic machinery this may be impractical. A D/d ratio of 18 will still provide 90% of the wire's strength but the working life will be reduced. This is generally regarded as the lowest ratio that should be used. It enables a 5 mm wire to run around a 90 mm diameter sheave at 90% of its WLL for a reduced lifecycle. If smaller ratios are used, both the WLL's and the design life will need to be substantially reduced. Apart from the D/d ratio [the larger the better] it is important that the wire is correctly supported in the sheave's groove. If the groove is too tight the wire will be crushed and if it is too open then the inner strands of the wire will take higher loads. The wire may also become unstable, rolling from side to side until it jumps out of the groove in disgust. The correct groove diameter should be just 5% greater than the wire diameter. The groove angle is open to some debate. In the USA groove angles are 30°, in Germany 45°, in the UK 52° and the international standard is 60°. Flints' sheaves [FHS codes] have groove angles of 50°. The fleet angle of the wire entering a sheave must not exceed 5°. The pulleys must run freely. A sheave with bearings will be more efficient than a plain bearing sheave but plain bearings [they are either just holes or sleeved holes] are a good choice if the sheave is to remain under a static load for long periods.

Fibre Rope Sheaves The minimum D/d ratio for fibre rope sheaves is generally regarded as 8 to 1 [with the exception of certain aramid fibres]. The rope should be supported in a round groove about 10% bigger than the rope diameter. Avoid using V grooves which will cause damage and add extra friction to the rope.

Measuring the diameter of fibre ropes is not an exact science. A three strand rope will expand when it is cut off its coil and then reduce when under load. It may be worth ordering a sample pulley on a "sale or return" basis to check your rope is a good fit. Chafe will always be the major enemy so you should ensure any side plates are either clear of the rope or at least have smooth radiused edges.

ACETAL RESIN SHEAVES



Acetal Sheaves An economical series of plain bearing sheaves ideally suited to polyester ropes. Updated to reflect the new dark grey sheaves seen on the new Barton pulleys [page 211].

Acetal Resin Sheaves		code	price		
Ø	width	bore	max rope Ø		
35 mm	12 mm	8 mm	8 mm	BARN64804	£1.47
45 mm	12 mm	8 mm	10 mm	BARN64809	£1.99
64 mm	18 mm	13 mm	12 mm	BARN64814	£6.28
71 mm	19 mm	13 mm	14 mm	BARN64816	£9.11



Ultralegere A very small and ultra-lightweight sheave often used to convert symmetrical karabiners [Petzl OK page 185] into emergency rescue pulleys. Nylon. Min BL: 1 kN. Weight: 10 g.

Ultralegere Sheave		code	price		
Ø	width	bore	max rope Ø		
40 mm	20 mm	14.8 mm	7 - 13 mm	PETP00A	£4.67

NYLON SHEAVES



Nylon Sheaves with Bearings

[Nylon with Molybdenum Disulphide] These excellent nylon sheaves are designed for 5 and 6 mm wire ropes. Nylon has better impact and corrosion resistance and are much lighter than cast iron sheaves. They are excellent value. Fitted with bearings with side shields for free running. Widely used for the construction of stage machinery such as lift units etc. We have utilised large 20 mm bore bearings in the heavy-duty 230 mm sheaves [FHS070] so that they can be used in multiple groups on strong, large diameter, axles. All the wire grooves are the nominal wire Ø plus 5%. The groove angle is 50°. Maximum permissible fleet angle: 5°.

Sheaves with Bearings for Wire Ropes				code	price
Ø	width	bore	wire Ø		
50 mm	18 mm	12 mm	5 mm	FHS063	£26.15
100 mm	18 mm	12 mm	6 mm	FHS065	£30.34
150 mm	18 mm	12 mm	6 mm	FHS066	£35.44
230 mm	28 mm	20 mm	6 mm	FHS070	£60.90

See page 247 for nylon rollers with plain, V or round grooves

Nylon Sheaves without Bearings

The lubricated nylon used in these sheaves allows them to run freely and quietly on a plain bore. More economical than sheaves with bearings but with slightly more resistance. On rare occasions a squeak may occur requiring a little lubrication to solve. These sheaves are a good choice for applications where there may be prolonged periods of static load. Also available grooved for fibre ropes. See also Bar Divertor Sheaves [page 147].

Sheaves without Bearings for Fibre Ropes				code	price
Ø	width	bore	fibre rope Ø		
100 mm	25 mm	12 mm	12 mm	DOURPUL100	£17.33
150 mm	25 mm	12 mm	18 mm	DOURPUL150	£24.47
180 mm	25 mm	12 mm	18 mm	DOURPUL180	£40.57

See also Rope Return Sheaves on the next page.

NYLON BOW ROLLERS



Black Nylon Bow Roller Useful for guiding large diameter ropes, tripes or hoses. See also page 247 for other Nylon Rollers.

Nylon Bow Roller		code	price	
Ø	width	bore		
75 mm	79 mm	12 mm	PUL9186	£54.67

MINIATURE SHEAVES

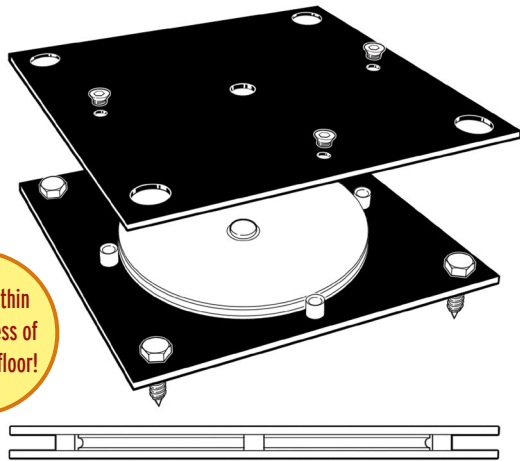


Mini Cassette A very small but high load stainless steel sheave with stainless balls in a polypropylene cage. These small free-running sheaves are ideal for special effects using 1.5 or 2 mm stainless wire rope or nylon cords.

Mini Cassette		code	price	
Ø	width	bore		
25 mm	6 mm	8 mm	PUL531	£16.55

SPECIALIST PULLEYS & TEMPORARY COUNTERWEIGHTS

LOW LEVEL RETURN



Mounts within the thickness of a plywood floor!

Low Level Return Pulley A 230 mm diameter aluminium sheave grooved to take 6 mm wire rope mounted in between two 300 mm square plates so that the overall thickness is just 18 mm. Fitted with an Oilite bush bearing and nylon side washers. These pulleys were designed by Flints to act as return pulleys for our truck winches and can be mounted within the thickness of a 19 mm ply floor. Fixings: four M10 coach screws which are accessed through large diameter holes in the top plate but are hidden within the 18 mm depth when tightened down.

SPECIFICATION: Sheave Ø: 230 mm. Thickness: 18 mm. Max wire rope Ø: 6 mm.

Low Level Return Pulley	weight	code	price
Whole assembly	4.9 kg	FHS503	£111.50
Sheave only	868 g	FHS504	£44.65

ROPE LOCK FRAME



Rope Lock Frame

This substantial rope lock frame has a return sheave for a 20 - 22 mm hauling line. The frame can be supplied with or without a rope lock to lock off the hauling line.

Fitted with angles drilled with 13 mm Ø holes for bolting down to the stage.

SPECIFICATION: Length: 400 mm [outer edge of angles]. Depth: 300 mm. Height: 500 mm [excluding rope lock]. Sheave Ø: 230 mm. Fixings: M12 bolts or coach screws [sold separately].

Rope Lock Frame	code	price
Including rope lock	FHS107K	£518.45
Excluding rope lock	FHS107P	£389.25
Return sheave only	FHS106	£198.00

COUNTERWEIGHT CRADLES

F



Temporary Counterweight Cradle [Double or single purchase]

A temporary counterweight cradle capable of taking 22 x 10 kg tongue and tongue counterweights giving an overall weight 250 kg. The cradle has been designed to be capable of converting to double purchase with the addition of our Header Sheave [FHS105S] and our Return Sheave [FHS106].

The main wires can be secured directly to two M12 high tensile machine screws which will pass through the eye of any standard thimble. The fibre rope hauling line attaches directly to the M20 bolts which also act as axles when the system converts to double purchase. This design make a very neat fixing point for both the wires and the hauling line.

The guide wires can be threaded through the 10 mm Ø chamfered holes [390 mm hole centres] or, if the wires cannot be threaded, they can be attached to the holes by means of a twisted shackle [WIR1628SS] in which case the wire centres will be 430 mm.

SPECIFICATION: Length: 424 mm. Width: 150 mm. Height: 1,565 mm. Sheave Ø: 230 mm. Weight: 35 kg.

SPECIFICATION HEADER SHEAVE: Nylon MDS sheave grooved for 4 x 6mm wires plus a central groove for 20-22 mm Ø rope. Sheave Ø: 230 mm..

Temporary Counterweight Cradle	code	price
Single purchase	FHS113	£319.00
Double purchase	FHS113DP	£765.60
Counterweight 10 kg [see page 153 for bulk deals]	FHS109	£39.90
Twisted shackles for guide wires [four needed]	WIR1628SS	£2.14
Header sheave only	FHS105S	£235.20
Rope return sheave only	FHS106	£198.00

Header Block is no longer listed for purchase. Contact us for specials.

Divertor Block is no longer listed for purchase. Contact us for specials.