

Triga Z - Heavy Duty Structural Anchors

The Heavy Duty Anchor Range

Triga Z is a heavy duty, torque controlled structural anchor with patented "pull-down" action.



Approvals

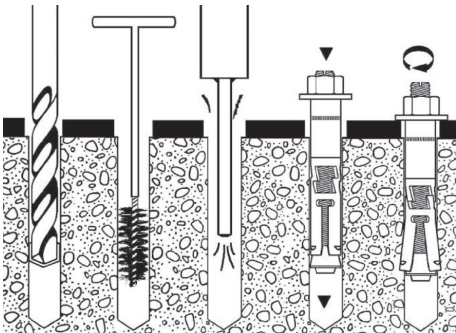


Specification

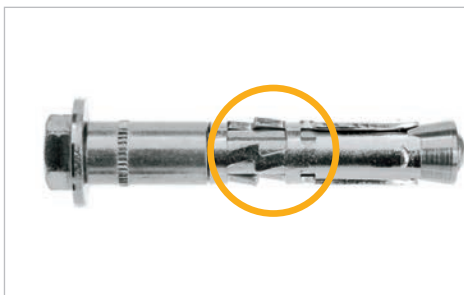
- Triga Z anchor is ideally suited where security and reliability are paramount.

Substrates

- Concrete (cracked and non-cracked) • Hard natural stone



Triga Z Collapse System



During collapse, the Z shapes shears, which enables the upper part of the anchor to move down (bolt, washer and tube)



Product Advantages

- Heavy duty torque controlled anchors for use in concrete over 20MPa
- Through fixing – no marking out and repositioning
- Fully assembled
- Variety of head styles
- Metal "collapse system" sleeve. Patented Z shaped anti-rotation and Z shape shearing
- Thick wall steel spacer – increased resistance of shear forces
- High pull-out and pull-down force values
- High performance for fixture clamping
- High shear and tensile capacity, Grade 8.8 steel bolt and threaded rod
- Suitable for cracked or non-cracked concrete (ETA)

Applications

- Structural steel columns
- Steel beams
- Holding down machinery
- Steel bollards
- Industrial doors
- Fixing of pre-cast units

Installation

1. Drill the correct diameter hole and depth.
2. Remove debris from hole by blowing out with compressed air or hand held blow out pump.
3. Install the anchor in the hole with a hammer until washer seats on fixture.
4. Tighten bolt with a torque wrench to recommended assembly torque.

Triga Z - Zinc Plated - Recommended Working Loads in 40N/mm² non-cracked Concrete

Thread Ø	Embedment Depth (mm)	Torque (Nm)	Stud Head		Bolt Head	
			Shear Load (kN)*	Tensile Load (kN)*	Shear Load (kN)*	Tensile Load (kN)*
M6	50	15	4.8	7.5	7.8	7.5
M8	60	25	6.3	8.4	10.9	8.4
M10	70	50	10.3	12.4	16.4	12.4
M12	80	80	15.8	15.2	24.2	15.2
M16	100	120	31.0	21.3	39.1	21.3
M20	125	200	36.6	29.7	57.8	29.7

* Safety factor for all loads = 3

* This table does not consider edge distance and anchor spacing effects. Please refer to Ramset Design Guide for more information.

Triga Z Bolt Head - Zinc Plated



Part No.	Description	Thread Ø	Max Fixture Thickness (mm)*	Fixture Hole Ø (mm)	Overall Anchor Length (mm)	Drilled Hole Ø (mm)	Min Hole Depth (mm)*	Order Qty
050673	V6-10/5	M6	5	12	65	10	70	100
050674	V6-10/20	M6	20	12	80	10	70	100
050677	V8-12/1	M8	1	14	65	12	80	100
050678	V8-12/10	M8	10	14	80	12	80	50
050679	V8-12/20	M8	20	14	90	12	80	50
053001	V8-12/50	M8	50	14	120	12	80	50
050687	V10-15/1	M10	1	17	75	15	90	25
050688	V10-15/10	M10	10	17	95	15	90	25
050689	V10-15/20	M10	20	17	105	15	90	25
053003	V10-15/55	M10	55	17	140	15	90	25
050696	V12-18/10	M12	10	20	105	18	105	25
050697	V12-18/25	M12	25	20	120	18	105	25
053004	V12-18/55	M12	55	20	150	18	105	25
050704	V16-24/10	M16	10	26	130	24	131	10
050705	V16-24/25	M16	25	26	145	24	131	10
050710	V16-24/50	M16	50	26	170	24	131	10
050711	V20-28/25	M20	25	31	170	28	157	5

* Data based on minimum anchor depth

Triga Z Stud Head - Zinc Plated



Part No.	Description	Thread Ø	Max Fixture Thickness (mm)*	Fixture Hole Ø (mm)	Overall Anchor Length (mm)	Drilled Hole Ø (mm)	Min Hole Depth (mm)*	Order Qty
050675	E6-10/50	M6	50	12	117	10	70	100
050681	E8-12/20	M8	20	14	99	12	80	50
050683	E8-12/35	M8	35	14	114	12	80	50
050684	E8-12/55	M8	55	14	134	12	80	50
050685	E8-12/95	M8	95	14	174	12	80	25
050691	E10-15/20	M10	20	17	114	15	90	25
050692	E10-15/35	M10	35	17	129	15	90	25
050693	E10-15/55	M10	55	17	149	15	90	25
050694	E10-15/100	M10	100	17	194	15	90	25
053698	E12-18/25	M12	25	20	132	18	105	25
050699	E12-18/45	M12	45	20	152	18	105	20
050701	E12-18/65	M12	65	20	172	18	105	10
053702	E12-18/100	M12	100	20	207	18	105	10
050706	E16-24/25	M16	25	26	159	24	131	10
050707	E16-24/55	M16	55	26	189	24	131	5
050708	E16-24/100	M16	100	26	234	24	131	5
050712	E20-28/25	M20	25	31	192	28	157	5
050713	E20-28/60	M20	60	31	227	28	157	5
050714	E20-28/100	M20	100	31	267	28	157	5

* Data based on minimum anchor depth

Triga Z Countersunk Head - Zinc Plated



Part No.	Description	Thread Ø	Max Fixture Thickness (mm)*	Fixture Hole Ø (mm)	Overall Anchor Length (mm)	Drilled Hole Ø (mm)	Min Hole Depth (mm)*	Order Qty
050686	8-12/16 TF	M8	16	14	85	12	80	50
053002	8-12/26 TF	M8	26	14	95	12	80	50
050695	10-15/27 TF	M10	27	17	105	15	90	25
050715	12-18/40 TF	M12	40	20	120	18	105	10

* Data based on minimum anchor depth

Triga Z - Stainless Steel A4 - Recommended Working Loads in 40N/mm² non-cracked Concrete

Thread Ø	Embedment Depth (mm)	Torque (Nm)	Stud Head		Bolt Head	
			Shear Load (kN)*	Tensile Load (kN)*	Shear Load (kN)*	Tensile Load (kN)*
M6	50	10	4.2	7.5	7.2	7.5
M8	60	25	5.5	9.9	10.5	9.9
M10	70	50	9.1	12.5	16.4	12.5
M12	80	80	13.8	15.2	20.0	15.2
M16	95	120	27.1	19.6	39.1	19.6

* Safety factor for all loads = 3

* This table does not consider edge distance and anchor spacing effects. Please refer to Ramset Design Guide for more information.

Triga Z Bolt Head - Stainless Steel A4


Part No.	Description	Thread Ø	Max Fixture Thickness (mm)*	Fixture Hole Ø (mm)	Overall Anchor Length (mm)	Drilled Hole Ø (mm)	Min Hole Depth (mm)*	Order Qty
050694	V6-10/10 A4	M6	10	12	65	10	70	100
050595	V8-12/10 A4	M8	10	14	80	12	80	25
050596	V8-12/30 A4	M8	30	14	100	12	80	25
050601	V10-15/25 A4	M10	25	17	115	15	90	25
050605	V12-18/25 A4	M12	25	20	120	18	105	25

* Data based on minimum anchor depth

Triga Z Stud Head - Stainless Steel A4


Part No.	Description	Thread Ø	Max Fixture Thickness (mm)*	Fixture Hole Ø (mm)	Overall Anchor Length (mm)	Drilled Hole Ø (mm)	Min Hole Depth (mm)*	Order Qty
050598	E8-12/45 A4	M8	45	14	124	12	80	50
050604	E10-15/45 A4	M10	45	17	139	15	90	25
050606	E12-18/15 A4	M12	15	20	122	18	105	25
050608	E12-18/45 A4	M12	45	20	152	18	105	20
052940	E16-24/25 A4	M16	25	26	157	24	130	10

* Data based on minimum anchor depth

Triga Z Pig Tail and Ring Version (+ Accessories)


Part No.	Description	Anchorage depth (mm)	Thread Ø	Min Hole Depth (mm)	Drilled Hole Ø (mm)	Overall Anchor Length (mm)	Socket Wrench (mm)	Order Qty
050671	Triga Z QDC M12	80	M12	105	18	178	18	5
050703	Triga Z E12-18/A	80	M12	105	18	162	18	10
658480	Ring M12							10
052630	D12 A2 Plate							25