

9. Nobles Blocks & Swivels

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- 9.1 NOBLES SHEAVE BLOCKS
 - 9.2 NOBLES CRANE HOOK BLOCKS
 - 9.3 NOBLES WIRE ROPE SHEAVES
 - 9.4 NOBLES SBS SWIVELS
 - 9.5 NOBLES HEADACHE BALLS
-
- 9A PEWAG LEVO HOOK

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9.1 Nobles Sheave Blocks



Nobles Bogger Blocks

Nobles Bogger Blocks are designed from our NSB range and are designed as a recovery block in mining operations. Bogger Blocks are used to form part of a block and tackle arrangement which can exert a pulling force up to 55 tonne.

Our Bogger Blocks are also available with breastplates to provide a complete solution for underground mining operations.

Bogger Blocks are used and sold in pairs.

Specifications

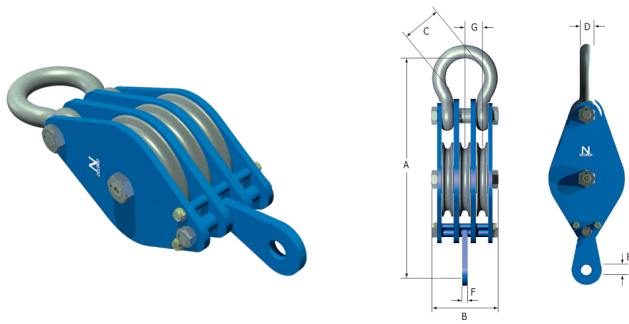
Bearings: Garmax PTFE Composite

Surface Finish: Blue Painted

Sheaves: 3

Becket: Lug Type

Head Fitting: Fixed Shackle



Product Specifications

Name	ITEM #	WLL (tonnes)	Suits Wire Rope (mm)	Sheave Diameter (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Weight (kg)
Bogger Block 55t	27094	55	26	350	1058	320	184	63	51	25	82	225



Nobles NDS Series

Double snatch blocks are available in 10 and 25 tonne capacities with either a shackle or hook head fitting.



Product Specifications

Name	ITEM #	WLL (tonnes)	Suits Wire Rope (mm)	Sheave Diameter (mm)
NBNS240S		25	28 - 28	400
NBNS235S		25	26 - 28	350
NBNS230S		10	20 - 22	300
NBNS225S		10	20 - 22	250
NBNS220S		10	18 - 20	200
NBNS216S		10	16 - 18	160



Nobles Tilt-Wall Blocks

Nobles blocks for Tilt Wall applications are manufactured in accordance with AS 2089 with the addition of a roller thrust bearing in the head fitting. The roller thrust bearing is required by AS 3850 (Tilt-Up Concrete Construction).



Product Specifications

Name	ITEM #	WLL (tonnes)	Suits Wire Rope (mm)	Sheave Diameter (mm)	Weight (kg)
200mm AS2089 8.5t Nobles NTW Series Single Sheave Tilt Wall Snatch Block Shackle Head Fitting	25621	8.5	18 - 20	200	19
250mm AS2089 8.5t Nobles NTW Series Single Sheave Tilt Wall Snatch Block Shackle Head Fitting	25626	8.5	20 - 22	250	22
200mm AS2089 12t Nobles NTW Series Single Sheave Tilt Wall Snatch Block Shackle Head Fitting	25239	12	18 - 20	200	26
250mm AS2089 12t Nobles NTW Series Single Sheave Tilt Wall Snatch Block Shackle Head Fitting	25501	12	20 - 22	250	32
300mm AS2089 12t Nobles NTW Series Single Sheave Tilt Wall Snatch Block Shackle Head Fitting	25612	12	20 - 22	300	37
260mm AS2089 17t Nobles NTW Series Single Sheave Tilt Wall Snatch Block Shackle Head Fitting	25555	17	24 - 26	260	51
300mm AS2089 25t Nobles NTW Series Single Sheave Tilt Wall Snatch Block Shackle Head Fitting	25544	25	26 - 28	300	79



Nobles NSB / NHC Series

Factor of Safety is 5 to 1. WLL in tonnes except hooks which shall comply with AS 3777.

Alloy steel side plates, pins and axles.

Sheave lubrication through axle.

All blocks are individually NATA proof load tested at manufacture.

Sheaves are fitted with PTFE bushes as standard.

For high speed operation Roller Bearings should be specified.

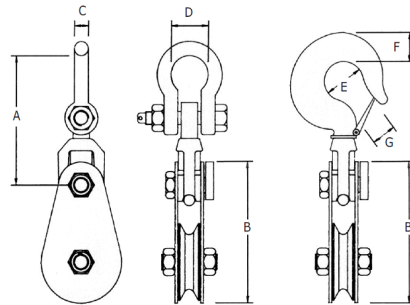
Custom blocks are available on request.

Varying sheave grooves are available if required.

Available in double sheave configurations.

Available in toggle (no head fitting) configuration.

Available with eye, shackle or hook head fittings.



Product Specifications

Name	ITEM #	WLL (tonnes)	Suits Wire Rope (mm)	Sheave Diameter (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Weight (kg)
250mm AS2089 8.5t Nobles NSB Series Single Sheave Snatch Block Shackle Head Fitting	25223	8.5	20 - 22	250	244	330	25	68	76	57	52	22
300mm AS2089 8.5t Nobles NSB Series Single Sheave Snatch Block Shackle Head Fitting	25277	8.5	20 - 22	300	244	380	25	68	76	57	57	27
160mm AS2089 8.5t Nobles NSB Series Single Sheave Snatch Block Shackle Head Fitting	25466	8.5	16 - 18	160	244	235	25	68	76	57	52	15
200mm AS2089 8.5t Nobles NSB Series Single Sheave Snatch Block Shackle Head Fitting	25608	8.5	18 - 20	200	244	280	25	68	76	57	52	19
200mm AS2089 12t Nobles NSB Series Single Sheave Snatch Block Shackle Head Fitting	25413	12	18 - 20	200	311	347	32	83	82	66	57	25
300mm AS2089 12t Nobles NSB Series Single Sheave Snatch Block Shackle Head Fitting	25567	12	20 - 22	300	311	447	32	83	82	66	57	36
250mm AS2089 12t Nobles NSB Series Single Sheave Snatch Block Shackle Head Fitting	25231	12	20 - 22	250	311	397	32	83	82	66	57	32
260mm AS2089 17t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25221	17	24 - 26	260	382	385	38	99	108	76	81	50
200mm AS2089 17t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25227	17	24 - 26	200	382	305	38	99	108	76	81	45
600mm AS2089 17t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25468	17	28 - 32	600	382	730	38	99	108	76	81	97

350mm AS2089 17t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25531	17	26 - 28	350	382	480	38	99	108	76	81	59
500mm AS2089 17t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25348	17	28 - 32	500	382	580	38	99	108	76	81	79
300mm AS2089 17t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25560	17	26 - 28	300	382	430	38	99	108	76	81	54
400mm AS2089 17t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25616	17	26 - 28	400	382	530	38	99	108	76	81	65
450mm AS2089 17t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25627	17	28 - 32	450	382	580	38	99	108	76	81	72
450mm AS2089 25t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25598	25	28 - 32	450	453	580	45	126	127	92	83	119
300mm AS2089 25t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25375	25	26 - 28	300	453	430	45	126	127	92	83	79
500mm AS2089 25t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25538	25	28 - 32	500	453	630	45	126	127	92	83	135
350mm AS2089 25t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25499	25	26 - 28	350	453	480	45	126	127	92	83	91
400mm AS2089 25t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25228	25	26 - 28	400	453	530	45	126	127	92	83	105
600mm AS2089 25t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25206	25	28 - 32	600	453	730	45	126	127	92	83	172
260mm AS2089 25t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25245	25	24 - 26	260	453	385	45	126	127	92	83	71
300mm AS2089 35t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25260	35	26 - 28	300	540	430	50	138	137	116	76	100

350mm AS2089 35t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25229	35	26 - 28	350	540	480	50	138	137	116	76	112
400mm AS2089 35t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25391	35	26 - 28	400	540	530	50	138	137	116	76	125
500mm AS2089 35t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25334	35	28 - 32	500	540	630	50	138	137	116	76	156
450mm AS2089 35t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25582	35	28 - 32	450	540	580	50	138	137	116	76	140
600mm AS2089 35t Nobles NHC Series Single Sheave Snatch Block Shackle Head Fitting	25595	35	28 - 32	600	540	730	50	138	137	116	76	193

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Nobles NES / NMD Series

Factor of Safety is 5 to 1. WLL in tonnes except hooks which shall comply with AS 3777.

Alloy steel side plates and pins.

Sheave lubrication through axle is available as an option.

All blocks are individually NATA proof load tested at manufacture.

Sheaves are fitted with PTFE bushes as standard.

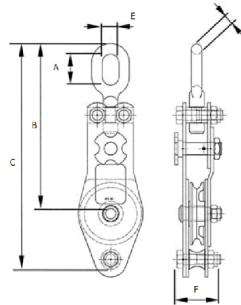
For high speed operation Roller Bearings should be specified.

Custom blocks are available on request.

Varying sheave grooves are available if required.

NES Series is also available in double sheave configurations.

Available with eye, shackle or hook head fittings.



Product Specifications

Name	ITEM #	Suits Wire Rope (mm)	Sheave Diameter (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Snatch Block	Becket Fitted	Weight (kg)
150mm AS2089 4t Nobles NMD Series Single Sheave Pulley Block Eye Head Fitting	25406	12-13	150	68	273	421	25	34	80	No	Yes	5.2
100mm AS2089 2.5t Nobles NES Series Single Sheave Snatch Block Eye Head Fitting	25342	8-10	100	50	274	376	17	27	78	Yes	Yes	5.5
150mm AS2089 4t Nobles NES Series Single Sheave Snatch Block Eye Head Fitting	25624	12-13	150	68	342	420	25	34	80	Yes	No	7.7
150mm AS2089 4t Nobles NMD Series Double Sheave Pulley Block Eye Head Fitting	25402	12-13	150	68	273	421	25	34	124	No	Yes	8.7
150mm AS2089 4t Nobles NMD Series Treble Sheave Pulley Block Eye Head Fitting	25416	12-13	150	68	273	421	25	34	164	No	Yes	10.1
200mm AS2089 4t Nobles NES Series Single Sheave Snatch Block Eye Head Fitting	25510	12-13	203	68	327	457	25	34	80	Yes	No	11.2
250mm AS2089 4t Nobles NES Series Single Sheave Snatch Block Eye Head Fitting	25210	12-13	250	68	402	530	25	34	80	Yes	No	15.1



General Information

SHEAVE & SNATCH BLOCKS

Sheave and snatch blocks are designed to deflect a loaded wire rope when a change in direction is required for a particular application or to increase the line pull or lifting capacity of a hoist or winch by multiplying the number of parts of line.

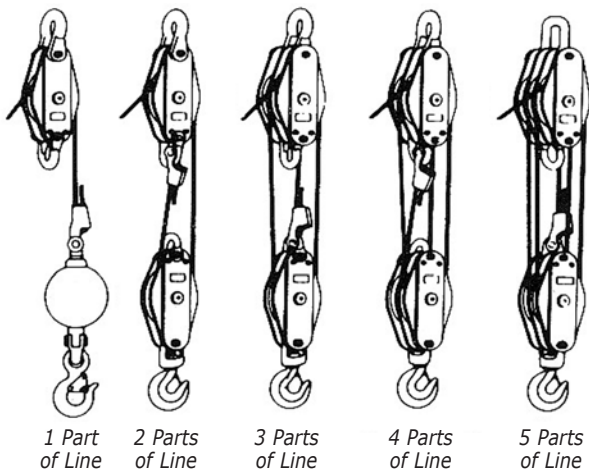
A sheave or snatch block usually consists of side plates, sheave and a head fitting or lower lifting fitting. These blocks are available in a wide variety of configurations and numerous sheave combinations.

Sheave Blocks

A sheave block refers to a block in which the side plates are fixed around the sheave or sheaves and the rope cannot be placed into the block at any point along its length. Sheave blocks, except snatch blocks, can only be reeved by feeding the end of the rope through the block. This type of block is most commonly used with wire rope in crane fall blocks. Sheave blocks and crane fall blocks often have numerous sheaves depending on the crane configuration.

Snatch Blocks

A snatch block usually only has one or two sheaves and is used more as a lifting accessory with wire rope slings or as a means of increasing line pull in a winching application as opposed to an integral part of a crane as is often the case with sheave blocks. The main feature common to snatch blocks is that the side plates open to allow the block to be placed on a wire rope at any point in a winching application or to allow wire rope slings to be placed into the block as in most circumstances it is impractical to feed a wire rope sling through a sheave block.



General Information

Working Load Limit (WLL) is the maximum load, which may be applied to the head fitting in normal conditions of use as defined in Australian Standard 1418. This shall be not greater than the value determined by means of the appropriate formula.

Working Load Limit

Type of Sheave Block	WLL of Sheave Block
With Becket	$\frac{(2N + 1) P_R}{K_S}$
Without Becket	$\frac{2N P_R}{K_S}$

Where:

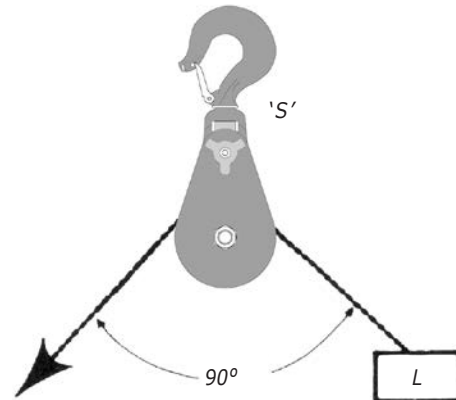
N = number of sheaves

P_R = minimum breaking load of rope in kilonewtons

K_S = safety factor of rope

Loads on Snatch Blocks

The stress on a snatch block varies with the degree of angle between the lead and load lines. When the two lines are parallel, 1000kg on the lead line results in a load of 2000kg on the hook. As the angle between the lines increases, the stress on the hook is reduced as illustrated below.



To determine the stress on a hook, multiply the pull on the lead line by a suitable factor from the following table adding 10% for friction.

Angle	Factor	Angle	Factor
5°	1.998	65°	1.69
10°	1.99	70°	1.64
15°	1.98	75°	1.58
20°	1.97	80°	1.53
25°	1.95	85°	1.47
30°	1.93	90°	1.41
35°	1.9	95°	1.35
40°	1.87	100°	1.29
45°	1.84	105°	1.22
50°	1.81	110°	1.15
55°	1.77	115°	1.07
60°	1.73	120°	1.00

(Eg.) 'S' when L = 1.6t at 60° = 1.6t x 1.73 + 10% friction.

'S' = 3.04t (ie. stress on hook).

Ordering

When ordering sheave blocks or snatch blocks always specify the following information:

1. Sheave size.
2. Block number (Stock Code).
3. Number of sheaves.
4. Type of bearing: (BB) Bronze Bushed, (RB) Roller Bearing.
5. Type of head fitting, Hook, Shackle or Toggle Block.
6. Wire rope diameter.
7. WLL per rope fall, or on head fitting.
8. Swivel, or fixed head fitting required.
9. If becket required.
10. State class of crane or nature of duty.
11. Is block required to swivel under load?
12. Surface finish (if not plated).

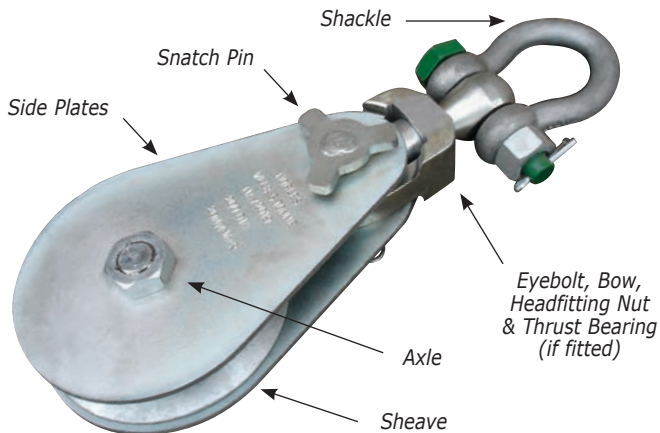


General Information

SHEAVE & SNATCH BLOCKS

Inspection Before Use

When inspecting a block attention should be paid to the following parts, check for wear, cracks, nicks, gouges, excessive corrosion and correct operation of moving parts.



The pre-use inspection for a snatch or sheave block should include the following:

1. The head fitting nut must be checked to ensure it is properly engaged into its retaining nut to the full depth, the thread is locked and the R clip is fitted correctly.
2. Look for wear on pins, axles, rope grooves, side plates, bushes/bearings and fittings. Excessive wear may be a cause to replace parts or remove the block from service, 10% wear is the maximum permissible.
3. Look for deformation and distortion in side plates, pins and axles, fitting attachment points, trunnions etc. Deformation can be caused by abusive service, overload, heat or improper modification. Deformation is cause for further inspection and will most likely require that the block be removed from service.
4. Look for wobble or misalignment in sheaves. These symptoms may mean that bearings require replacement or axles are damaged and are cause for further inspection. Also look and listen for grinding when the sheave is rotated.
5. Always ensure that all nuts bolts, scotch keys, cotter pins, keeper plates, R clips and other locking methods are secure. Particularly after any disassembly for inspection.
6. Check that the sheave axle does not turn. This may mean the axle bearing has seized or been damaged and/or the keeping method is damaged or loose.
7. Check for excessive free play between the eyebolt (or hook shank) and the bow. Check for radial and longitudinal free play. Excessive free-play is a sign of wear.
8. Look for deformation or corrosion in threads and look for cracks or corrosion in welds as these may dangerously weaken the block - any crack is cause to withdraw a block from service.
9. Check the hook and latch for any sign of deformation. Deformed hooks are a sign of overloading which may weaken the hook. Replacement latches are available.

Care In Use

Ratings or Working Load Limits (WLL) shown in Nobles literature and stamped onto sheave blocks apply to new or as new condition products. The WLL can be affected by intentional alterations, damage, corrosion, misuse and special conditions of use. Always have your block regularly inspected by a competent person who may suggest repairs or condemn your blocks.

Shock loading can greatly increase the actual loads placed on a block and must be taken into account when selecting sheave block systems. The WLL that applies for any Nobles block applies to the head fitting load (unless stated otherwise). It is important to calculate the actual load experienced by the whole block in order to determine the head fitting load. The angles at which lines enter and exit a block and the number of parts of line in the system can dramatically amplify the affect of a particular line load.

Sheave blocks must always be correctly selected and fitted for every lift. Side loading must be prevented, always check that hooks are properly seated and loads are not supported by safety catches.

Never weld any part of a block without consulting Nobles. Special steels are commonly used and special welding procedures and precautions are necessary.

Special Conditions

Unless stated otherwise Nobles sheave blocks as standard are designed in accordance with AS 2089. They are intended for general lifting purposes. Special conditions in use including environmental conditions, chemical exposure, explosive atmospheres, marine environments, personnel lifting, shock loading and tilt wall lifting etc. can greatly influence the life and suitability of a particular block. Always seek advice on the suitability of your sheave blocks. Demanding applications and environments may shorten the inspection intervals of your block and may affect the WLL.

Maintenance

Sheave blocks and snatch blocks must be regularly inspected and maintained for peak efficiency and extended usefulness.

As with all lifting equipment sheave and snatch blocks should be inspected before each use.

The frequency of lubrication is dependent upon frequency and periods of use, environmental conditions and the user's good judgment.

Lubrication

The frequency of lubrication depends upon the frequency and period of product use as well as environmental conditions. Assuming normal product use the following greasing schedule is suggested.

Sheave Bearings:

- Ball bearings - every 24hrs continuous operation or every 14 days intermittent operation.
- Double row roller bearings - every 40 hours of continuous operation or every 30 days of intermittent operation.
- Bronze and "GARMAX" bushes - Bronze bushes every 8 hours of continuous operation or 14 days of intermittent operation. Most Nobles blocks are fitted with superior "GARMAX" bushes, which are self-lubricating at low loads. Where grease nipples are fitted these bushes should be greased at the same rate as for bronze bushes.

Head fitting bearings:

- Roller or ball thrust bearings - Every 14 days for frequent swiveling or 45 days for infrequent swiveling.
- Bronze thrust washers - Every 16 hours of use or 21 days if rarely swiveling.

Sheave block maintenance also depends upon proper block selection, reeving and consideration of loading and adverse conditions.

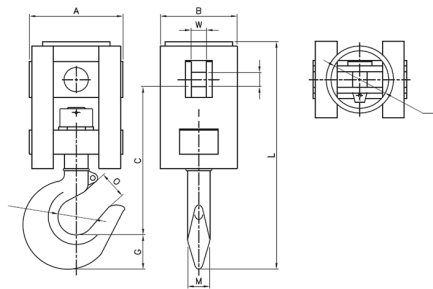
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9.2 Nobles Crane Hook Blocks



Nobles Crane Block NBNWH

Nobles Crane Hook Blocks are manufactured in accordance with AS 2089, have a 5:1 factor of safety and each block is proof load tested at manufacture.



Product Specifications

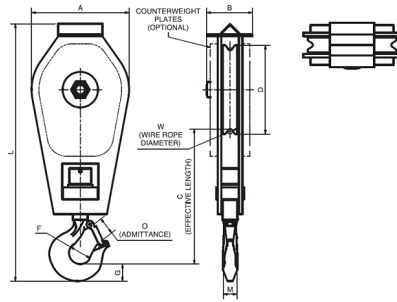
Name	ITEM #	WLL (tonnes)	A (mm)	B (mm)	C (mm)	D (mm)	F (mm)	G (mm)	L (mm)	M (mm)	O (mm)	W (mm)	X (mm)	Weight (kg)
47kg AS2318 5t Nobles Weighted Crane Swivel Hook	25286	5	195	160	310	30	73	71	476	47	48	32	120	47

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Nobles Crane Block NBNE

Nobles Crane Hook Blocks are manufactured in accordance with AS 2089, have a 5:1 factor of safety and each block is proof load tested at manufacture.



Product Specifications

Name	ITEM #	WLL (tonnes)	A (mm)	B (mm)	C (mm)	D (mm)	F (mm)	G (mm)	L (mm)	M (mm)	O (mm)	W (mm)	Weight (kg)
300mm AS2089 10t Nobles NED Series Single Sheave Crane Hook Block	25592	10	330	154	456	300	83	66	869	49	58	16	65

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9.3 Nobles Wire Rope Sheaves

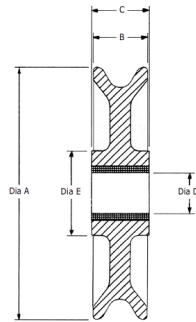
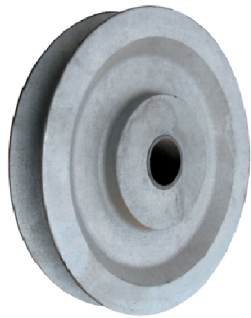


N Series Sheaves

The NES, NSB and NHC sheaves are available individually.

The NES sheaves suit smaller loads and ropes. These sheaves are cast from our patterns and then machined with groove detail.

The NSB and NHC series of sheaves are machined in quantity from structural steel plate, have PTFE bushes and are hot dipped galvanised.



Product Specifications

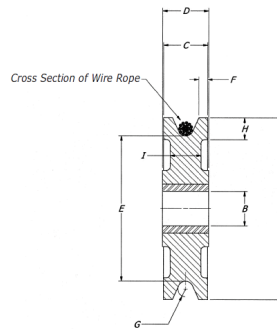
Name	ITEM #	Suits Wire Rope (mm)	WLL (tonnes)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Weight (kg)
100mm AS2089 2.5t Nylon Nobles NES Series Component Snatch Block Sheave	25605	8-10	2.5	100	22	27	20	41	0.8
250mm AS2089 4t Nylon Nobles NES Series Component Snatch Block Sheave	25632	12-13	4	250	32	34	25.4	78	1.6
200mm AS2089 4t Nylon Nobles NES Series Component Snatch Block Sheave	25266	12-13	4	200	32	34	25.4	78	1.1
150mm AS2089 4t Nylon Nobles NES Series Component Snatch Block Sheave	25274	12-13	4	150	32	34	25.4	78	1
160mm AS2089 12t Galvanised Nobles NSB Series Component Snatch Block Sheave	25241	16 - 18	12	160	42	44.5	38.1	110	4.5
350mm AS2089 12t Galvanised Nobles NSB Series Component Snatch Block Sheave	25257	20 - 22	12	350	42	44.5	38.1	110	13.7
300mm AS2089 12t Galvanised Nobles NSB Series Component Snatch Block Sheave	25353	20 - 22	12	300	42	44.5	38.1	110	10.8
250mm AS2089 12t Galvanised Nobles NSB Series Component Snatch Block Sheave	25470	20 - 22	12	250	42	44.5	38.1	110	8.4
200mm AS2089 12t Galvanised Nobles NSB Series Component Snatch Block Sheave	25584	18 - 20	12	200	42	44.5	38.1	110	7
260mm AS2089 25t Galvanised Nobles NHC Series Component Snatch Block Sheave	25215	24 - 26	25	260	53	56	63.5	130	13
300mm AS2089 35t Galvanised Nobles NHC Series Component Snatch Block Sheave	25548	26 - 28	35	300	53	56	63.5	130	16
450mm AS2089 35t Galvanised Nobles NHC Series Component Snatch Block Sheave	25562	28 - 32	35	450	53	56	63.5	130	31
350mm AS2089 35t Galvanised Nobles NHC Series Component Snatch Block Sheave	25569	26 - 28	35	350	53	56	63.5	130	20
400mm AS2089 35t Galvanised Nobles NHC Series Component Snatch Block Sheave	25307	26 - 28	35	400	53	56	63.5	130	26



BS Series Sheaves

The Nobles range of BS Wire Rope Sheaves are manufactured from machined cast iron. The sheaves are designed for manual operation and come complete with bronze bushes as standard.

Nobles sheaves are zinc coated to resist corrosion and ensure the longest possible service life.



Product Specifications

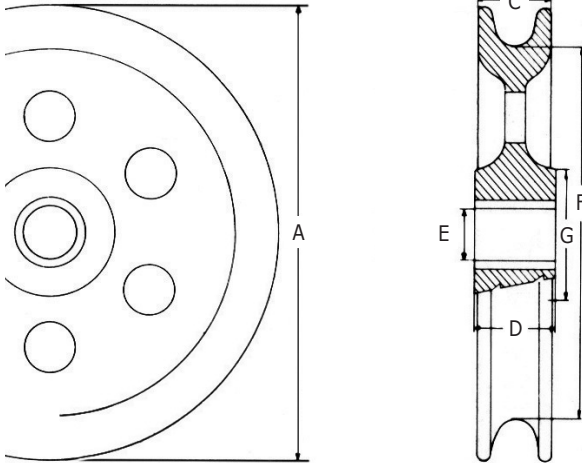
Name	ITEM #	Suits Wire Rope (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	Weight (kg)
Sheave Wire Rope 63mm	12776	5	63	12.5	19.5	20.5	50	5	5.5	8.5	12	0.39
Sheave Wire Rope 75mm	18713	6	75	12.5	19.5	20.5	60	4	6.5	9.5	12	0.45
Sheave Wire Rope 100mm	13870	8	100	19	24.4	25.4	80	5	8.5	12	17	0.58
Sheave Wire Rope 125mm	16570	10	125	22	27.5	29.5	100	4	10.5	14.5	20	1.59
Sheave Wire Rope 150mm	11382	12	150	25	31.4	33.4	120	5	12.5	17	23	1.81



General Information

WIRE ROPE SHEAVES

Orders For Sheaves Should Specify



1. Dimensions:

- A - Outside Diameter
- F - Pitch Circle Diameter (PCD)
- C - Rim Width
- E - Bore for Centre pin or axle
- D - Hub Width
- G - Hub Diameter

2. Diameter & Type of Rope:

Fibre or Wire Rope. For minimum sheave root diameters refer to AS 2089.

3. Sheave Grooves

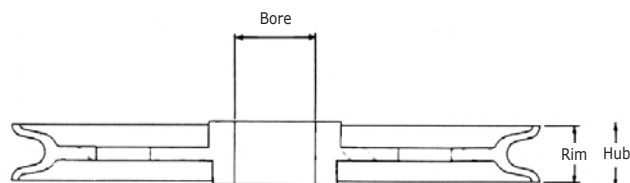
Sheaves should be grooved to the nominal rope diameter plus an allowance of between 7% and 15% to allow for rope manufacturing tolerances and should be re-machined when worn to nominal diameter plus 3%. Sheaves must also be free from score marks, run freely and be true.

4. Types of Bushing

Plain Bores

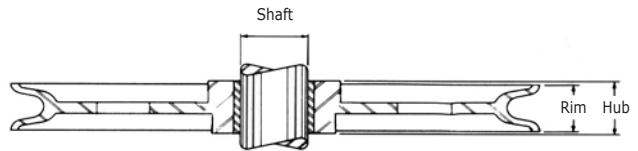
- Nobles Plain Bore Sheaves can be equipped with bushings or bearings at an optional charge.
- Cast Steel, Cast Iron, Machined Steel Plate and Nylon sheaves are all available.

Plain Bore Sheaves can be used for very low line speeds and very infrequent use (high bearing friction).



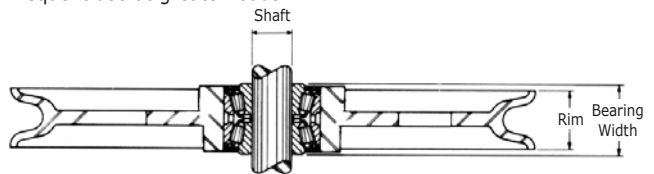
Bronze Bushes

Self Lubricating Bronze Bushings for slow line speeds and infrequent use (moderate bearing friction). Bronze Bushing with pressure lubrication for slow line speeds, and more frequent use at greater loads (moderate bearing friction). Our Bronze Bushings are machined with oil grooves.



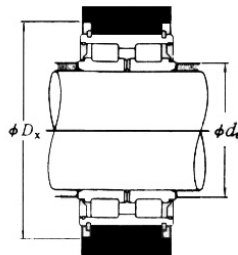
Taper Roller Bearings

Taper Roller Bearings are required for faster line speeds and more frequent use at greater loads.



Double Row Cylindrical Roller Bearings

These are specially designed for sheave applications having good load bearing ratings and stability. Other Anti friction bearings such as tapered roller bearings and deep groove ball bearings can be supplied.



PTFE Lined Bushes

These bearings have a high load capacity (140 Mpa) and low wear rates as well as excellent lubricating properties. The bearings have a composite structure consisting of epoxy encapsulated wound glass fibres impregnated with PTFE. They can be used at surface velocities to 500 Sfp (2.5 m/s). Other bearing types can also be supplied where required.



General Information

WIRE ROPE SHEAVES

Sheave Dimensions for Sheave Blocks

The Australian Standards AS 2089 and AS 1418 require that the ratio of the diameter at the bottom of the groove of sheaves, to the nominal size of the rope, shall not be less than:

1. For use with fibre ropes - 5 times rope diameter.
2. For use with wire ropes - M1 Classification - 11.5 times rope diameter.
3. For use with wire ropes - M3 Classification - 15.0 times rope diameter.

Rope Groove Depth

1. Fibre ropes - not less than 0.32 times the diameter of the rope.
2. For wire rope, the sheave groove shall not be less than the rope diameter.

Sheave Material

SG Iron (Nodular or Ductile Iron) AS 1831

Standard grade supplied has tensile equal to C3 steel. Wear and load carrying capacity is superior to cast iron but slightly less than steel.

Cast Steel AS 2074

Unless otherwise specified C3 grade supplied.

Steel Plate AS 3678 - Grade 250

Grade 350 available in some thicknesses - 16mm to 300mm thick.

Minimum Ratio Of Sheave Pitch Diameter To Wire Rope Diameter (AS 1418.1)

Classification of Mechanism	Sheaves (h _s)	Rope Equalizer Sheaves (h _s)
M1	12.5	11.2
M2	14	12.5
M3	16	12.5
M4	18	14
M5	20	14
M6	22.4	16
M7	25	16
M8	28	18

Sheaves For Crane Applications

Indicative overall diameters based on groove depth of 1.5 rope diameter

Minimum Ratio Pitch Dia. to Wire Rope Dia	M1	M2	M3	M4	M5	M6	M7	M8
12.5	14	16	18	20	22.4	25	28	
Minimum Overall Dia. (ratio)	14.5	16	18	20	22	24.4	27	30
Wire Rope Dia								
8	116	136	150	160	180	200	220	250
9	136	150	162	180	200	220	253	270
10	150	160	180	200	220	250	270	300
11	160	180	200	220	250	270	300	330
12	180	200	220	250	270	300	330	380
13	200	220	250	270	300	330	353	400
14	203	250	252	300	330	350	380	450
16	250	270	300	330	352	400	450	500
18	270	300	330	380	400	450	500	550
20	300	330	380	400	450	500	550	600
22	330	352	400	450	500	550	600	660
24	350	384	450	500	550	600	650	750
26	380	450	500	550	580	650	700	800
28	450	500	504	580	650	700	800	880
32	500	550	580	650	700	800	880	1000
36	550	580	650	750	800	880	1000	1080

No mandatory sheave groove depth applies for crane application sheaves (AS 1418) and a groove depth of 1.5 rope diameter times is considered a minimum.

9.4 Nobles SBS Swivels



SBS Swivel Eye & Eye

Safety factor 5 to 1.

All jaws complete with bolts.

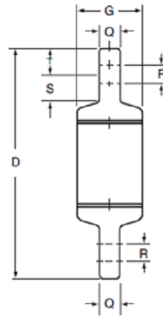
Positively and permanently sealed.

Individually proof tested to twice Working Load Limit.

NATA Test Certificate issued.

Also available in Hook and Eye and Hook and Jaw configurations, all Hooks come complete with safety catches.

Nobles SBS Swivels available to 85 tonne capacity.



Product Specifications

Name	ITEM #	WLL (tonnes)	G (mm)	Q (mm)	R (mm)	D (mm)	S (mm)	Weight (kg)
AS2318 3.0t Nobles SBS Eye & Eye Sealed Bearing Swivel	25607	3	76	19	23	225	29	3.9
AS2318 5.0t Nobles SBS Eye & Eye Sealed Bearing Swivel	25574	5	81	25	32	275	32	5.1
AS2318 8.5t Nobles SBS Eye & Eye Sealed Bearing Swivel	25579	8.5	102	32	36	347	41	13.3
AS2318 10.0t Nobles SBS Eye & Eye Sealed Bearing Swivel	25603	10	114	43	43	445	70	19.1
AS2318 16.0t Nobles SBS Eye & Eye Sealed Bearing Swivel	25445	15	127	49	52	481	70	22.2
AS2318 25.0t Nobles SBS Eye & Eye Sealed Bearing Swivel	25397	25	152	57	59	537	98	59
AS2318 35.0t Nobles SBS Eye & Eye Sealed Bearing Swivel	25475	35	165	57	59	537	98	66
AS2318 42.5t Nobles SBS Eye & Eye Sealed Bearing Swivel	25455	45	178	64	64	641	102	98



SBS Swivel Jaw & Eye

Safety factor 5 to 1.

All jaws complete with bolts.

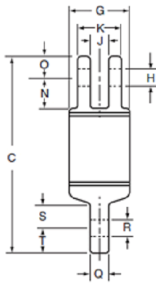
Positively and permanently sealed.

Individually proof tested to twice Working Load Limit.

NATA Test Certificate issued.

Also available in Hook and Eye and Hook and Jaw configurations, all Hooks come complete with safety catches.

Nobles SBS Swivels available to 85 tonne capacity.



Product Specifications

Name	ITEM #	WLL (tonnes)	G (mm)	K (mm)	J (mm)	H (mm)	Q (mm)	R (mm)	T (mm)	S (mm)	C (mm)	N (mm)	O (mm)	Weight (kg)
AS2318 3.0t Nobles SBS Jaw & Eye Sealed Bearing Swivel	25552	3	76	41	19	19	19	23	25	29	224	33	25	4.1
AS2318 5.0t Nobles SBS Jaw & Eye Sealed Bearing Swivel	25211	5	81	57	25	22	25	32	32	32	267	41	29	6.2
AS2318 8.5t Nobles SBS Jaw & Eye Sealed Bearing Swivel	25505	8.5	102	71	40	30	32	36	38	41	341	54	35	11.3
AS2318 10.0t Nobles SBS Jaw & Eye Sealed Bearing Swivel	25363	10	114	86	44	38	43	43	48	70	438	89	44	19.7
AS2318 16.0t Nobles SBS Jaw & Eye Sealed Bearing Swivel	25432	15	127	86	44	38	49	52	54	70	471	89	44	27.7
AS2318 25.0t Nobles SBS Jaw & Eye Sealed Bearing Swivel	25496	25	152	114	51	52	57	59	60	98	532	94	60	61
AS2318 35.0t Nobles SBS Jaw & Eye Sealed Bearing Swivel	25521	35	165	114	51	52	57	59	60	98	532	94	60	68
AS2318 42.5t Nobles SBS Jaw & Eye Sealed Bearing Swivel	25247	45	178	127	64	59	64	64	76	102	641	102	76	102

Uncontrolled version printed 09-Mar-2018 .See www.nobles.com.au for latest up-to-date product information.



SBS Swivel Jaw & Jaw

Safety factor 5 to 1.

All jaws complete with bolts.

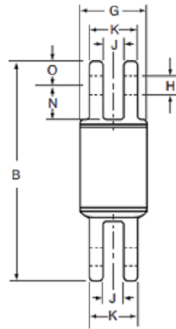
Positively and permanently sealed.

Individually proof tested to twice Working Load Limit.

NATA Test Certificate issued.

Also available in Hook and Eye and Hook and Jaw configurations, all Hooks come complete with safety catches.

Nobles SBS Swivels available to 85 tonne capacity.



Product Specifications

Name	ITEM #	WLL (tonnes)	G (mm)	K (mm)	J (mm)	H (mm)	B (mm)	N (mm)	O (mm)	Weight (kg)
AS2318 3.0t Nobles SBS Jaw & Jaw Sealed Bearing Swivel	25566	3	76	41	19	19	221	33	25	4.4
AS2318 5.0t Nobles SBS Jaw & Jaw Sealed Bearing Swivel	25382	5	81	57	25	22	262	41	29	6.2
AS2318 8.5t Nobles SBS Jaw & Jaw Sealed Bearing Swivel	25332	8.5	102	71	40	30	331	54	35	11.9
AS2318 10.0t Nobles SBS Jaw & Jaw Sealed Bearing Swivel	25284	10	114	86	44	38	435	89	44	20.8
AS2318 16.0t Nobles SBS Jaw & Jaw Sealed Bearing Swivel	25395	15	127	86	44	38	462	89	44	28.5
AS2318 25.0t Nobles SBS Jaw & Jaw Sealed Bearing Swivel	25401	25	152	114	51	52	527	94	60	64
AS2318 35.0t Nobles SBS Jaw & Jaw Sealed Bearing Swivel	25410	35	165	114	51	52	527	94	60	70
AS2318 42.5t Nobles SBS Jaw & Jaw Sealed Bearing Swivel	25309	45	178	127	64	59	638	102	76	107

Uncontrolled version printed 09-Mar-2018 .See www.nobles.com.au for latest up-to-date product information.



General information

SBS SWIVELS

Nobles SBS Swivels are a rugged and relatively compact lifting device incorporating a roller thrust bearing which is contained within a greasable chamber at the centre. The bearing is better protected from the elements than other designs and permits easy rotation under load.

Sealing

Sealing is achieved by an O-ring at one end and a seal at the other (type varies with size).

Jaw Bolts

Jaw bolts are retained with a nut and split pin for safety and added strength.

Care in Use

SBS Swivels form an important component in lifting systems where loads must be swivelled under load. They are also used where parts of a lifting system must be protected from induced torques by being able to freely rotate.

SBS Swivels are for use in lifting situations appropriate to the AS 2318. They are not for use in high speed or continuous rotation applications such as being in-line with rotating machinery. The recommended duty cycle of SBS Swivels should be considered equivalent to M3 classification. Custom designs can be produced for heavy duty applications.

General Cautions

Ratings or Working Load Limits (WLL) shown in Nobles literature and stamped onto swivels apply only to new or as new condition products. The working load limit can be affected by intentional alterations, damage, corrosion, misuse and special conditions of use. Always have your swivels regularly inspected by a competent person who may suggest repairs or condemn your swivels.

Shock loading can greatly increase the actual loads placed on a swivel and must be taken into account when selecting swivel systems.

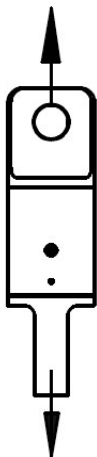
The WLL that applies to any Nobles swivel is only for the use of the device for general purpose lifts as defined in AS 1418 (M3 classification) in accordance with safe practice and Nobles recommendations. For all uses of swivels a risk assessment should be performed to analyse potential hazards. Where users intend using swivels for unconventional tasks these should be assessed in detail by a competent person.

For each lift always assess the strength and integrity of the load itself. Attention must be paid to the balance and security of the load.

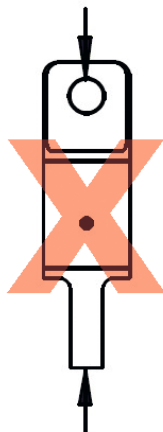
Never weld any part of a swivel without consulting Nobles. Special steels are commonly used and special welding procedures and precautions may be necessary.

WARNING

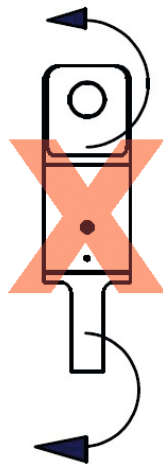
- Never exceed the Working Load Limit.
- Always ensure that the correct sling angles and sizes are used.
- Never hoist loads over or near people.
- Always operate, inspect and maintain the swivel in accordance with relevant safety standards.
- Always check the security of the load before lifting.
- If you are ever in doubt how to safely use this product contact your NEAREST Nobles branch for advice.
- Improper use of this product could result in serious injury or death.



For Axial Tensile Loading Only



DO NOT Load in Compression



DO NOT Load in Bending



9.5 Nobles Headache Balls



Nobles Headache Balls

The NYAB18 18kg Swivelling Headache Ball complies with AS 2318 and has a 5:1 factor of safety.

The NYHAB05 3kg Headache Ball is usually used with a Grade T 7-8mm Swivel Latch Hook.

These Headache Balls are commonly used on drill rigs, have a special white painted surface finish and are proof load tested at manufacture.



Product Specifications

Name	ITEM #	WLL (tonnes)	Weight (kg)
Headache Ball Swivel 3kg WLL 750kg Eye & Jaw No Hook	27117	0.75	3
Headache Ball Swivel 18kg WLL 3.5t Eye & Jaw No Hook	26736	3.5	18