

ROV shackles



your reliable partner

Dear Customer,

For over 90 years the production of high tensile shackles has been our core business and competence. The designs and quality standards of our wire rope- and chain accessories are the result of requirements put forward by our customers in markets throughout the world.

In this brochure we would like to introduce a new addition to our range: Green Pin® ROV Release shackles.

In the earlier days of subsea lifting, special shackles for use by ROV's were not available. Companies used standard shackles for subsea lifting jobs, and the assembly and disassembly of shackle pins and nuts before or after the lifting operations was a difficult, time consuming task which was either done by a diver or an ROV.

In order to simplify installations, companies started to modify standard shackles to facilitate the subsea work. Most of these modifications are now considered substandard and had a high level of "home brew". Later on the manufacturers started to modify existing products under controlled production conditions.

Van Beest has developed a range of Green Pin® ROV Release shackles that have some unique characteristics. You will find more information in this brochure.

We trust this brochure will assist you in serving your customers' needs. In addition, our skilled salespeople and technicians are always at your service. Please do not hesitate to contact us for any question related to sockets, shackles, hooks or other wire rope- and chain accessories in general.

Kind regards,



Richard Meer
Vice President Sales



VAN BEEST B.V., Manufacturer and Supplier of wire rope- and chain fittings. Registered trade marks 'Green Pin' and 'Excel'



your reliable partner

We reserve the right to make amendments on specifications mentioned in this brochure without prior notification. Specifications show general compliance with the various standards and should not be taken to meet all terms of the contract or purchase order.

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Applications

ROV shackles are suitable for subsea use and operation by a Remote Operated Vehicle. For the purpose of operating lifting equipment the Remote Operated Vehicle is fitted with an hydraulically controlled arm to safely release heavy equipment under water. ROV lifting equipment is usually brightly coloured or fluorescent to assist the operator in identifying the components in poor or artificial light under water.

Based on the purpose of the shackle a certain design can only release a load, only retrieve a load, or the shackle can do both.

Range

Van Beest offers Green Pin® ROV Release Polar shackles in three different types. As the name states, these shackles are designed for releasing a load only. The bolts have no threads, so screwing is not required.

- The first type, the **Green Pin® ROV Release Polar Shackle with spring pins**, has two spring pins as securing devices. This configuration is strictly for in-line loading and may not be side loaded. This solution is simple and relatively cheap and has the possibility to connect the two safety pins for single grabbing with the ROV.
- If multiple sling legs are used, or if there is a risk for side loads, a specially designed locking clamp with a securing spring pin should be used. This locking clamp replaces the functionality of a standard nut. Van Beest guarantees full performance, including side loading, for the **Green Pin® ROV Release Polar Shackle with locking clamp**.
 - 50% of the original WLL on side loads, same as Green Pin® Standard and Polar shackles.
 - Pin can rotate freely when secured, so there will be no unintended unlocking of the clamp or wire ropes that get stuck.
 - Double safety with the possibility to connect them for single grabbing with the ROV.
- The last type is the **Green Pin® ROV Spring Release Polar Shackle**, which may be used for in-line loading only. This semi automatic ROV shackle has a double safety to prevent accidental release of the load. However it is possible to connect the safety pins to enable single grabbing by the ROV. This reduces operating time significantly.

Design

The round head on the pin is designed with a groove to attach the pin to the shackle body, so no parts of the shackle will be lost after releasing the load.

An eye is mounted to the pin head to attach for example the securing device or a monkey's fist.

ROV shackles carry the same markings as our Green Pin® Polar Shackles. For more information please see our catalogue.

Finish

After galvanization the ROV shackle body is finished with a white coating for good visibility under poor light conditions, which are typical for subsea work. The pin is painted the characteristic green color.

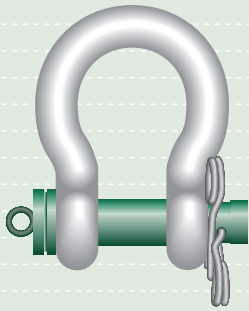
Instructions for use

Every engineer, company or country has his own conditions/regulations concerning connecting safety pins to wire ropes etc. and attaching loops or monkey's fists for easy grabbing with ROV. Therefore it is up to the user to install these. Van Beest will provide fittings on the clamp and shackle pin to facilitate this.

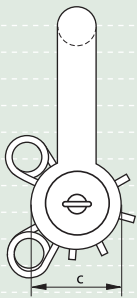
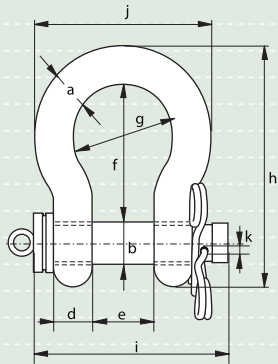
An exception is made for the Green Pin® ROV Spring Release Polar Shackle (P-5367). This shackle is assembled with rope slings and monkey's fist. For size starting from WLL 42.5 t up to and including 150 t a special mounting tool (tensioner) is required to assemble the shackle.

Shackles should be inspected before use to ensure that:

- all markings are legible;
- the body and pin are both identifiable as being of the same size, type and make;
- the body and pin are not distorted or unduly worn;
- the body and pin are free from nicks, gouges, cracks and corrosion;
- shackles may not be heat treated as this may affect their Working Load Limit;
- never modify, repair or reshape a shackle by welding, heating or bending as this will affect the Working Load Limit.



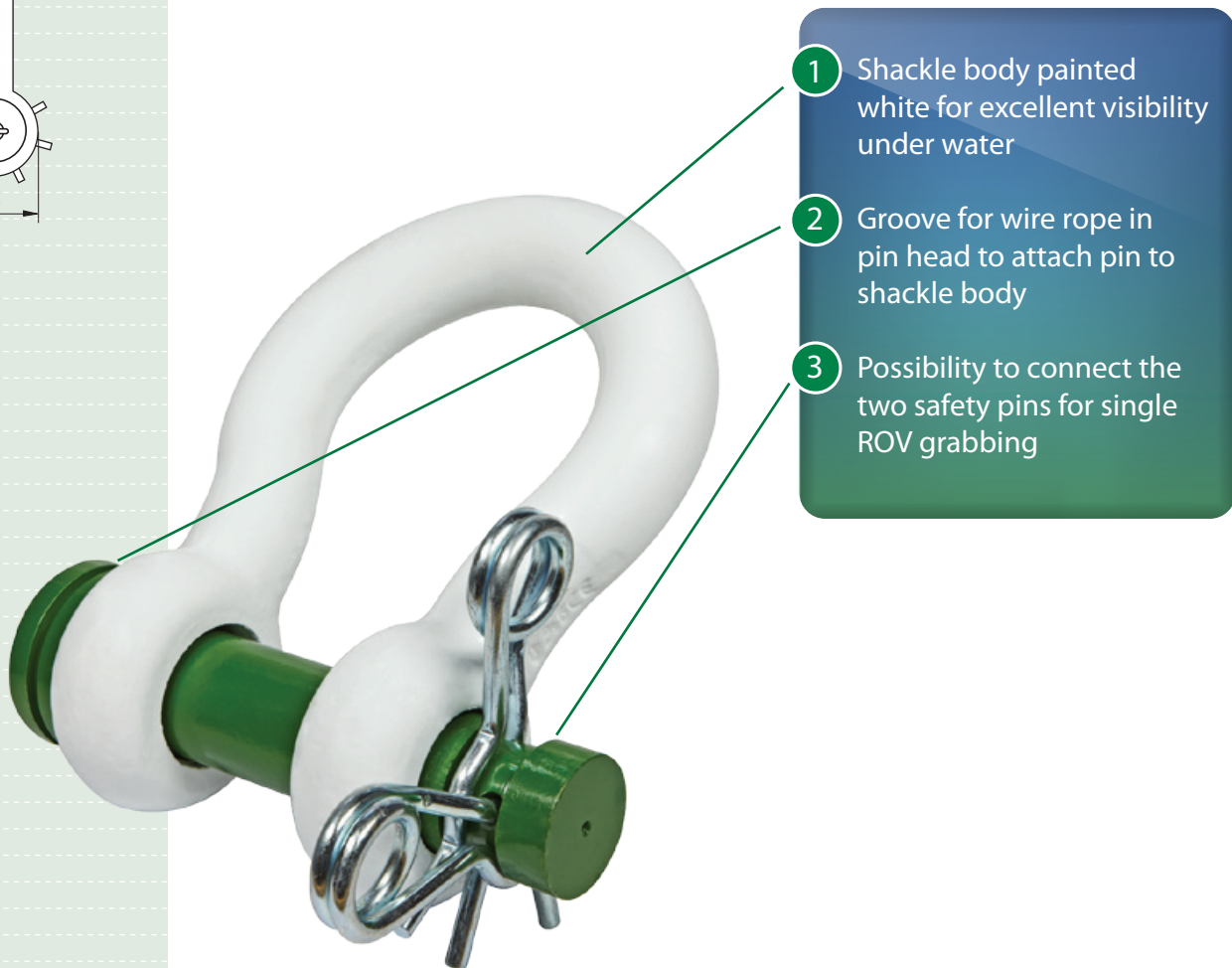
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Green Pin® ROV Release Polar Shackles with spring pins

- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 5x WLL
- **Finish** : body white painted, pin green painted
- **Temperature Range** : -40°C up to +200°C
- **Certificates** : at no extra charges this product can be supplied with a works certificate, material certificate, manufacturer test certificate and/or EC Declaration of Conformity.
- **Note** : for in-line use only
it is up to the user to attach the safety pins with wire ropes etc. and attaching loops or monkey's fists. Van Beest supplies the shackle body, the shackle pin and 2 spring pins.

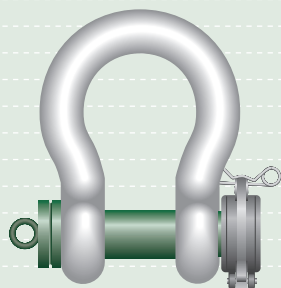
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length bow	length bolt	width bolt	diameter bolt	weight each
t	a	b	c	d	e	f	g	h	i	j	k	kg
17	38	42	88	38	60	146	99	249	202	175	6.5	8.19
25	45	50	103	45	74	178	126	300	249	216	8.5	14.22
55	65	70	145	65	105	260	180	433	330	310	8.5	39.59
85	75	83	162	73	127	329	190	527	380	340	8.5	62



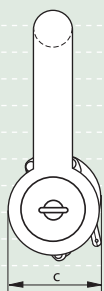
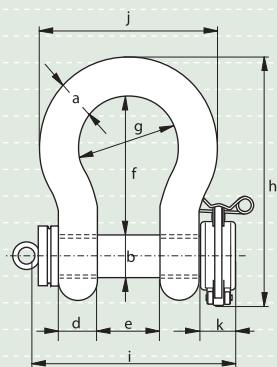
Green Pin® ROV Release Polar Shackles

with locking clamp

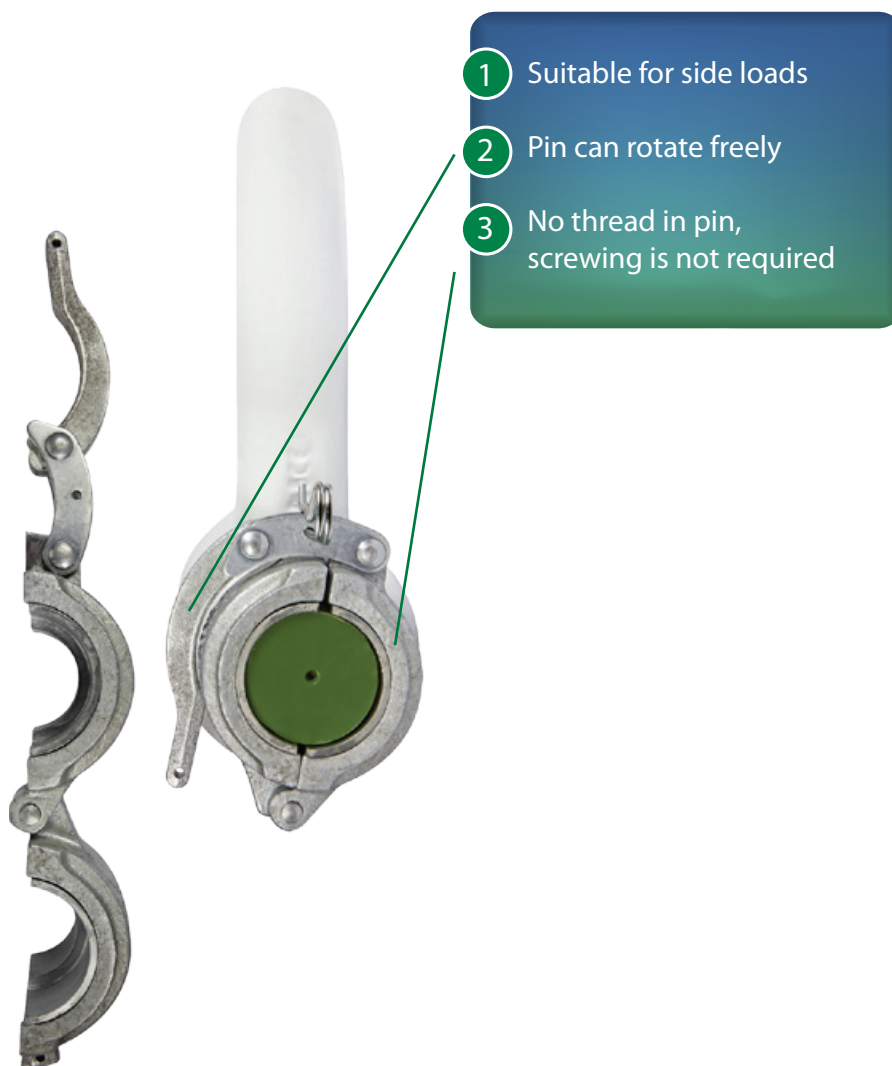
- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 8x WLL for shackles with WLL 17 t and 25 t, MBL equals 6x WLL for shackles with WLL 55 t and 85 t
- **Finish** : body white painted, pin green painted
- **Temperature Range** : -40°C up to +200°C
- **Certificates** : at no extra charges this product can be supplied with a works certificate, material certificate, manufacturer test certificate and/or EC Declaration of Conformity.
- **Note** : it is up to the user to attach the locking clamp with wire ropes etc. and attaching loops or monkey's fists. Van Beest supplies the shackle body, the shackle pin and locking clamp with spring pin.

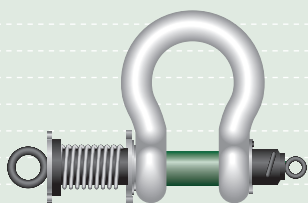


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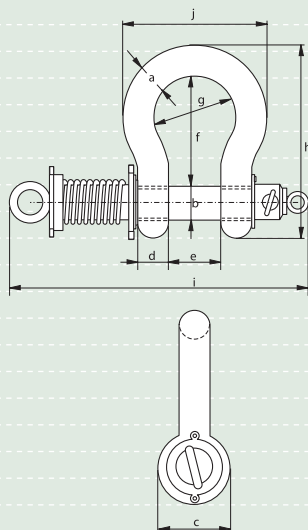


working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	width locking clamp	weight each
t	a	b	c	d	e	f	g	h	i	j	k	kg
17	38	42	88	38	60	146	99	250	217	175	48	8.19
25	45	50	103	45	74	178	126	300	250	216	48	14.22
55	65	70	145	65	105	260	180	433	330	310	48	39.59
85	75	83	162	73	127	329	190	527	380	340	48	62





P-5367

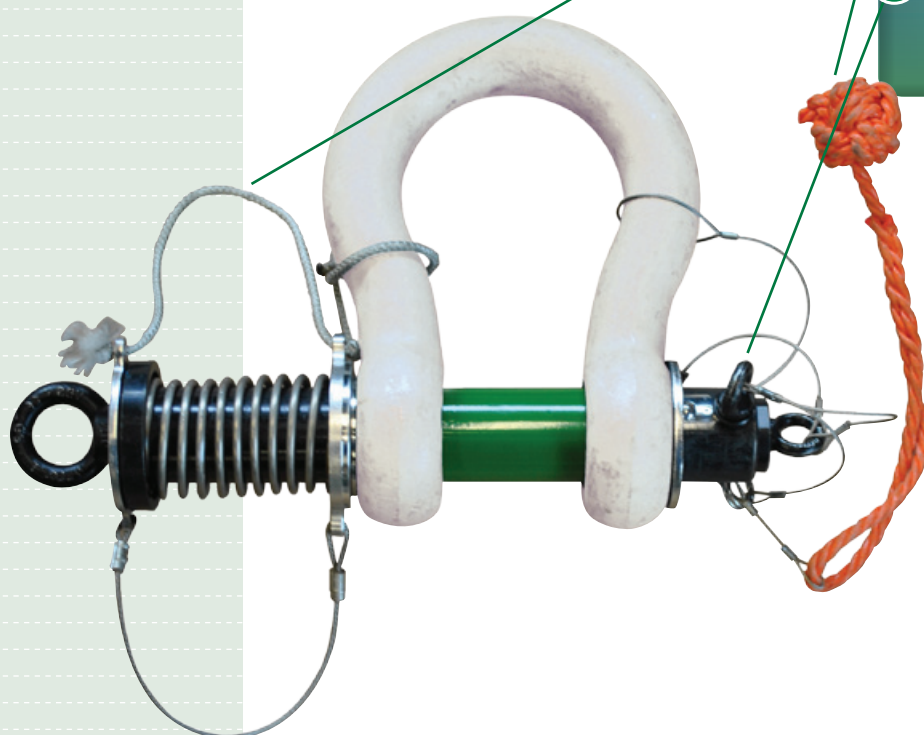


Green Pin® ROV Spring Release Polar Shackles

spring loaded

- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 5x WLL
- **Finish** : body white painted, pin green painted
- **Temperature Range** : -40°C up to +200°C
- **Certificates** : at no extra charges this product can be supplied with a works certificate, material certificate, manufacturer test certificate and/or EC Declaration of Conformity.
- **Note** : for in-line use only
this shackle is assembled with rope slings and monkey's fist
for size starting from WLL 42.5 up to and including 150 t a special mounting tool (tensioner) is required to assemble the shackle

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	weight each
t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	j mm	kg
12	32	35	72	32	51	115	83	201	262	147	6
13.5	35	38	80	35	57	133	92	227	275	162	7
17	38	42	88	38	60	146	99	249	330	175	14
25	45	50	103	45	74	178	126	300	352	216	16
35	50	57	116	50	83	197	138	334	373	238	21
42.5	57	65	130	57	95	222	160	377	442	274	32
55	65	70	145	65	105	260	180	433	470	310	43
85	75	83	162	73	127	329	190	527	579	340	71
120	95	95	208	91	147	399	238	646	674	428	131
150	105	108	238	102	169	410	275	688	699	485	171



- 1 Supplied fully assembled
- 2 Single pull release system
- 3 Double safety possible to prevent accidental load release

Lined area for notes.



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