



## HA QUAD ASSEMBLIES OS Type Approval TAS000013Z Rev. 2

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Certified to: DNV 2.7-1, DNV 2.7-3, BSEN ISO 10855-2, EN1677-4, ASME B30.26 and API-2CCU - Aug. 2017

The HA range of master links and quad assemblies is the most complete range of links available today, in diameters from 16mm up to 120mm and working load limits up to 150 tonnes. The links are manufactured from triple alloy steel in accordance with EN1677, they are individually proof load tested to 2.5 times working load limit in accordance with EN1677 and they are all supplied with charpy impact values of in excess of 42 Joules at -40°C. The links are suitable for use in a temperature range of -40°C up to 200°C without reduction in working load limit.

The HA range of links are widely used in lifting sets for offshore containers and they are type approved to DNV 2.7-1 under approval number TAS000013Z Rev. 2.

MPF = Manufacturing Proof Force = 2.5 x 9.81 x Working Load Limit (kN) (min.)

BF = Break Force = WLL x Factor of Safety

WLL = Working Load Limit (tonne) @ 45° to vertical

Factor of Safety = 5 : 1

Embossing - As per Description column and Batch Number

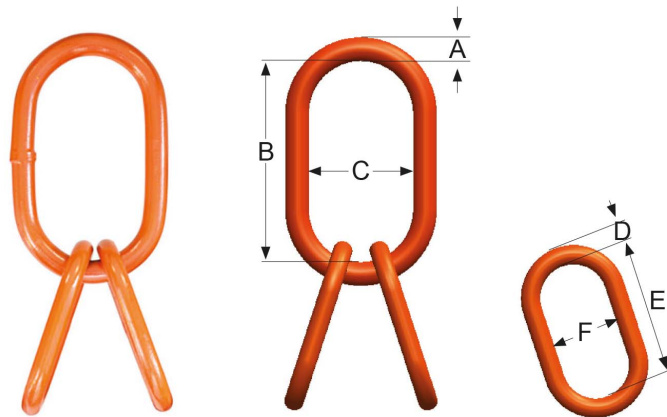
Manufactured in accordance with EN1677-4

Design air temperature -40° min.

Average impact energy (charpy) 42 Joules minimum impact resistance at -40°C up to 50mm diameter

Operational temperature range is -40° C to + 200°C

\*Certified on a batch basis to the requirements of DNV 2.7-1



## SPECIFICATIONS

Part Code	Description	A mm	B mm	C mm	D mm	E mm	F mm	WLL t	MPF kN	MBL kN	Mass Kg
350.160	HA16QA OS	16.0	150	75	14.5	125	60	4.10	101	201	1.30
350.220	HA22QA OS	22.0	162	90	20.0	140	70	8.83	217	433	3.60
350.230	HA23QA OS	22.0	270	140	16.0	150	75	5.80	143	284	3.80
350.250	HA25QA OS	25.5	270	140	20.0	140	70	8.83	217	433	5.30
350.260	HA26QA OS	28.0	270	140	20.0	140	70	14.50	356	711	5.90
350.280	HA28QAS OS	28.0	200	110	22.0	140	70	14.50	356	711	5.50
350.320	HA32QA OS	32.0	270	140	25.0	190	102	17.10	420	838	9.70
350.360	HA36QA OS	36.0	270	140	28.0	190	100	23.00	565	1128	11.90
350.400	HA40QA OS	40.0	280	155	32.0	270	140	28.10	690	1378	18.60
350.450	HA45QA OS	45.0	320	175	36.0	270	140	38.30	939	1878	25.40
350.500	HA50QA OS	50.0	350	195	40.0	260	130	45.00	1104	2207	32.30
350.600	HA60QA OS	60.0	410	220	50.0	350	195	65.00	1594	3188	63.90
350.650	HA65QA OS	65.0	410	220	50.0	350	195	75.00	1840	3679	67.90
350.700	HA70QA OS	70.0	450	250	60.0	410	220	85.00	2085	4169	102.60

350.750	HA75QA OS	75.0	450	250	60.0	410	220	100.00	2453	4905	115.70
350.900	HA90QA*	90.0	510	300	70.0	400	200	150.00	3679	7358	164.10

CAD  
Files

## SPECIFICATIONS - Imperial

Part Code	Description	A (inches)	B (inches)	C (inches)	D (inches)	E (inches)	F (inches)	WLL (lbs.)	MPF (lbs.)	MBL (lbs.)	Mass (lbs.)
350.160	HA16QA OS	5/8"	6"	3"	9/16"	5"	2-3/8"	9,036	22,705	45,186	2.86
350.220	HA22QA OS	7/8"	6-1/2"	3-5/8"	3/4"	5-5/8"	2-3/4"	19,461	48,653	97,307	7.83
350.230	HA23QA OS	7/8"	10-3/4"	5-5/8"	5/8"	6"	3"	12,783	31,958	63,916	8.45
350.250	HA25QA OS	1"	10-3/4"	5-5/8"	3/4"	5-5/8"	2-3/4"	19,461	48,653	97,307	11.66
350.260	HA26QA OS	1-1/8"	10-3/4"	5-5/8"	3/4"	5-5/8"	2-3/4"	31,958	79,895	159,790	12.96
350.280	HA28QAS OS	1-1/8"	8"	4-3/8"	7/8"	5-5/8"	2-3/4"	31,958	79,895	159,790	12.16
350.320	HA32QA OS	1-1/4"	10-3/4"	5-5/8"	1"	7-5/8"	4"	37,688	94,221	188,442	21.27
350.360	HA36QA OS	1-7/16"	10-3/4"	5-5/8"	1-1/8"	7-5/8"	4"	50,692	126,730	235,460	26.18
350.400	HA40QA OS	1-9/16"	11"	6"	1-1/4"	10-3/4"	5-5/8"	61,932	154,831	309,662	40.92
350.450	HA45QA OS	1-3/4"	12-3/4"	7"	1-7/16"	10-3/4"	5-5/8"	84,413	211,033	422,066	55.90
350.500	HA50QA OS	2"	14"	7-3/4"	1-9/16"	10-3/4"	5-5/8"	99,180	247,950	495,900	71.10
350.600	HA60QA OS	2-33/64"	16-1/4"	8-3/4"	2"	14"	7-3/4"	143,260	358,150	716,300	140.60
350.650	HA65QA OS	2-9/16"	16-9/16"	8-21/32"	2"	14"	7-3/4"	165,340	413,684	826,847	149.70
350.700	HA70QA OS	2-3/4"	18"	10"	2-3/8"	16-1/4"	8-3/4"	187,340	468,350	936,700	225.70
350.750	HA75QA OS	2-61/64"	18"	10"	2-3/8"	16-1/4"	8-3/4"	220,460	551,456	1,102,683	255.00
350.900	HA90QA*	3-5/8"	21"	12-1/2"	2-3/4"	15-3/4"	7-7/8"	330,600	661,611	1,654,590	360.00