Bullivants

RIGCHECK CARD

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BULLIVANTS ELECTRONIC ASSET MANAGEMENT
BEAM

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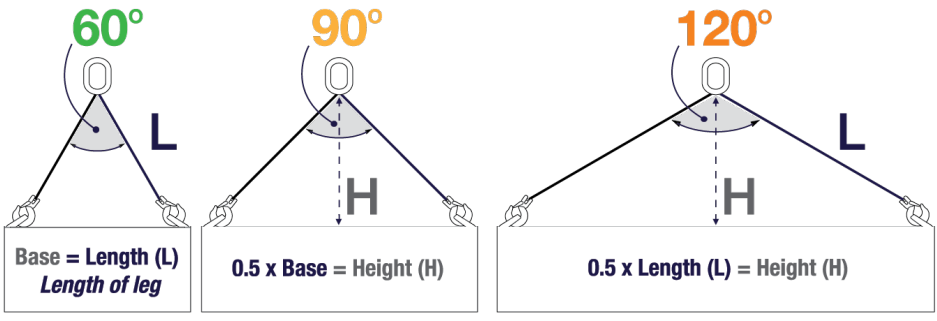
Item Code: 44203002
BV-QMS-TD-03A
All information provided is correct at the time of printing and is subject to change without notice.

STEPS TO PERFORMING A SAFE LIFT

1. Know the **WEIGHT** of the load, if not, ask your supervisor
2. Know the **APPLICATION** requirements (single or multi leg, basket or choke hitch)
3. Ensure the **CORRECT** gear is selected for the lift
4. **INSPECT** all gear before use
5. **FLOAT** the load and check for **BALANCE**
6. **LIFT** the load slowly and controlled
7. Establish a **LANDING PAD** with packers to prevent crush of the lifting gear
8. Always **RE-INSPECT** the gear
9. **STORE** gear off the ground in a clean dry area

LIFTING LIMITATIONS – HOW TO CALCULATE A SAFE ANGLE FOR LIFTING



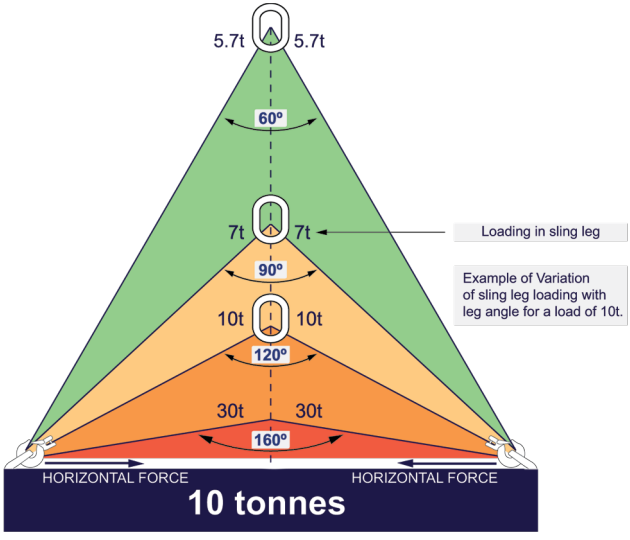
PREFERRED | **MAXIMUM RECOMMENDED** | **PERMITTED BUT NOT RECOMMENDED**

Maximum limit under Australian Standards

WHY DO ANGLES AFFECT LOADS?

All multi-leg slings exert a horizontal component of force, which increases as the included angle becomes greater.

No sling should be used if the included angle exceeds 120°, as beyond this point the forces in the legs drastically increase, as indicated in the diagram.



NOTE: Do not use multi-leg slings at angles of greater than 120°

STAINLESS STEEL CHAIN SLINGS – SINGLE & MULTI-LEG ASSEMBLIES - EN10204 3.1

GRADE 60*								
CHAIN SIZE MM	STRAIGHT SLING OR ADJUSTABLE SLING WITH NO DERATION	REEVED SLING	BASKET SLING MAX 60°	STRAIGHT SLING (NOTE 2)			REEVED SLING (NOTES 2 & 3)	ENDLESS CHAIN SLING
				60°	90°	120°	Max Angle 60°	Max Angle 60°
								
WORKING LOAD LIMITS (TONNES)								
Load Factor >	1.0	0.75	1.3	1.73	1.41	1.0	1.3	1.5
WOX 4–6	0.4	0.32	0.52	0.69	0.56	0.4	0.52	0.6
WOX 5–6	0.63	0.5	0.81	1.09	0.85	0.63	0.81	0.94
WOX 6–6	0.9	0.72	1.17	1.55	1.25	0.9	1.17	1.35
WOX 7–6	1.25	1.0	1.62	2.16	1.75	1.25	1.62	1.87
WOX 8–6	1.6	1.28	2.08	2.76	2.2	1.6	2.08	2.4
WOX 10–6	2.5	2.0	3.25	4.32	3.5	2.5	3.25	3.75
WOX 13–6	4.25	3.4	5.52	7.35	5.95	4.25	5.52	6.37
WOX 16–6	6.3	5.04	8.19	10.9	8.8	6.3	8.19	9.45
WOX 20–5	8.0	6.4	10.4	13.84	11.2	8.0	10.4	12.0
WOX 26–4 +	12.0	9.6	-	-	-	-	-	18.0

GRADE 60*

Notes:

1. Some shortening devices, such as grab hooks may derate the WLL. Advice regarding the appropriate deration should be sought from the manufacturer.
2. The determination of the angle of the multi-leg sling is the largest included angle at the apex of the configuration.
3. Reeved slings and basket slings, in a two leg configuration have a maximum angle for use of 60°.

Temperature °C = deration	-40° to + 350° = none	350° to 700° = only permitted in certain conditions, please contact our technical team for advice.

*PEWAG Grade 60 slings are designed, manufactured, and tested in accordance with EN10204 3.1

ALLOY CHAIN SLINGS – SINGLE & MULTI-LEG ASSEMBLIES – AS3775

GRADE T(80)

CHAIN SIZE MM	STRAIGHT SLING OR ADJUSTABLE SLING WITH NO DERATION	ADJUSTABLE SLING WITH DERATION (NOTE 1)	REEVED SLING	BASKET SLING MAX 60°	STRAIGHT SLING (NOTE 2)			REEVED SLING (NOTES 2 & 3)	BASKET SLING (NOTES 2 & 3)
					60°	90°	120°	Max Angle 60°	Max Angle 60°
									
GRADE T(80)	WORKING LOAD LIMITS (TONNES)								
6	1.1	0.8	0.8	1.5	1.9	1.6	1.1	1.5	2.5
7	1.5	1.1	1.1	2.0	2.6	2.1	1.5	2.0	3.4
8	2.0	1.5	1.5	2.6	3.5	2.8	2.0	2.6	4.5
10	3.2	2.4	2.4	4.1	5.5	4.5	3.2	4.1	7.2
13	5.3	4.0	4.0	6.9	9.2	7.5	5.3	6.9	11.9
16	8.0	6.0	6.0	10.4	13.8	11.3	8.0	10.4	18.0
19	11.2	8.4	8.4	14.6	19.4	15.8	11.2	14.6	25.2
20	12.5	9.4	9.4	16.3	21.6	17.6	12.5	16.3	28.1
22	15.0	11.3	11.3	19.5	26.0	21.2	15.0	19.5	33.8
26	21.2	15.9	15.9	27.6	36.7	29.9	21.2	27.6	47.7
32	31.5	23.6	23.6	41.0	54.5	44.4	31.5	41.0	70.9

Notes:

1. Some shortening devices, such as grab hooks may derate the WLL. Advice regarding the appropriate deration should be sought from the manufacturer.
2. The determination of the angle of the multi-leg sling is the largest included angle at the apex of the configuration.
3. Reeved slings and basket slings, in a two leg configuration have a maximum angle for use of 60°.

Temperature °C = deration	-40° to + 200° = none	+ 200° to 300° = 10%	+ 300° to + 400° = 25%

ALLOY CHAIN SLINGS – SINGLE & MULTI-LEG ASSEMBLIES – AS3775

GRADE V(100)										
CHAIN SIZE MM	STRAIGHT SLING OR ADJUSTABLE SLING WITH NO DERATION	ADJUSTABLE SLING WITH DERATION (NOTE 1)	REEVED SLING	BASKET SLING MAX 60°	STRAIGHT SLING (NOTE 2)			REEVED SLING (NOTES 2 & 3)	BASKET SLING (NOTES 2 & 3)
					60°	90°	120°	Max Angle 60°	Max Angle 60°
									
GRADE V(100)	WORKING LOAD LIMITS (TONNES)								
5	1.0	0.8	0.8	1.3	1.7	1.4	1.0	1.3	2.3
6	1.4	1.1	1.1	1.8	2.4	2.0	1.4	1.8	3.2
7	1.9	1.4	1.4	2.5	3.3	2.7	1.9	2.5	4.3
8	2.5	1.9	1.9	3.3	4.3	3.5	2.5	3.3	5.6
10	4.0	3.0	3.0	5.2	6.9	5.6	4.0	5.2	9.0
13	6.7	5.0	5.0	8.7	11.6	9.4	6.7	8.7	15.1
16	10.0	7.5	7.5	13.0	17.3	14.1	10.0	13.0	22.5
18	12.5	9.4	9.4	16.3	21.6	17.6	12.5	16.3	28.1
19	14.0	10.5	10.5	18.2	24.2	19.7	14.0	18.2	31.5
20	16.0	12.0	12.0	20.8	27.7	22.6	16.0	20.8	36.0
22	19.0	14.3	14.3	24.7	32.9	26.8	19.0	24.7	42.8
23	21.0	15.8	15.8	27.3	36.3	29.6	21.0	27.3	47.3
26	26.5	19.9	19.9	34.5	45.8	37.4	26.5	34.5	59.6
28	31.5	23.6	23.6	41.0	54.5	44.4	31.5	41.0	70.9
32	40.0	30.0	30.0	52.0	69.2	56.4	40.0	52.0	90.0

Notes:

1. Some shortening devices, such as grab hooks may derate the WLL. Advice regarding the appropriate deration should be sought from the manufacturer.
2. The determination of the angle of the multi-leg sling is the largest included angle at the apex of the configuration.
3. Reeved slings and basket slings, in a two leg configuration have a maximum angle for use of 60°.

Bullivants Grade 100 alloy chain cannot be used in applications or environments exceeding a temperature of 200°C.

GRADE 120* CHAIN SLINGS – SINGLE & MULTI-LEG ASSEMBLIES – AS3775

GRADE 120									
CHAIN SIZE MM	STRAIGHT SLING OR ADJUSTABLE SLING WITH NO DERATION	REEVED SLING	BASKET SLING MAX 60°	STRAIGHT SLING (NOTE 2)			REEVED SLING (NOTES 2 & 3)	BASKET SLIING (NOTES 2 &3)	
				60°	90°	120°	Max Angle 60°	Max Angle 60°	
									
GRADE 120	WORKING LOAD LIMITS (TONNES)								
Load Factor >	1.0	0.75	1.3	1.73	1.41	1.0	1.3	2.25	
4	0.8	0.6	1.0	1.4	1.1	0.8	1.0	1.8	
6	1.8	1.4	2.3	3.1	2.5	1.8	2.3	4.1	
8	3.0	2.3	3.9	5.2	4.2	3.0	3.9	6.8	
10	5.0	3.8	6.5	8.7	7.1	5.0	6.5	11.3	
13	8.0	6.0	10.4	13.8	11.3	8.0	10.4	18.0	
16	12.5	9.4	16.3	21.6	17.6	12.5	16.3	28.1	

Notes:

1. Some shortening devices, such as grab hooks may derate the WLL. Advice regarding the appropriate deration should be sought from the manufacturer.
2. The determination of the angle of the multi-leg sling is the largest included angle at the apex of the configuration.
3. Reeved slings and basket slings, in a two leg configuration have a maximum angle for use of 60°.

Temperature °C = deration	-40° to +200° = none	+200° to +300° = 90%	+300° to +380° = 60%

***RUD ICE120 Slings are designed, manufactured and tested in accordance with general requirements of DIN EN 818, DIN EN 1677, AS3775.1, AS2321 & AS3776.**

HMPE AmSteel®-Blue SLINGS IN ACCORDANCE WITH AS18264/FRS0412

Supplied with Thimble ends or soft loops (with or without protective sleeves)

AmSteel®-Blue													
METHOD OF LOADING SLING		DIRECT LOADED	CHOKE HITCH		BASKET HITCH				DIRECT LOADED			GROMMETS	
		Single	Single Round Loaded	Single Square Loaded	Single Round Loaded				Multileg			Single	*Double
Included Angle					0°	60°	90°	120°	0° to 60°	90°	120°		
Nom. Dia. (mm)	MBF (kN)												
WORKING LOAD LIMITS (TONNES)													
12	136.0	2.77	2.08	1.39	5.55	4.80	3.91	2.77	4.80	3.91	2.77	4.43	7.76
16	211.8	4.32	3.24	2.16	8.64	7.47	6.09	4.32	7.47	6.09	4.32	6.91	11.95
18	258.0	5.26	3.94	2.63	10.52	9.10	7.42	5.26	9.10	7.42	5.26	8.41	14.54
22	364.0	7.42	5.57	3.71	14.84	12.84	10.46	7.42	12.84	10.46	7.42	11.87	20.53
24	436.5	8.90	6.67	4.45	17.80	15.40	12.55	8.90	15.40	12.55	8.90	14.24	24.63
28	592.5	12.08	9.06	6.04	24.16	20.90	17.03	12.08	20.90	17.03	12.08	19.32	33.42
30	661.1	13.48	10.11	6.74	26.96	23.32	19.01	13.48	23.32	19.01	13.48	21.56	37.30
32	736.7	15.02	11.27	7.51	30.04	25.98	21.18	15.02	25.98	21.18	15.02	24.00	41.52
36	913.3	18.62	13.97	9.31	37.24	32.21	26.25	18.62	32.21	26.25	18.62	29.80	51.55
42	1343.9	27.40	20.55	13.70	54.80	47.40	38.63	27.40	47.40	38.63	27.40	43.84	75.85
56	2148.0	43.79	32.84	21.90	87.58	75.76	61.75	43.79	75.76	61.75	43.79	70.00	121.10
64	2648.7	54.00	40.50	27.00	108.00	93.42	76.14	54.00	93.42	76.14	54.00	86.40	149.47
80	4031.9	82.20	61.65	41.10	164.40	142.21	115.90	82.20	142.21	115.90	82.20	131.52	227.52
88	5846.7	119.20	89.40	59.60	238.40	206.21	168.07	119.20	206.21	168.07	119.20	190.72	329.94

AmSteel®-Blue

NOTE: Interfacing components shall not be less than 1.5 times the rope diameter otherwise a 25% deration applies to the WLL as stated within this chart.
Bending Ratios for grommets shall not be less than 4 times the rope diameter.

*Double Grommets used with a Ramshorn Hook only.

WIRE ROPE SLINGS – SINGLE, TWO, THREE & FOUR LEG WITH FERRULE

Secured eyes, using galvanised or black wire rope in accordance with AS1666.1

1570 GRADE FIBRE CORE

METHOD OF LOADING SLING		DIRECT LOADED	CHOKE HITCH		BASKET HITCH				DIRECT LOADED			CHOKE HITCH ROUND LOAD	
			Round Loaded	Rectangle Loaded	Round Load							Single Wrap	Double Wrap
Included Angle		-	-	-	0°	60°	90°	120°	0° to 60°	90°	120°	0° to 45°	0° to 60°
Nom. Dia. (mm)	MBF (kN)												

WORKING LOAD LIMITS (TONNES)

1570 GRADE FIBRE CORE

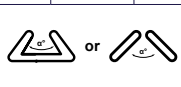
8	28.2	0.55	0.41	0.27	1.11	0.96	0.78	0.55	0.96	0.78	0.55	0.72
9	35.6	0.70	0.52	0.35	1.40	1.21	0.99	0.70	1.21	0.99	0.70	0.91
10	44.0	0.86	0.65	0.43	1.73	1.50	1.22	0.86	1.50	1.22	0.86	1.13
11	53.2	1.05	0.78	0.52	2.10	1.81	1.48	1.05	1.81	1.48	1.05	1.36
12	63.3	1.23	0.92	0.61	2.47	2.14	1.74	1.23	2.14	1.74	1.23	1.61
13	74.3	1.47	1.10	0.73	2.94	2.54	2.07	1.47	2.54	2.07	1.47	1.91
14	86.2	1.70	1.27	0.85	3.40	2.94	2.40	1.70	2.94	2.40	1.70	2.21
16	113	2.22	1.67	1.11	4.45	3.85	3.14	2.22	3.85	3.14	2.22	2.89
18	143	2.80	2.10	1.40	5.61	4.85	3.95	2.80	4.85	3.95	2.80	3.65
20	176	3.48	2.61	1.74	6.97	6.03	4.91	3.48	6.03	4.91	3.48	4.53
22	213	4.20	3.15	2.10	8.40	7.27	5.92	4.20	7.27	5.92	4.20	5.46
24	253	5.01	3.76	2.50	10.03	8.67	7.07	5.01	8.67	7.07	5.01	6.52
26	297	5.88	4.41	2.94	11.77	10.18	8.30	5.88	10.18	8.30	5.88	7.65
28	345	6.81	5.11	3.40	13.63	11.79	9.61	6.81	11.79	9.61	6.81	8.86
32	450	8.90	6.68	4.45	17.81	15.41	12.56	8.90	15.41	12.56	8.90	11.58

1770 GRADE WIRE ROPE CORE

METHOD OF LOADING SLING		DIRECT LOADED	CHOKE HITCH		BASKET HITCH				DIRECT LOADED			CHOKE HITCH ROUND LOAD	
			Round Loaded	Rectangle Loaded	Round Load							Single Wrap	Double Wrap
Included Angle		-	-	-	0°	60°	90°	120°	0° to 60°	90°	120°	0° to 45°	0° to 60°
Nom. Dia. (mm)	MBF (kN)												
WORKING LOAD LIMITS (TONNES)													
8	40.2	0.78	0.58	0.39	1.56	1.35	1.10	0.78	1.35	1.10	0.78	1.01	
9	51.1	0.99	0.74	0.49	1.98	1.71	1.40	0.99	1.71	1.40	0.99	1.29	
10	63.1	1.22	0.92	0.61	2.40	2.10	1.72	1.22	2.10	1.72	1.22	1.59	
11	76.3	1.48	1.11	0.74	3.00	2.60	2.10	1.48	2.60	2.10	1.48	1.92	
12	90.8	1.76	1.32	0.88	3.50	3.00	2.50	1.76	3.00	2.50	1.76	2.30	
13	107	2.10	1.55	1.04	4.10	3.60	2.90	2.10	3.60	2.90	2.10	2.70	
14	124	2.40	1.80	1.20	4.80	4.20	3.40	2.40	4.20	3.40	2.40	3.10	
16	161	3.10	2.30	1.56	6.20	5.40	4.40	3.10	5.40	4.40	3.10	4.10	
18	204	4.00	3.00	1.98	7.90	6.80	5.60	4.00	6.80	5.60	4.00	5.10	
20	252	4.90	3.70	2.40	9.80	8.40	6.90	4.90	8.40	6.90	4.90	6.30	
22	305	5.90	4.40	3.00	11.80	10.20	8.30	5.90	10.20	8.30	5.90	7.70	
24	363	7.00	5.30	3.50	14.10	12.20	9.90	7.00	12.20	9.90	7.00	9.10	
26	426	8.30	6.20	4.10	16.50	14.30	11.60	8.30	14.30	11.60	8.30	10.70	
28	494	9.60	7.20	4.80	19.10	16.60	13.50	9.60	16.60	13.50	9.60	12.40	
32	646	12.50	9.40	6.30	25.00	22.00	17.60	12.50	22.00	17.60	12.50	16.30	
36	817	15.80	11.90	7.90	32.00	27.00	22.00	15.80	27.00	22.00	15.80	21.00	
40	1010	19.60	14.70	9.80	39.00	34.00	28.00	19.60	34.00	28.00	19.60	25.00	
44	1220	24.00	17.70	11.80	47.00	41.00	33.00	24.00	41.00	33.00	24.00	31.00	
48	1450	28.00	21.00	14.00	56.00	49.00	40.00	28.00	49.00	40.00	28.00	37.00	
52	1710	33.00	25.00	16.60	66.00	57.00	47.00	33.00	57.00	47.00	33.00	43.00	
56	1980	38.00	29.00	19.20	77.00	66.00	54.00	38.00	66.00	54.00	38.00	50.00	
60	2270	44.00	33.00	22.00	88.00	76.00	62.00	44.00	76.00	62.00	44.00	57.00	

1770 GRADE WIRE ROPE CORE

SYNTHETIC SLINGS – FLAT WEBBING SLING – AS1353, ROUNDSLINGS – AS4497

MATERIAL COLOUR	MARKED WLL	STRAIGHT LIFT	CHOKED STRAIGHT LIFT	PARALLEL BASKET	BASKET HITCH OR 2, 3 AND 4 LEG SLINGS			CHOKE HITCH OR 2, 3 AND 4 LEG SLINGS	
					α= 60°	α= 90°	α= 120°	Single Wrap α= max 45°	Double Wrap α= max 60°
									
WORKING LOAD LIMITS (TONNES)									
Violet	1	1	0.8	2	1.7	1.4	1	1.38	
Green	2	2	1.6	4	3.4	2.8	2	2.76	
Yellow	3	3	2.4	6	5.1	4.2	3	4.14	
Grey	4	4	3.2	8	6.9	5.6	4	5.52	
Red	5	5	4.0	10	8.6	7.0	5	6.9	
Brown	6	6	4.8	12	10.3	8.4	6	8.28	
Blue	8	8	6.4	16	13.8	11.2	8	11.04	
Orange	10	10	8.0	20	17.3	14.1	10	13.8	

WLL's above 10 tonne – contact Bullivants for support or refer to AS4497 or AS1353.

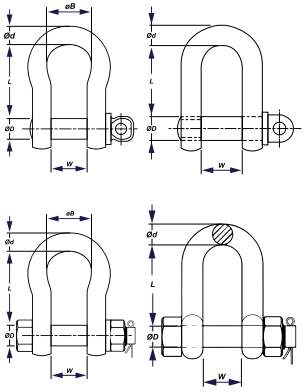
The colour of the working load limit tag shall identify the type of fibre used for round and flat type synthetic slings as follows:

- Nylon – Green
- Polypropylene – Brown
- Polyester – Blue
- Aramid Polymide – Yellow

SHACKLES – AS2741

Grade S Alloy Bow & Dee Type Shackles (Screw pin & safety pin available)

WLL (TONNES)	SIZE d (MM)	D (MM)	W (MM)	B (MM)	BOW TYPE L (MM)	DEE TYPE L (MM)
0.33	5	6	10	15	22	N/A
0.50	6	8	12	20	29	22
0.75	8	10	13	21	31	26
1.0	10	11	18	26	37	32
1.5	11	13	18	29	43	37
2.0	13	16	21	33	48	41
3.2	16	19	27	43	61	51
4.7	19	22	32	51	72	60
6.5	22	25	37	58	84	71
8.5	25	29	43	68	95	81
9.5	29	32	46	74	108	90
12.0	32	35	52	83	119	100
13.5	35	38	57	92	133	113
17.0	38	41	60	98	146	124
25.0	44	51	73	127	178	146
35.0	51	57	83	146	197	171
45.0	57	63	95	160	222	181
55.0	63	70	105	184	267	203
85.0	76	83	127	200	330	229
120.0	89	95	146	241	381	267
150.00	102	108	165	279	432	318



Sizes up to 1500t available upon request

COLLARED EYEBOLTS & EYENUTS – GRADE 4 – AS2317

NOMINAL THREAD SIZE	SINGLE EYEBOLT OR EYENUT		PAIR OF EYEBOLTS OR EYENUTS			
	Transverse t (F2)	Axial t (F1)	Transverse t	Maximum Included Angle 30° t	Maximum Included Angle 60° t	Maximum Included Angle 90° t
						
	WORKING LOAD LIMITS (TONNES)					
M10	0.06	0.25	0.12	0.31	0.20	0.12
M12	0.10	0.40	0.20	0.50	0.32	0.20
M16	0.20	0.80	0.40	1.00	0.64	0.40
M20	0.40	1.6	0.80	2.0	1.28	0.80
M22	0.50	2.0	1.00	2.5	1.60	1.00
M24	0.62	2.5	1.25	3.1	2.0	1.25
M30	1.00	4.0	2.0	5.0	3.2	2.0
M33	1.25	5.0	2.5	6.3	4.0	2.5
M36	1.57	6.3	3.1	7.9	5.0	3.1
M39	1.75	7.0	3.5	8.8	5.6	3.5
M42	2.0	8.0	4.0	10.0	6.4	4.0
M48	2.5	10.0	5.0	12.6	8.0	5.0
M56	3.7	15.0	7.5	18.9	12.0	7.5
M64	5.0	20.0	10.0	25.0	16.0	10.0
M72	6.2	25.0	12.5	31.0	20.0	12.5
M76	7.5	30.0	15.0	37.0	24.0	15.0