شركة حديد الصناعية
التقنية العليا
HITECH
STEEL INDUSTRIES

LIFELINE SAFETY

1. Up to 4 simultaneous users
2. Modular Rigid-Rail Design
3. 25-year Service Life

OVERVIEW:

An overhead rigid rail fall arrest system designed for industrial, aviation, transport, maintenance, and logistics use. It has a modular straight-line configuration (perpendicular or parallel to purlins), supports up to 4 users simultaneously with a 140 kg load per user, and limits free fall distance to 600 mm with proper lanyard positioning (up to 30° offset from vertical). Made from hot-dip galvanized mild steel (BS EN ISO 1461), it has a service life of up to 25 years with maintenance and is suitable for both indoor and outdoor installation.

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COMPLIANCE & TEST STANDARDS

Standard / Regulation	Scope
EN 795:2012 / CEN TS 16415:2013	Anchor devices for one or more simultaneous users
BS 8610:2017	Anchor systems for one or more simultaneous users
OSHA 29 CFR 1910.140 & 1926.502	Performance, care and use criteria for personal fall protection systems
BS EN ISO 1461	Hot dip galvanised coatings on fabricated iron and steel articles
EN10027 / S235JRG2	Structural steel grade designation for rigid rail sections
BS 7883:2019	Personal fall protection — Type D Anchor systems, design, installation and inspection
BS EN 365	PPE against falls — General requirements for maintenance, periodic examination and marking

INSTALLATION PARAMETERS

Parameter	Metric	Imperial
Minimum clearance — floor to work surface	2,000 mm	6' 6"
Minimum track height above work surface	2,500 mm	8' 2"
Track installation clearance below lowest support structure	500 mm	19-5/8"
Maximum retractable lanyard position above operator's head	≥ 600 mm	≥ 2'
Maximum angle of deflection from vertical	30°	30°
Maximum track cantilever beyond extremity brackets	500 mm	1' 8"
Installation tool requirement	Standard hand tools — no welding required	—
Minimum installation crew	2 persons + elevated work platform	—

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VARIANT COMPONENTS/ PARALLEL ASSEMBLY

When configuring for parallel-to-purlin installation, the following components replace or supplement those in Section 4:

Part No.	Description	Qty (typical)	Wt (kg)	Notes
KTTAB00110	Purlin Bracket — Parallel (110 × 130 mm)	2	0.87	Replaces TFB001
KTTLA100010 (TLA1000)	Hanger Link Arm Brace — 1000 mm (41 × Ø12 slots)	1	1.85	Cross brace, parallel only
KTTLA50010 (TLA500)	Hanger Link Arm Brace — 500 mm (21 × Ø12 slots)	1	0.96	Cross brace, parallel only
KTLA200010 (LA2000)	Hanger Link Arm — 2000 mm (39 × Ø12 slots)	As req.	8.12	Long-span variant
KTAB6BC010 (AB600BC)	I-Beam Hanger Half Bracket — Beamclamp (245 × 200 mm; 60° flange)	As req.	1.74	I-beam primary steel fixing
KTTFP00110 (TFP001)	Top Fixing Plate (146 × 56 mm; Ø26 + Ø18 holes)	As req.	0.63	Structural steel fixing

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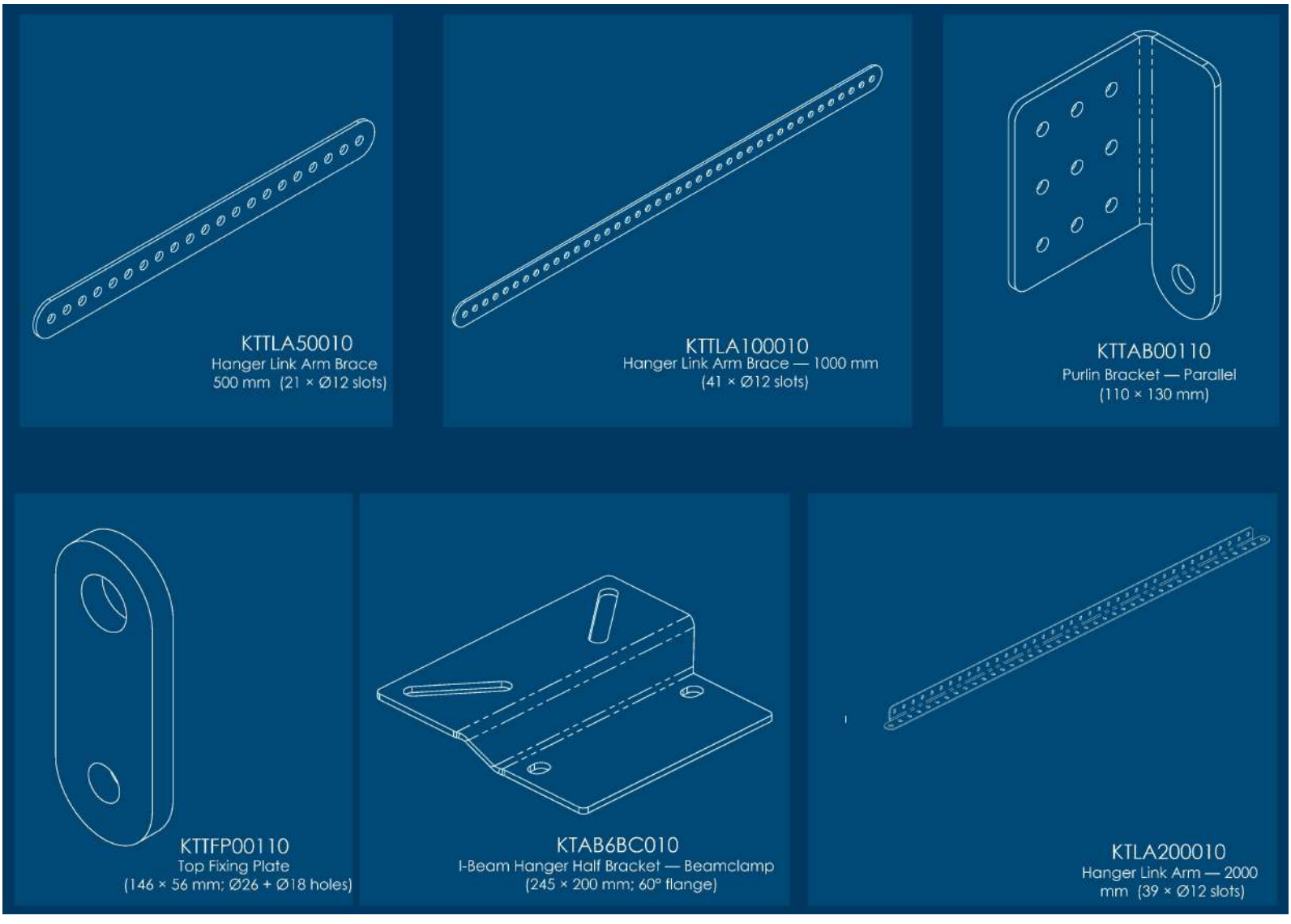

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KEY COMPONENT DIMENSIONS

Component	Overall Dimensions (mm)	Key Hole / Fixing	Nominal Weight (kg)
600 Series Rigid Rail (3 m)	L 3000 × W 80 × H 75	Ø14 slots at 47.5 crs (one side)	28.73
600 Series Rail Splice	L 200 × W 100 × H 94	M12 × 20 (3 off per splice)	3.83
600 Series Half Clamshell	L 200 × W 111 × H 148	2 × M10 × 20	1.87
Slotted Clamshell Top Bracket	L 200 × W 93	Slotted: 160 mm span; Ø18	0.83
Purlin Bracket — Perpendicular	W 100 × H 180 (5° cant)	3 × Ø9 top; 1 × Ø18 foot	0.60
Purlin Bracket — Parallel	W 110 × H 130 × D 60	3 × Ø9 top; 1 × Ø18 foot	0.87
Hanger Link Arm — 500 mm	L 550 × W 60 × T —	Ø18 end; 9 × Ø12 slots @ 50 crs	1.99
Hanger Link Arm — 1000 mm	L 1050 × W 60 × T —	Ø18 end; 19 × Ø12 slots @ 50 crs	4.03
Hanger Link Arm — 2000 mm	L 2050 × W 60 × T —	Ø18 end; 39 × Ø12 slots @ 50 crs	8.12
600 Series Trolley	W 87 × H 140 × D 148	Ø60 wheels; Ø23 lanyard eye	1.13
I-Beam Hanger Half Bracket	L 245 × W 200 × H 196	60° flange; Ø18 bolt hole	1.74
End Stop Assembly	Nylon buffer + M12 × 100 bolt	M12 spring washer + nut	0.08

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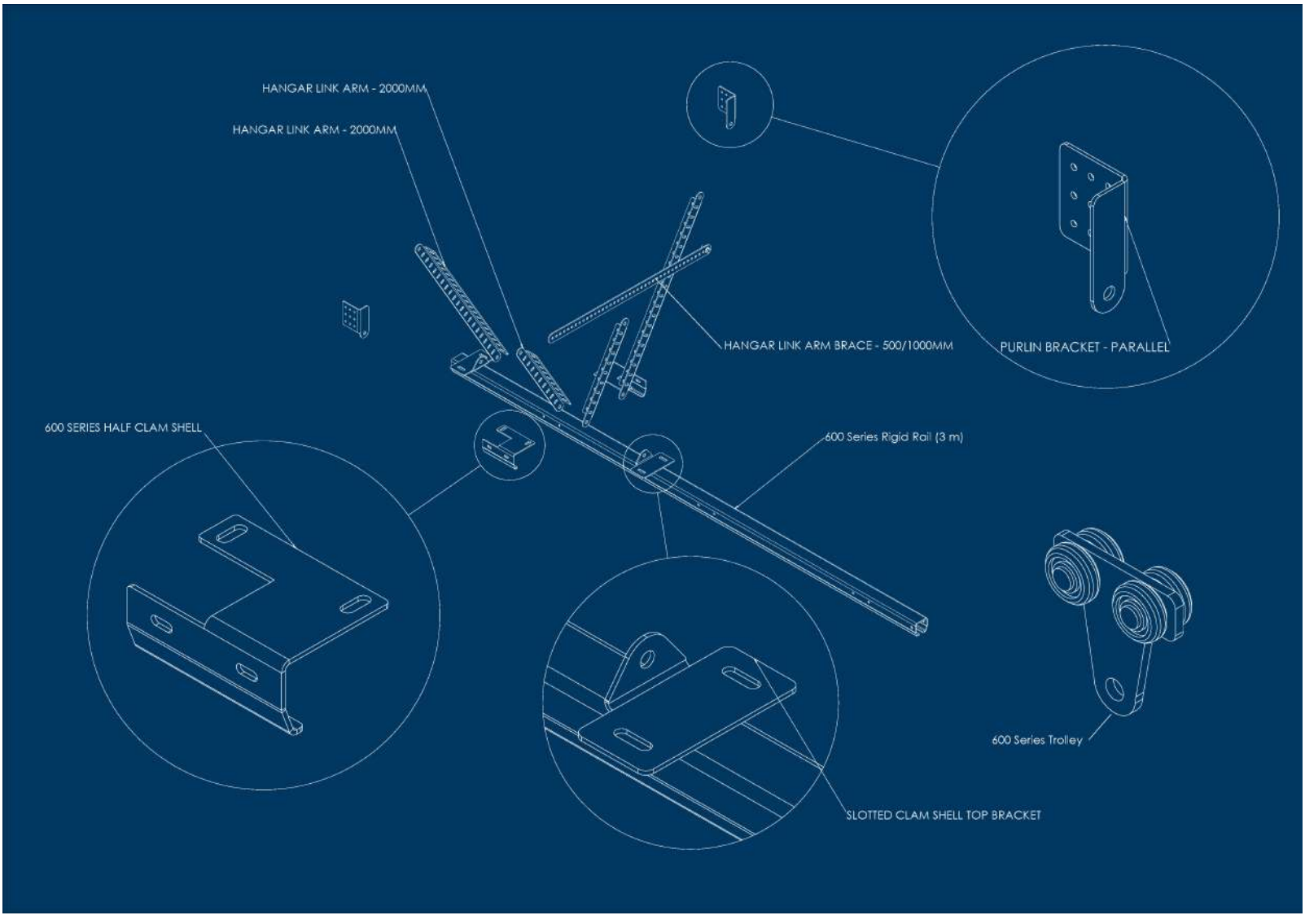
KEY COMPONENT DIMENSIONS DIAGRAM



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REQUIRED PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE Item	Certification Requirements
Full Body Harness	EN 361 / ANSI Z359.11-2014 / CSA Z259.10-2018 — Rear dorsal attachment ring mandatory
Self-Retracting Lanyard (SRL)	EN 360 (> prEN 360:2016) / ANSI Z359.14-2014 / CSA Z259.2.2-17 — Must limit max impact force to 6 kN
Energy-Absorbing Lanyard	EN 355 / ANSI Z359.13-2013 / CSA Z259.11-17 — Must limit max impact force to 6 kN
Connection	SRL / lanyard attaches to rear dorsal D-ring; snap hook to trolley connection point
Trolley — per user	One 600 Series trolley per user. Trolleys must not be shared between simultaneous users.

INSPECTION & MAINTENANCE SCHEDULE

Inspection Type	Frequency	Regulatory Reference
Pre-use visual check	Before each use	Internal work procedure / user responsibility
Periodic inspection — non-corrosive / mild environment	Every 12 months minimum	Work at Height Regulations 2005 (Reg. 12) / BS EN 365 / BS 7883:2019
Periodic inspection — corrosive / harsh environment	Every 6 months (or more frequent)	As above — higher frequency required per risk assessment
Post-incident inspection	Immediately after any fall arrest event	System must be taken out of service until inspected and re-certified by competent person
Inspector qualification	Competent Height Safety Inspector	No self-certification — any tightening, adjustment or replacement by competent inspector only

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PERIODIC INSPECTION CHECKLIST (MINIMUM ITEMS)

Structural & Fixing Checks

- Signage / labels present, legible, at all access points
- Structural connections per manufacturer's specification
- Hanger/bracket centres within specification
- All set screws and bolts present and torqued to spec
- No missing components
- Rail splices centred — 3 set screws per rail section
- Track cantilever ≤ 500 mm beyond extremity brackets
- Overlapping hanger arms: 2 bolt sets at each overlap extremity (4 total)
- Overlapping horizontal braces: 2 bolt sets at central overlap

Trolley / Shuttle Checks

- Trolley runs freely along full track length
- Remove and inspect trolley rollers, circlip and pin
- No stress fractures, cracks, bending or deformation
- No significant corrosion on any component
- Clean trolley / interface between track and trolley

End Stop Checks

- End stops present at both ends of each rail run
- Nylon buffer integral and undamaged
- Update labelling with current inspection date and next due date

LIMITATIONS & RESTRICTIONS

Permitted	Not Permitted
• Up to 4 simultaneous users (configuration-dependent) • Straight-line rail runs of any length • Parallel and perpendicular purlin orientations • Fixing to primary and secondary steelwork, concrete or trusses • Indoor and outdoor installation • Use with certified fall arrest SRL or energy-absorbing lanyard	• Curved or angled rail runs • Use for tethering, lifting or suspending machinery / loads • Lanyard angle exceeding 30° from vertical • Use if system service/inspection date is overdue • Tampering with, modifying, or self-repairing any component • User weight exceeding 140 kg including tools and equipment • Sharing a single trolley between multiple users