

# MANTA RAY®

## HOLDING CAPACITY CHART

SOIL TYPE	COMMON SOIL TYPE DESCRIPTION	MR-3	MR-2	MR-1	MR-SR
	<b>ULTIMATE STRENGTH (KN)</b>	71	71	160	160
1/2	Dense fine compacted sand: Very hard silts and clays	71 ▲ ★ ▲	93 - 125 ▲ ▲	160 ● ▲ ★	N/A ●
2/3	Dense Clay, sands and gravel: Hard silts and clays	53 - 71 ▲	67 - 98 ▲ ▲	107 - 160 ▲ ▲	142 - 160 ▲ ▲
3/4	Medium dense sandy gravel: Very stiff to hard silts and clay	40 - 62 ▲	53 - 80 ▲	80 - 89 ▲	107 - 151 ▲ ▲
5/6	Medium dense coarse sand and sandy gravel: Stiff to very still silts and clays	31 - 40 ▲	40 - 53 ▲	67 - 89 ▲	80 - 107 ▲
6/7	Loose to medium Fense fine to coarse sand: Firm to stiff clay and silts	22 - 36 ▲	31 - 44 ▲	44 - 67 ▲	62 - 80 ▲
7/8	Loose fine sand: Alluvium Soft- firm clays: Varied clays, fill, fine saturated silty sand	13 - 22 ▲ ■	22 - 36 ▲ ■	36 - 53 ▲ ■	40 - 62 ▲ ■

Use this chart for estimation only. True capacity must be tested with anchor load locker.

### KN CAPACITY CHART BASED ON STANDARD 7FT (2.1 M) UTILITY ANCHOR ROD DEPTH IN SOIL

- Drilled hole required to install.
- ▲ Installation may be difficult. Pilot holes may be required.
- ★ Holding capacity limited by structural rating of anchors.
- ▲ Holding capacity limited by soil failure.
- Not recommended in these soils.
- Wide Variation in soil properties reduces prediction accuracy. Pre-construction field.