



# User Manual

[www.doughty-engineering.co.uk](http://www.doughty-engineering.co.uk)

## Pulleys



Original Instructions

Revision 2 06/10/15

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## Introduction

The Doughty Pulley collection is a range of Pulleys designed for use within the theatre, film and TV Industry. The range is split onto two groups Standard Pulleys for loads up to 150Kg and Heavy Duty Pulleys for loads up to 600Kg.

Heavy Duty Pulleys are fitted with ball raced bearings, Standard Pulley have a Nylon sheave running on a plain shaft.

Doughty Pulleys are available in the following specifications:

Pt No	Type	Wire/Rope	Max Load	Dia	Width	Weight
<b>Standard Pulleys (Wire)</b>						
T42800	Single	4mm Wire	150Kg	100mm	22mm	1.00Kg
T42801	Double	4mm Wire	150Kg	100mm	53mm	1.60Kg
T42812	Triple	4mm Wire	150Kg	100mm	85mm	2.40Kg
T42813	Quad	4mm Wire	150Kg	100mm	116mm	3.10Kg
T42814	Quin	4mm Wire	150Kg	100mm	148mm	3.90Kg
T42820	Single	6mm Wire	150Kg	150mm	22mm	1.60Kg
T42821	Double	6mm Wire	150Kg	150mm	53mm	3.10Kg
T42822	Triple	6mm Wire	150Kg	150mm	85mm	4.60Kg
T42823	Quad	6mm Wire	150Kg	150mm	116mm	6.00Kg
T42824	Quin	6mm Wire	150Kg	150mm	148mm	7.60Kg
T42830	Single	6mm Wire	150Kg	180mm	22mm	2.00Kg
T42831	Double	6mm Wire	150Kg	180mm	53mm	3.90Kg
T42832	Triple	6mm Wire	150Kg	180mm	85mm	5.80Kg
T42833	Quad	6mm Wire	150Kg	180mm	116mm	7.70Kg
T42834	Quin	6mm Wire	150Kg	180mm	148mm	9.60Kg
<b>Standard Pulleys (Rope)</b>						
T42836	Single	12mm Rope	150Kg	100mm	22mm	1.00Kg
T42837	Double	12mm Rope	150Kg	100mm	53mm	1.50Kg
T42838	Triple	12mm Rope	150Kg	100mm	85mm	2.20Kg
T42839	Quad	12mm Rope	150Kg	100mm	116mm	2.90Kg
T42840	Quin	12mm Rope	150Kg	100mm	148mm	3.50Kg
T42846	Single	18mm Rope	150Kg	150mm	22mm	10.50Kg
T42847	Double	18mm Rope	150Kg	150mm	53mm	2.90Kg
T42848	Triple	18mm Rope	150Kg	150mm	85mm	4.30Kg
T42849	Quad	18mm Rope	150Kg	150mm	116mm	5.70Kg
T42850	Quin	18mm Rope	150Kg	150mm	148mm	7.00Kg
T42855	Single	18mm Rope	150Kg	180mm	22mm	1.90Kg
T42856	Double	18mm Rope	150Kg	180mm	53mm	3.70Kg
T42857	Triple	18mm Rope	150Kg	180mm	85mm	5.50Kg
T42858	Quad	18mm Rope	150Kg	180mm	116mm	7.40Kg
T42859	Quin	18mm Rope	150Kg	180mm	148mm	9.20Kg

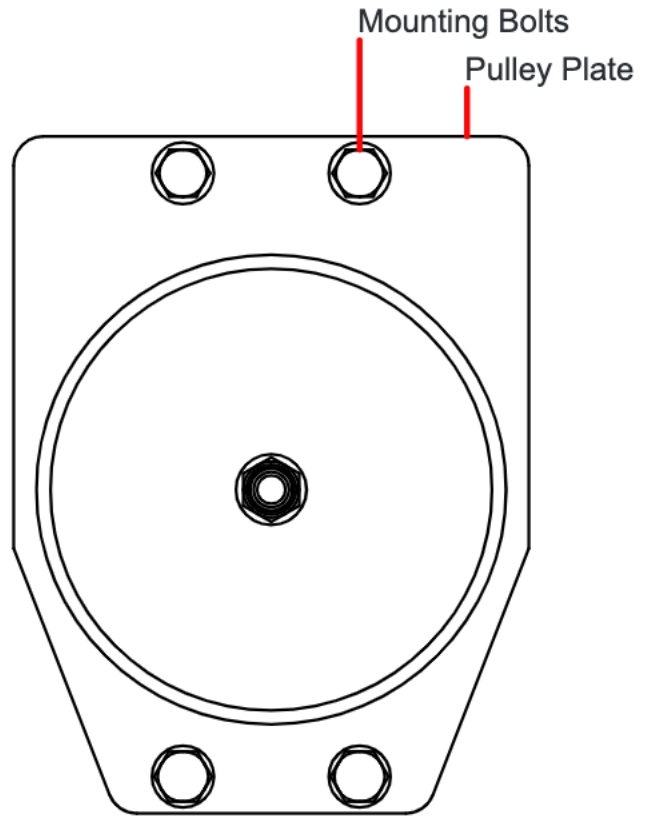
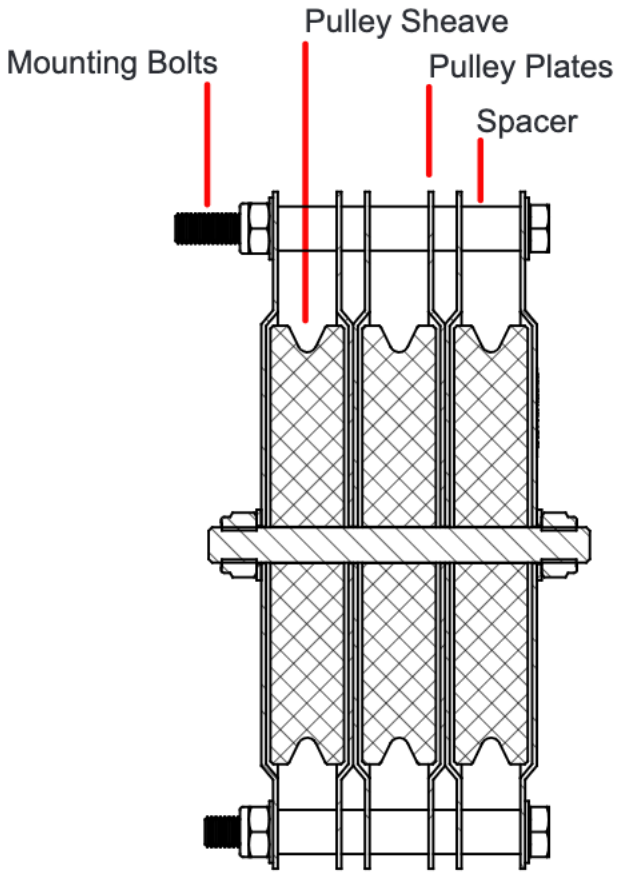
Pt No	Type	Wire/Rope	Max Load	Dia	Width	Weight
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**Heavy Duty Pulleys (Wire)**

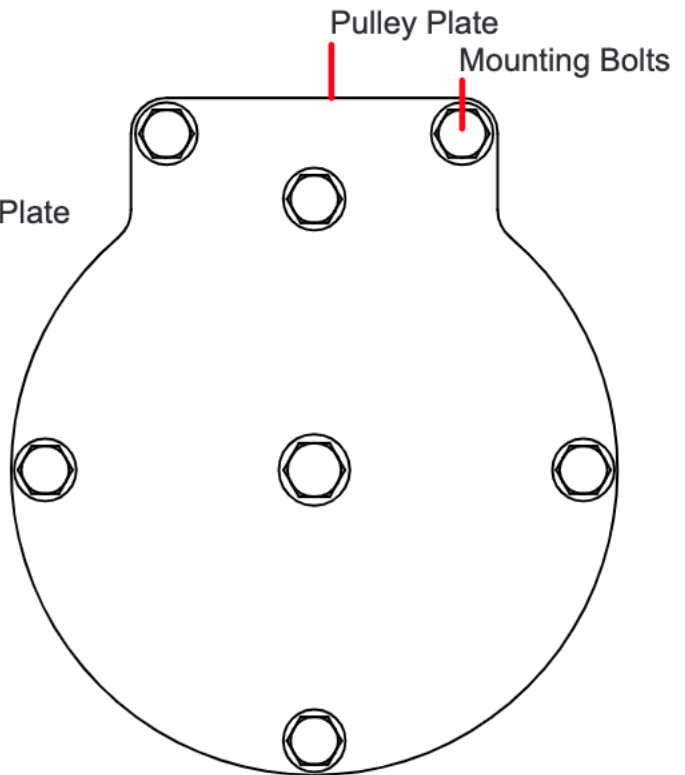
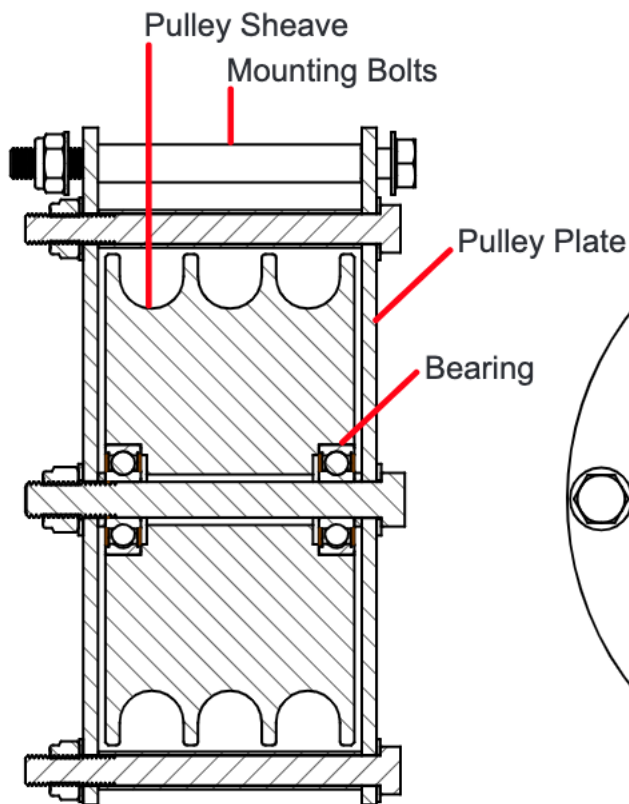
T42901	Single	4mm Wire	200Kg	100mm	50mm	2.80Kg
T42902	Double	4mm Wire	200Kg	100mm	75mm	3.20Kg
T42903	Triple	4mm Wire	200Kg	100mm	100mm	3.60Kg
T42904	Quad	4mm Wire	200Kg	100mm	130mm	4.30Kg
T42905	Quin	4mm Wire	200Kg	100mm	160mm	4.80Kg
T42911	Single	6mm Wire	400Kg	150mm	50mm	4.30Kg
T42912	Double	6mm Wire	400Kg	150mm	75mm	5.00Kg
T42913	Triple	6mm Wire	400Kg	150mm	100mm	5.80Kg
T42914	Quad	6mm Wire	400Kg	150mm	130mm	6.80Kg
T42915	Quin	6mm Wire	400Kg	150mm	160mm	7.60Kg
T42921	Single	6mm Wire	600Kg	200mm	50mm	6.50Kg
T42922	Double	6mm Wire	600Kg	200mm	75mm	7.60Kg
T42923	Triple	6mm Wire	600Kg	200mm	100mm	8.70Kg
T42924	Quad	6mm Wire	600Kg	200mm	130mm	10.40Kg
T42925	Quin	6mm Wire	600Kg	200mm	160mm	11.50Kg

**Heavy Duty Pulleys (Rope)**

T42931	Single	12mm Rope	200Kg	100mm	50mm	2.70Kg
T42932	Double	12mm Rope	200Kg	100mm	75mm	3.10Kg
T42933	Triple	12mm Rope	200Kg	100mm	100mm	3.50Kg
T42934	Quad	12mm Rope	200Kg	100mm	130mm	4.10Kg
T42935	Quin	12mm Rope	200Kg	100mm	160mm	4.50Kg
T42941	Single	18mm Rope	400Kg	150mm	50mm	4.20Kg
T42942	Double	18mm Rope	400Kg	150mm	75mm	4.80Kg
T42943	Triple	18mm Rope	400Kg	150mm	100mm	5.30Kg
T42944	Quad	18mm Rope	400Kg	150mm	130mm	6.30Kg
T42945	Quin	18mm Rope	400Kg	150mm	160mm	6.90Kg
T42951	Single	18mm Rope	600Kg	200mm	50mm	6.30Kg
T42952	Double	18mm Rope	600Kg	200mm	75mm	7.20Kg
T42953	Triple	18mm Rope	600Kg	200mm	100mm	8.20Kg
T42954	Quad	18mm Rope	600Kg	200mm	130mm	9.70Kg
T42955	Quin	18mm Rope	600Kg	200mm	160mm	10.60Kg



Standard Pulley



Heavy Duty Pulley



## Operation

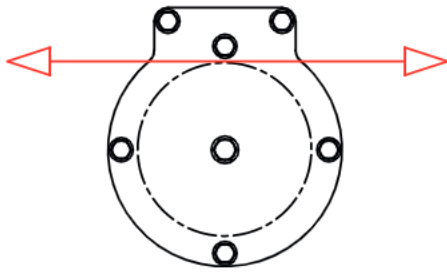
Doughty Pulleys must only be installed/used by qualified/competent personnel.

All Pulleys should be visually inspected before each use. In the event of any damage the pulley should be taken out of service and returned to an 'Approved Doughty Service Agent' for inspection. (See our Dealer Locator on our web site for a comprehensive list of Authorised Service Agents).

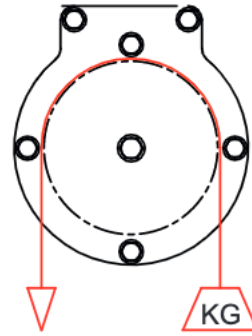
When installing/using Doughty pulleys you must wear appropriate personal protection equipment suitable for the environment you are working in.

Never exceed the Max Load as indicated on the Pulley and in this Manual or Max Load as instructed by your installer, as the installation conditions may alter the Max Load that may applied to the Pulley.

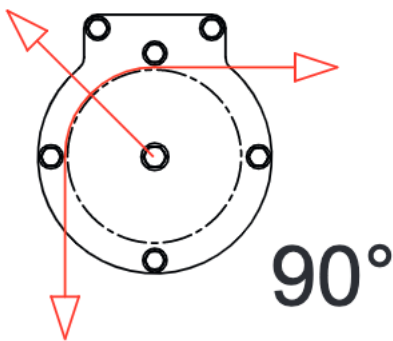
When used in conjunction with any other accessories, care must be taken to ensure the Max Load of any component is not exceeded.



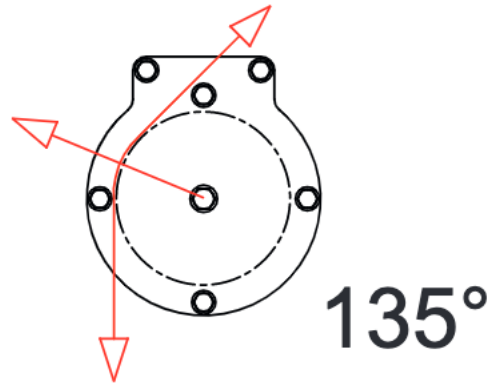
No Load on Pulley



Load on Pulley =  $KG \times 2$   
ie. Load = 600Kg Actual Load on Pulley = 1200Kg



Load on Pulley = 141% of the Load  
ie. Load = 600Kg Actual Load on Pulley = 846Kg



Load on Pulley = 0.76% of the Load  
ie. Load = 600Kg Actual Load on Pulley = 456Kg

**Care must be taken when installing pulleys to ensure the mounting method can withstand the generated forces**

Doughty Engineering stock a range of different mounting methods for these pulleys.

Each mounting supplied by Doughty Engineering carries a SWL to match the pulley to which it will be mounted.

### Maintenance

- Maintenance must only be carried out by approved personnel.
- Approved personnel must make regular checks of the product.
- If you see any damage including cracks, deformation or missing parts, the product must be removed from service and returned to an Approved Service Agent for evaluation/repair.
- A full list of Approved Service Agents can be found on our website - [www.doughty-engineering.co.uk](http://www.doughty-engineering.co.uk).
- Approved personnel must carry out a visual and a function test before every usage.
- Approved personnel must carry out more detailed inspection and testing of the product on a regular basis depending on the usage of the product.
- Written records should be kept from the date the product is put into operation.



### Warning

- The installer/operator must read and understand the Instruction Manual before using the equipment.
- Operators must be adequately instructed and fully understand the safe use of the equipment before use.
- Failure to carry out maintenance as necessary, including the replacement of parts to the correct standard, could render this equipment unsafe and the manufacturer cannot accept any responsibility in this respect.

## Do's and Don'ts

**Do** ensure the pulley is only used by a competent person

**Do** ensure the pulley is kept in a clean operational condition

**Do** check the condition of the pulley regularly

**Do** use an Authorised Service Agent only for maintenance and repair

**Do** use a secondary safety

**Do Not** lift loads which exceed the Max Load of the weakest component in the assembly

**Do Not** attempt to lift loads which are greater than the Max Load of the pulley

**Do Not** lift people

**Do Not** lift loads above people

**Do Not** lift loads with any personnel in the lifting zone





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Note: Whilst every effort has been made to ensure that the information contained within this manual is correct, Doughty Engineering does not accept any liability for errors or omissions. Specifications and technical data are intended for guidance purposes only and may vary.