PSA LIFTING SYSTEMS

PSA

PSA SPHERICAL-HEAD LIFTING CLUTCHES

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PSA LIFTING CLUTCHES

ABOUT PSA SPHERICAL-HEAD LIFTING CLUTCHES

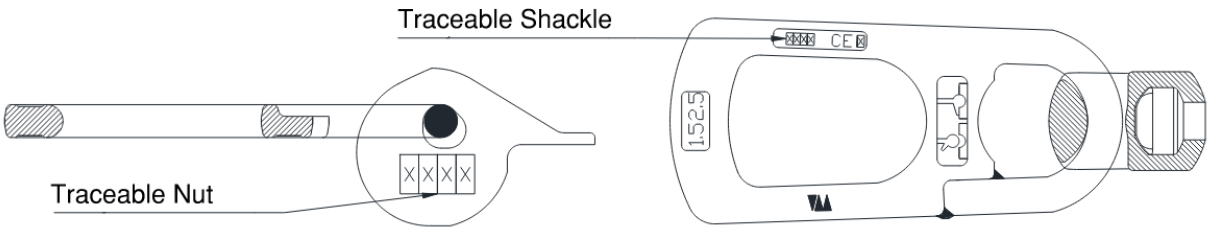
PSA is the exclusive Australian and New Zealand distributor of the universal lifting system from DSI Arteon.
All products feature the DSI Arteon logo

The Spherical-head lifting clutch is designed for lifting precast concrete elements equipped with PSA Foot & Eye Anchors. Its multidirectional head offers exceptional flexibility of use and supports the lifting of any type of element at various lifting angles.
Like all PSA lifting accessories, the Spherical-head clutches are designed to comply with AS3850.1. Extensive test campaigns are conducted both in-house and by third-party laboratories to ensure that each clutch meets our specifications and complies with all current guidelines.



PRODUCT MARKING AND TRACEABILITY

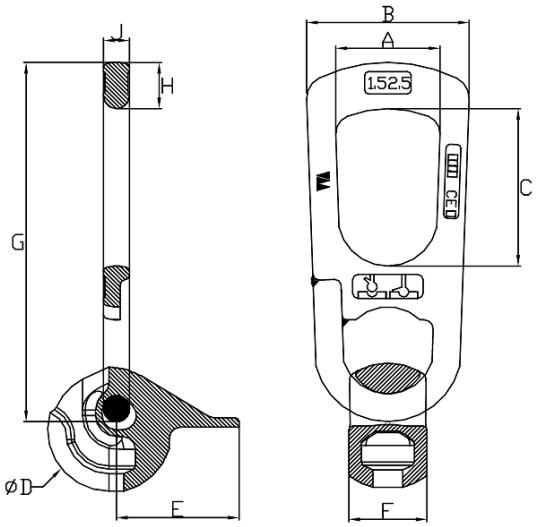
Every Spherical-head clutch is proof-tested according to AS3850.1 before being supplied to the customer, ensuring the highest quality and safety.



The two numbers are combined and tracked in the format XXXX-XXXX for easy identification.

TECHNICAL AND GEOMETRIC SPECIFICATIONS

WLL	1.3t	2.5t	5t	10t	20t	32t
CODE	LC013	LC025	LC05	LC10	LC20	LC32
A (mm)	44	56	68	82	113	175
B (mm)	74	88	118	160	191	269
C (mm)	70	85	88	112	135	189
D (mm)	56	68	88	112	152	195
E (mm)	54	66	83	113	151	214
F (mm)	32	42	57	73	110	153
G (mm)	162	196	237	339	447	584
H (mm)	20	25	37	50	75	100
J (mm)	12	14	16	26	30	45



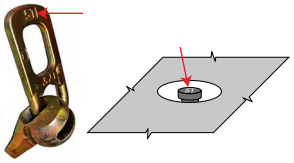
USAGE AND SAFETY CONDITIONS

GENERAL GUIDELINES

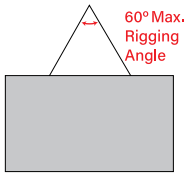
- Never use the lifting system components other than for their intended purpose
- Ensure that all personnel using the system have read and understood the usage instructions given in this document
- Follow all general safety guidelines for lifting and rigging
- Ensure a lifting design/certification has been carried out by a qualified lifting engineer, prior to lifting any element.

OPERATION

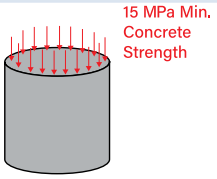
Ensure that the working load limit indicated on the lifting clutch corresponds to the working load limit indicated on the anchor head.



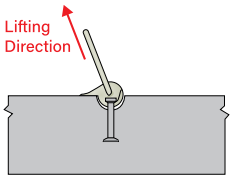
Ensure that the rigging angle does not exceed 60º. A greater angle may be possible but must be approved by lifting engineer.



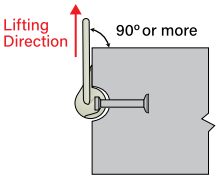
Ensure that the concrete strength is at least equal to the value provided by the lifting engineer. Concrete must in all cases be no less than 15 MPa..



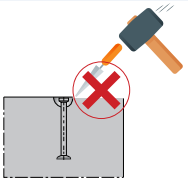
Ensure that the clutch tongue is supported on the concrete and oriented in the same direction as the lifting direction.



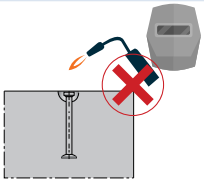
When lifting in shear direction, clutch tongue should be oriented towards lifting direction.



Never damage the concrete around the anchor to enlarge the void.
The clutch must be positioned without use of any other tools such as hammers.



Never weld the anchor or clutch under any circumstances.



DISCARD CRITERIA

PROOF TESTING

According to AS3850.1, each clutch is proof-tested and certified prior to being placed into service. Proof testing is done using a load equal to 2.0 times the WLL.

Regardless of frequency of use, each clutch must undergo proof-testing every 12 months by a skilled individual in a certified and competent facility.

Under certain circumstances, clutches also require testing, such as when they have been subjected to loads exceeding the specified WLL or have visible deformations/cracks.

Any clutch that fails the proof load test or visibly deforms during test should be discarded immediately.

WLL	CODE	Proof Load (kN)
1.3T	LC013	15.3
2.5T	LC025	29.4
5T	LC05	58.8
10T	LC10	117.6
20T	LC20	235.2
32T	LC32	376.3

VISUAL INSPECTION

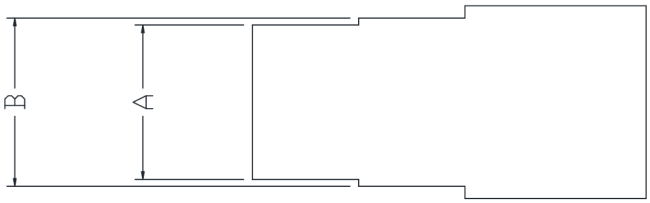
Both in-house and third-party tests have shown that any deformation of the clutch (except for the flattening of the shackle) indicates that a load greater than 2 x WLL has been applied. Clutches with the following must be discarded/replaced immediately :

- Any clutch that has undergone permanent modification (elongation or bending of the shackle), overload, or thermal shock.
- Any clutch that has been welded (regardless of the welding location) or has undergone abnormal local or general overheating (except for the original shackle closing weld).
- Any clutch with an improper shackle/nut joint.
- Any clutch showing signs of breakage
- Any clutch from which the precast concrete element has fallen for any reason.

DIMENSION INSPECTION

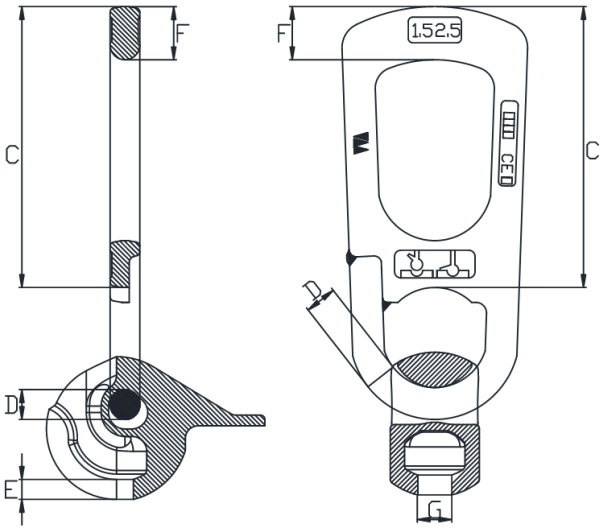
A go/no-go gauge must be used to check the gap between the lips of the nut (Dimension G). Dimension A should pass between the lips of the ring. Dimension B should not pass through. If the latter does, the clutch must be declared non-compliant and discarded.

SWL	CODE	DIMENSION A	DIMENSION B
1.3T	LC013	11 ± 0.02	12 ± 0.02
2.5T	LC025	15.5 ± 0.02	16.5 ± 0.02
5T	LC05	21 ± 0.02	22.5 ± 0.02
10T	LC10	29 ± 0.02	31 ± 0.02
20T	LC20	41 ± 0.02	44 ± 0.02
32T	LC32	52.5 ± 0.02	55.5 ± 0.02



The dimensions mentioned below ensure that the ring has not undergone deformation. Any clutch with dimensions outside the limits given below must be declared non-compliant and discarded.

WLL	1.3t	2.5t	5t	10t	20t	32t
CODE	LC013	LC025	LC05	LC10	LC20	LC32
C max (mm)	113	134	153	224	299	390
D min (mm)	11	13.5	18.5	26.5	37	41
E min (mm)	6.5	8.5	9.5	13.5	21.5	30
F min (mm)	14	17.5	28	36	56	80



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