

TECHNICAL INFORMATION BROCHURE



MET-TRACK®

GOLD SERVICE HANDLING SOLUTIONS



Cossall Industrial Estate, Coronation Road, Ilkeston, Derbyshire DE7 5UA









INTRODUCTION

Metreel's new Gold Service combines our knowledge, vast experience and technical capability with one of the premier Enclosed Track Systems available.

We offer our clients confidence. In consideration of operator ergonomics, capital cost and building layouts we make sure our systems offer the best value for money solution. Our dedicated team of sales, design and installation engineers offer an excellent package of services including consultation, survey, design, special manufacture, installation, commissioning and servicing.



MET-TRACK PROFILE RANGE

PROFILES

The MET-TRACK® Enclosed Track is the principal element of the handling solutions we offer, it is particularly suited for cranes, jib cranes, monorails and conveyors, but can be utilised for many other applications. Five standard tracks offer a lifting capacity of up to 2000kg utilising a variety of lifting devices.

Available in standard or special finishes, including 3 profiles in stainless steel, the **MET-TRACK**® system offers the customer the option to customise any installation appearance.

The high strength/low weight factor of the tracks reduce the need for expensive steelwork which in turn simplifies installation and future system modifications.



CURVES

CURVES

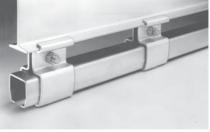
A complete range of curves offer ultimate flexibility for any conveyor or monorail system. When planning a system that requires bends we always advise utilising standard radii if possible, however for those applications which dictate special radii, these are also an option.



SPLICE JOINT

SPLICE JOINTS

Precise alignment is one of the major features which makes the **MET-TRACK**[®] enclosed track system one of the smoothest in operation. Horizontal and vertical adjustment screws supplied integral with each splice joint provide this finite adjustment for the joint of each track profile.



SUPPORT BRACKETS

SUPPORT BRACKETS

A wide range of standard support brackets to suit most building constructions and supporting steelwork is available. In the event of a requirement for special mounting, we have the capability to design special manufactured items completely to customers requirements.

When considering any system and the method of mounting, it is essential that the roof, ceiling or floor structure is of adequate strength for the proposed system. We recommend consultation with a qualified structural consultant to advise in this area.



SUSPENSION TROLLEY

SUSPENSION TROLLEYS

A vast selection of two, four and eight wheeled suspension trolleys offer connection to endless possibilities of equipment being transported.

Free running sealed wheels are a standard feature of **MET-TRACK**[®]. Special options such as waterproof and high temperature are also available. The design of our profiles protect the wheels and ensure minimum friction for the complete range of our suspensions trolleys.







INTRODUCTION

SPINES

The **MET-TRACK**® system offers three spine options, a bolt on version which utilises standard system brackets, a welded plate spine and finally a vierendeel type construction. All three options are illustrated opposite.

TURNTABLES

The use of standard turntables and multi-directional units at track joints will add greater flexibility to any monorail or conveyor system. All the **MET-TRACK**® turntables rotate freely on precision ball bearings and are easily operated and positioned using one of several control mechanism options. Standard turntables provide interconnection for up to four tracks, however additional connections can be incorporated. Mechanically operated turntables are recommended for applications where the work flow is moderate and intermittent. For applications requiring continuous flow we recommend the use of our multi-directional units which feature a range of settings according to production requirements.

SWITCHES

Designed to facilitate branching off from the main line conveyor or monorail track. Two types of standard switches are available, the Swivel Switch offers a maintenance free, easy to operate solution. The basic element is a pivoting track section which incorporates a mechanical stop to close off the inoperative track.

The alternative, a Tongue Switch, is a compact design which gives a particular advantage when several branch lines are required in close proximity. The basic element is a tongue guide which is suited to either manual or automatic operation. Our switches are normally manually operated, however they can be assisted by electric, pneumatic or hydraulic power.

ENTRY/EXIT SECTION

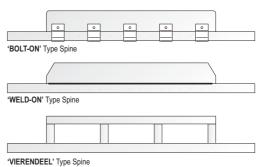
This unit operates in a similar way to the swivel switch and facilitates the insertion/removal of trolleys at a required position, ideally suited for a closed loop system where work flow can increase and decrease and suspension trolley quantity needs to be modified.

The basic element is a pivoting track section which incorporates a mechanical stop to close off the open end.

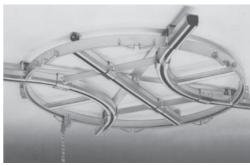
DOOR SWIVEL SECTION

The door swivel section enables the track to be interrupted automatically by a sliding door for reasons of security or emergency. Typical examples being cold room or fire protection doors.

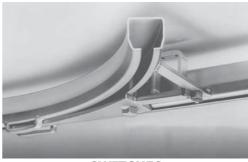
Safety devices are incorporated to ensure that the trolleys cannot disengage from the track during operation.



SPINE OPTIONS



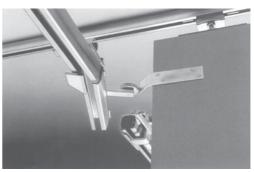
TURNTABLES



SWITCHES



ENTRY/EXIT SECTION



DOOR SWIVEL SECTIONS





INTRODUCTION

POWER AND FREE

A power and free facility can be achieved by incorporating a supplementary drive system. The most popular system being our motorised flexible chain placed alongside the conveyor track. This system can provide total automation but is mainly utilised to automate a specific section of a track system.

Typical applications being where components have to be carried through restricted areas, i.e. chemical tanks, spray booths and ovens etc.

DROP LIFT SECTION

The drop lift section has been designed to provide a facility for raising and lowering trolleys and load carriers with buffers at specific locations with a conveyor or monorail system.

This simple and effective unit includes many automatic features and is ideally suited for installations incorporating de-greasing baths, dip tanks, coating/galvanising plants, goods loading and transfer.

This unit features automatically operated mechanical stops to ensure complete safety during operation.



A standard range of tractor drives are available for applications where power travelling of the crane bridge and/or hoist trolley are required.

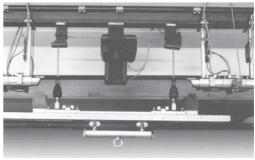
Traverse speeds can be varied in order to meet customer requirements.

TRACK TRANSFER UNITS

These units are designed to provide a safe, efficient and easy to operate transfer of a hoist/trolley from a crane bridge into an adjacent crane bridge, or alternatively into a monorail system.



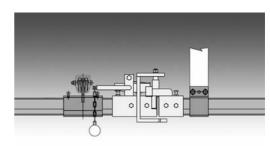
POWER & FREE



DROP LIFT SECTION



POWERED TRACTOR DRIVES



TRACK TRANSFER UNITS

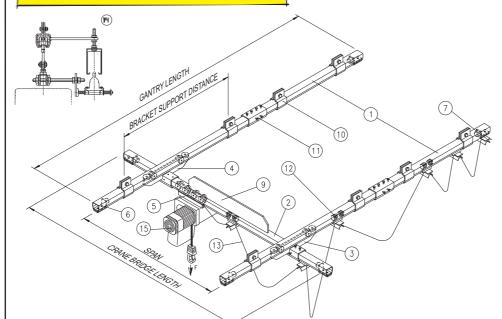




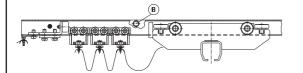
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- 1. Gantry Tracks
- 2. Crane Bridge
- 3. Fixed End Carriage
- 4. Floating End Carriage
- 5. Hoist Trolley
- 6. End Stop/Buffer
- 7. End Stop/Cable Clamp
- 8. Festoon Storage Stop
- 9. Crane Bridge Spine
- 10. Support Bracket
- 11. Splice Joint
- 12. Cable Festoon Trolley
- 13. Flatform Cable
- 14. Conductor Support Assembly
- 15. Lifting Device e.g. Hoist



LOADINGS (POINT LOAD)

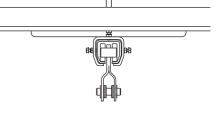
Load (kgs)	80	150	250	500	1000	2000*
Profile	300	400	500	600	700	700*

^{*} Utilising a double bridge crane

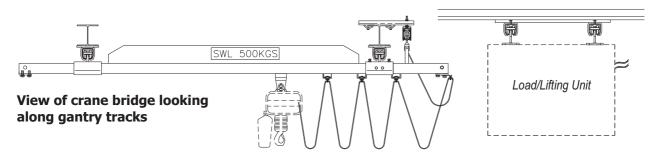
EXAMPLE CRANE BRIDGE OPTIONS

The above illustration below shows a typical arrangement of a standard **MET-TRACK**® Light Crane. To the right we show typical crane bridge assemblies, normal installations call for the single bridge type, however sometimes due to safe working load or complexity of the lifting device we may use a double bridge arrangement. Power supply to both the gantry and crane bridge are also available, the illustrations below shows a typical conductor system within the gantry travel and a simple festoon for the crane bridge travel, this combination ensures minimum cost with maximum travel usage.

Single Bridge Gantry

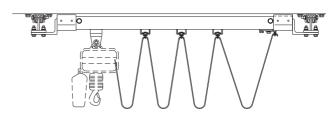


Double Bridge Gantry



RESTRICTED HEIGHT

Restricted height assemblies of single and double crane bridges are used in areas where it is necessary to use the absolute minimum headroom for the crane assembly, thus offering maximum height of lift for the lifting device. The standard **MET-TRACK**® is designed to reduce headroom as normal, this option offers the ultimate answer for those difficult applications.



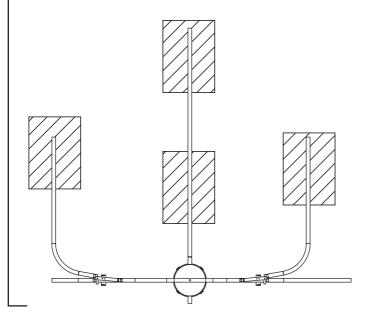


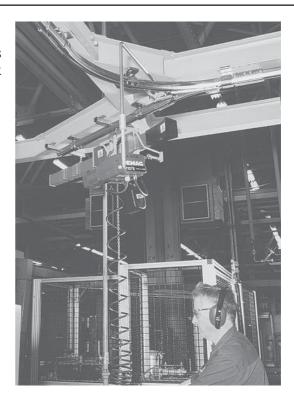




TYPICAL MONORAIL CRANE SYSTEM

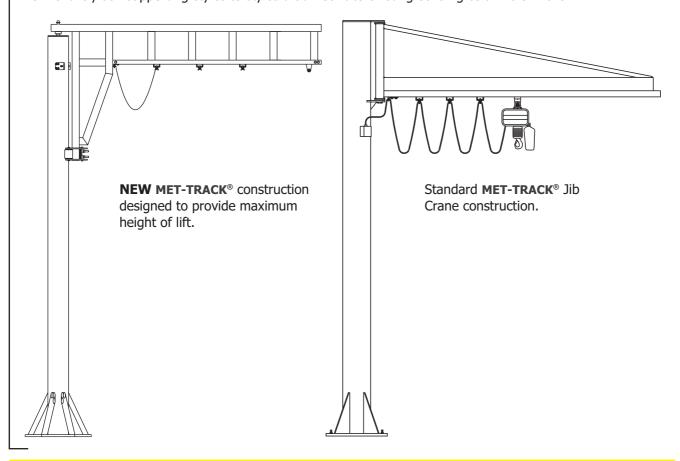
A monorail offers a lifting facility for a working area which spans various locations. Utilising switches, bends and turntables the **MET-TRACK**® system transports your load to each work area without having to use additional lifting apparatus.





TYPICAL JIB CRANE SYSTEM

The jib crane is an economical method of moving materials within an individual work station. Jib cranes range from entirely self supporting styles to styles that mount to existing building columns or walls.



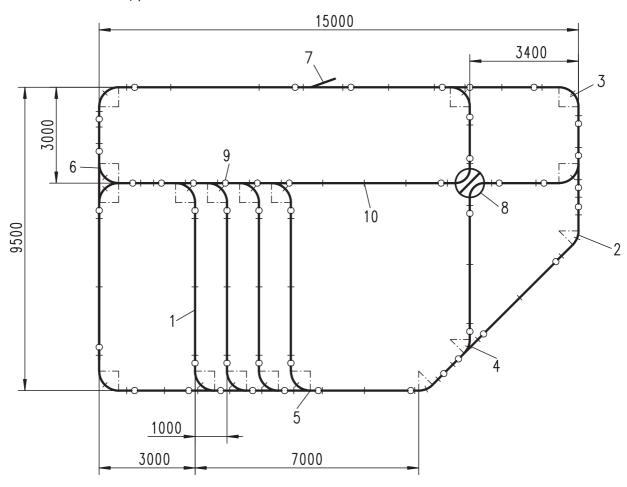






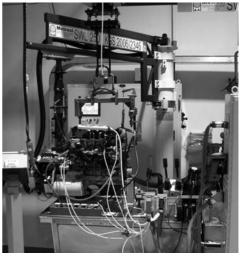
TYPICAL CONVEYOR SYSTEM

Similar to a monorail the conveyor offers lifting and transportation to many locations around the work area. The difference being that the track system is designed with a closed loop configuration, this enables a number of loads to be transported around the same system. Ideal for an automated production line. Power and Free options are also available, please consult our sales office.



- 1. Standard Track Profile Lengths
- 2. 45° Track Bends
- 3. 90° Track bends
- 4. 45° Swivel Switch
- 5. 90° Swivel Switch
- 6. 90° Swivel Switch (Bi Directional)
- 7. Entry/Exit Section
- 8. Multi-directional Turntable
- 9. Splice Joints
- 10. Support Brackets











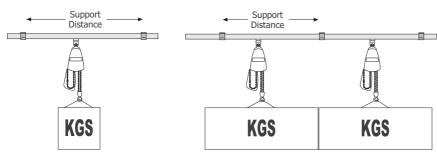


LOAD CONFIGURATIONS

After determining the weight of the load, you now need to consider the load configuration. This refers to the type and number of loads required within your system. The two configurations that are common on lifting systems are the "Point Load" and the "Uniformly Distributed Load". Both configurations are explained in further detail below.

POINT LOAD

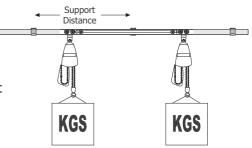
A Point Load is a single occurrence of a load applied to a track profile between two support centres. Typical for cranes and monorails this type of load is usually suspended on a lifting device, such as a hoist, where a single load can travel the full extent of the system. Multiple loads can be considered as a Point Load if the loads are prevented from ambushing together at centres less than the support distance. The following illustrations show typical situations where a Point Load configuration should be considered.



In this illustration the load would be considered as a **Point Load** due to the fact that the load is wider than the support distance and therefore only one occurrence of the load can fall between 2 support centres.

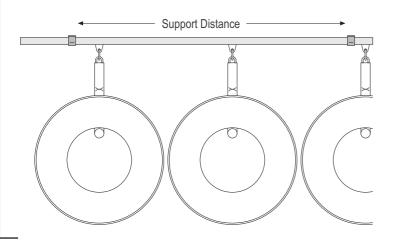
Typical **Point Load** where there is one single load being carried around the system.

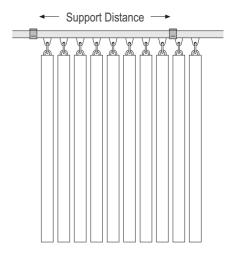
By using a load spacer you can limit the number of loads that fall within a support distance. This will also be calculated as a **Point Load**.



UNIFORMLY DISTRIBUTED LOAD (UDL)

A UDL (Uniformly Distributed Load) is where multiple loads can be so positioned that each load has an effect on the deflection of the track between support centres. For example consider a load of 40kgs having a total length of 300mm, it would be possible for 5 such loads to be positioned between supports where the support distance was 1.5m. Therefore the load between supports is much greater than 40kgs. The following illustrations show typical situations where a UDL configuration should be considered.









LOAD CONFIGURATIONS

SUPPORT DISTANCES - POINT LOAD

Using the information already determined from the previous pages, you will now be able to select the appropriate maximum support centres for your application.

If you plot your maximum load against the vertical axis and then follow this line until it meets the capacity curve of the profile selected, the intersecting point determines the maximum support centres as detailed against the horizontal axis.

Typical examples are shown for your reference:

400 Profile

Load = 85kgs

Maximum Support Centres = 1.75m

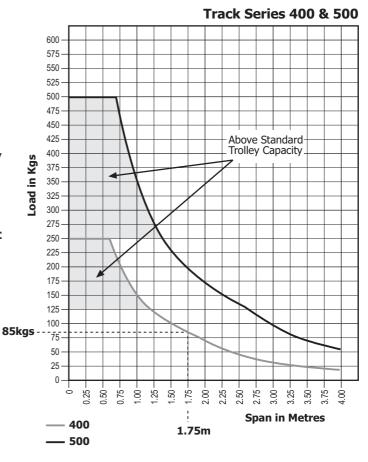
600 Profile

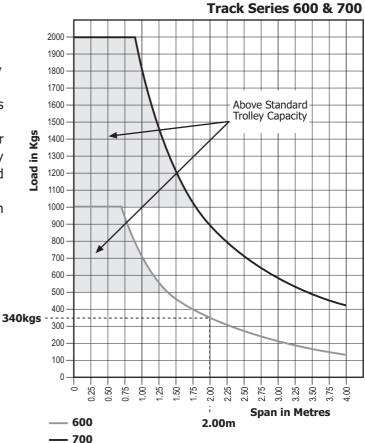
Load = 340kgs

Maximum Support Centres = 2m

Please note the following:

- 1) If the results are border line for your desired load and required support centres we recommend that you consult our sales office for further technical advice.
- 2) The safe working load for each system is primarily determined by the carrying capacity of each roller unit. As standard our roller units/trolleys work to the following SWL: Series 400 125kgs, 500 250kgs, 600 500kgs & 700 1000kgs. Having stated this we do offer alternative roller units/trolleys which will carry capacities up to double the figures mentioned above. Our graphs show the maximum permissible load for the track but the maximum load of the roller unit/trolley must also be considered.











OTHER DESIGN CONSIDERATIONS

PROFILE CANTILEVER (K)

The table opposite gives the maximum cantilever allowed for each track profile. The dimension is based on the Safe Working Load for each profile. Greater cantilevers may be possible depending upon the load - consult our sales office for further assistance.

In the case of a gantry that contains a cable festoon system for an electric hoist or similar device, the cantilever may be extended to accommodate the festoon - consult our sales office for assistance.

We recommend that all joints are positioned within the maximum cantilever distance from the support position.

CABLE FESTOON POWER SUPPLY

When using a cable festoon system as your power supply, within the track profile, we recommend that you fit a bolt, to act as a travel limiter, to protect the cable trolleys from damage which may be caused by suspension trolleys/end carriages crushing the trolleys at the extreme end of the travel.

CALCULATING THE NUMBER OF CABLE TROLLEYS

The number of cable trolleys required is determined by two factors, firstly the travel distance (L) and secondly the permissible loop depth (LD). With this information to hand use the following formula to calculate the number of trolleys:

No. of Cable Trolleys =
$$\frac{L}{2 \times LD}$$
 +10% - 1

POWERED SYSTEMS

When supply power to a hoist is via a festoon arrangement the hook/end approach distance is increased due to the storage distance required at the ambush end. Please note that these dimensions only refer to the ambush end, the other end of the travel will have a hook/end approach as per a manual system.

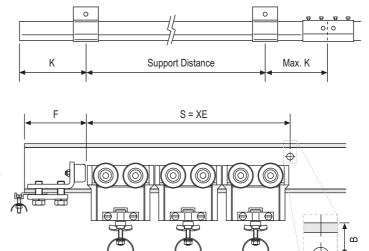
Crane Gantry

	•
Profile	KA mm
400	S + 275
500	S + 340
600	S + 380
700	S + 430

Crossbridge

Profile	KA mm
400	S + 125
500	S + 178
600	S + 205
700	S + 237

Profile	file Load Maximum Cantile	
400	125kgs	565mm
500	250kgs	730mm
600	500kgs	775mm
700	1000kgs 925mm	



(S) Storage area of cable feed trolleys (X)= Number of cable trolleys (E)= Cable Trolley Length (+15%)

The hole dia. "A" is normally drilled during installation to the following specification.

Profile	A	В	F	Bolt Size
500	12	15	113	M10 x 80
600	14	20	130	M12 x 120
700	14	25	130	M12 x 130

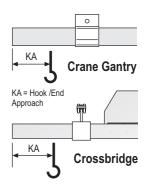
Note:

We do not consider it necessary to fit a bolt on Profile 400 due to the design and low safe working load. On electrically operated systems a chain or wire rope connection between the

hoist and the first cable trolley is recommended to prevent strain on the cable termination point into the hoist.

HOOK/END APPROACH

When considering the crane gantry/cross bridge and the effective coverage the hook/end approach distance must be known to ensure the crane can reach the extreme work area positions.



MANUAL SYSTEMS

For systems which do not have in-track festoons the following tables can be used to determine the hook/end approach distances.

Crane Gantry

Profile	KA mm
400	275
500	340
600	380
700	430

Crossbridge

Profile	KA mm
400	125
500	178
600	205
700	237

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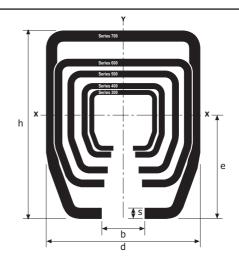




TRACK PROFILE

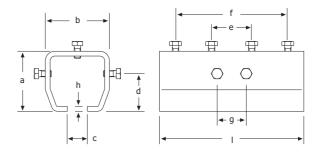
Profile	Dimensions (mm)				Wx cm³	lx cm ⁴	Weight Kg/M	
	h	d	b	S	е			
300	35	40	11	2.75	19.9	2.52	5.02	2.52
400	43.5	48.5	15	3.2	24.8	4.4	10.93	3.57
500	60	65	18	3.6	33.8	10.07	34.08	5.63
600	75	80	22	4.5	42	19.76	83.08	8.77
700	110	90	25	6.5	60.5	51.68	312.71	16.46

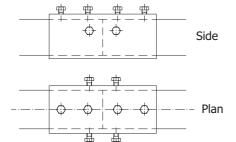
For information regarding maximum loading and corresponding mounting centres etc., refer to appropriate charts within this brochure.



SPLICE JOINT

Part	Dimensions (mm)									
	а	b	С	d	е	f	g	h	1	Screw
1303	45.5	50	16	26	46	98	26	4	120	M8
1403	54	60	20	36	50	110	30	4.5	150	M8
1503	75	80	25	47	50	140	45	6	180	M8
1603	94	100	32	50	50	140	45	8	200	M10
1703	134	114	38	84	100	200	50	10	250	M12





The splice joints are supplied complete with vertical and horizontal adjustment screws which facilitate precise alignment of the track sections.

When positioning splice joints it is important to ensure that they are placed within the allowable distance from an adjacent support bracket.

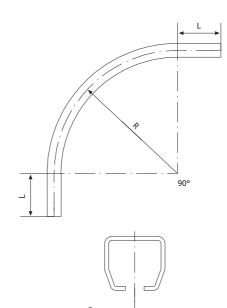
Welded joints are possible, provided that the correct procedure is adopted, however they are not recommended as they inhibit the adjustment, future modification or dismantling of a system.

BENDS

90° BENDS

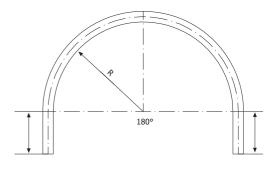
Profile	Dimensions (mm)					
	R	L				
	410 ± 15	500				
300	630 ± 15	500				
	950 ± 15	500				
400	415 ± 15	500				
	610 ± 15	500				
	905 ± 15	500				
500	605 ± 15	500				
300	875 ± 15	500				
600	790 ± 20	600				
700	1035 ± 20	700				

Non standard radii available contact our sales office for details



180° BENDS

Profile	Dimensions (mm		
	R	L	
300	410 ± 15	500	
300	630 ± 15	500	
400	415 ± 15	500	
400	610 ± 15	500	
500	605 ± 15	500	

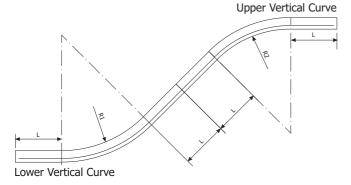




MET-TRACK® GOLD SERVICE HANDLING SOLUTIONS



45° BENDS



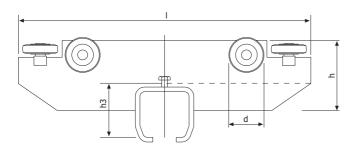
Profile	Dime	ension	5 (mm)
	R1	R2	L
	415	390	500
300	625	610	500
	920	885	500
400	630	561	500
400	895	851	500
500	845	790	500
600	1035	990	600
700	1100	990	700

CRANE BRIDGE END CARRIAGES

Used mainly for crane systems the end carriage is the connection between gantry track profiles and the crane bridge track profile. For conventional crane applications the cross bridge track profile is clamped in one of the end carriages by screws and allowed to slide freely in the other, this accommodates any slight misalignment between near parallel gantry track profiles. The horizontal wheels placed on either end of the end carriage guard against potential "crabbing action" caused by non parallel gantry track profiles and ensure free movement.

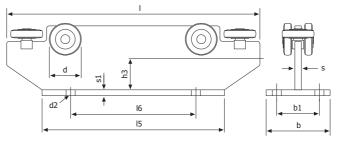
SINGLE BRIDGE END CARRIAGE

Part	D	imens	ions (mı	n)
	1	h	h3	d
1354	350	35	49	27.5
1454	400	45	59	34
1554	450	70	91	48
1654	500	80	106	60
1754	600	110	143	89



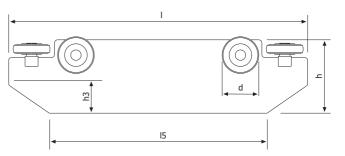
FLAT PLATE END CARRIAGE

Part	Dimensions (mm)										
	1	15	16	d	d2	b	b1	h3	S	s1	
1354/1	350	290	200	27.5	8.5	60	36	31	4	4	
1454/1	400	315	200	34	11	70	46	45	8	8	
1554/1	450	335	220	48	13	100	60	64	10	10	
1654/1	500	370	260	60	17	120	80	72	12	12	
1754/1	600	440	300	89	21	150	100	74	16	15	



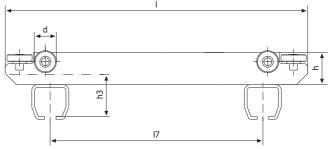
PLAIN END CARRIAGE

Part	Dimensions (mm)									
	П	15	h	h3	d					
1354/2	350	292	50	23	27.5					
1454/2	400	315	70	35	34					
1554/2	450	336	100	52	48					
1654/2	500	370	120	60	60					
1754/2	600	440	150	59	89					



DOUBLE END CARRIAGE

Part		Dimensions (mm)									
		17	h	h3	d						
1354/3	410	300	50	64	33.5						
1454/3	630	500	60	74	34						
1554/3	700	500	70	91	48						
1654/3	820	600	100	126	60						
1754/3	850	600	110	143	89						









LOAD/SUSPENSION TROLLEYS

A wide range of trolleys are available and the selection is related to the weight, type and dimension of the load to be carried.

Two Wheeled Trolleys - This arrangement is suitable for straight tracks and where contact of the suspended loads do not cause a problem.

Four Wheeled Trolleys - This arrangement provides improved location which ensures smoother running within the track installations and where contact of suspended loads do not cause a problem.

Two Trolley Load Carriers - This arrangement is generally considered for the following reasons:

- 1. Where it is necessary to ensure that suspended loads cannot contact each other, i.e. extended trolley length with buffers.
- 2. To ensure the stability of a larger load, particularly through bends and switches.
- 3. As a method of distributing suspension trolley load, which can increase trolley capacity.

4 WHEELED SUSPENSION

TROLLEY FOR WELDING

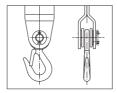
51 80 50

1310S

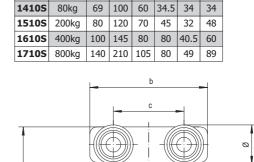
40kg

HOIST TROLLEY

Part No	Max. Load	Dimensions (mm)						
		а		d1	d2	1		
1418	125kg	65	30	34	16	100		
1518	250kg	76	35	48	20	130		
1618	500kg	91.5	35	60	22	150		
1718	1000kg	117	45	89	26	214		



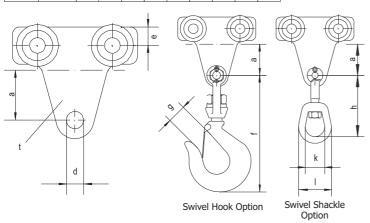
Hoist trolley can be supplied complete with hook. Details on request.



25 27.9

4 WHEELED SUSPENSION TROLLEY SINGLE EYE

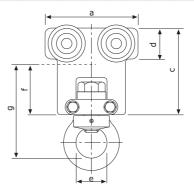
Part No	Max. Load		Dimensions (mm)							
		а	d		f		h			
1310	40kg	31	Ø10	10	-	-	79	25	8	42
1410	80kg	40	Ø14	15	125	24	79	25	8	42
1510	200kg	42	Ø18	20	125	24	79	25	10	42
1610	400kg	47	Ø22	25	125	24	98	31	12	51
1710	800kg	74	Ø26	40	152	28	126	37	15	64



4 WHEELED SUSPENSION TROLLEY WITH ROTATING RING

d

Part No	Max. Load	Dimensions (mm)						
		а	С	ød	øe	f	g	
324Ri	40kg	68	72	27.9	30	44	65	
424Ri	80kg	90	85	34	35	49	98	
524Ri	200kg	110	110	48	40	59	114	
624Ri	400kg	150	140	60	50	78.5	150	
724Ri	800kg	200	200	89	60	109	194	







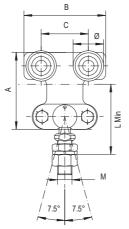


MET-TRACK® GOLD SERVICE HANDLING SOLUTIONS



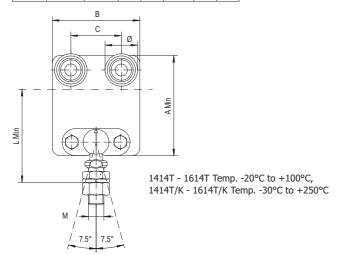
4 WHEELED SUSPENSION WITH SWIVEL SCREW FIXING

Part No	Max. Load							
	(kg)	Α	В	С	L (min)	М		
1314	40	70	70	38	66	M12	27.9	
1414	80	85	90	52	78	M16	34	
1514	200	115	110	56	98	M20	48	
1614	400	145	140	75	126	M24	60	
1714	800	180	200	105	136	M30	89	



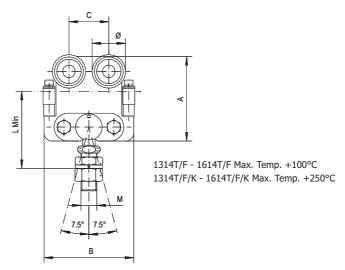
4 WHEELED SUSPENSION WITH SWIVEL SCREW FIXING

Part No	Max. Load	Dimensions (mm)						
		A (min)	В	С	L (min)	М		
1414T	80kg	120	90	53	113	M16	34	
1514T	200kg	165	100	56	148	M20	48	
1614T	400kg	200	120	75	181	M24	60	



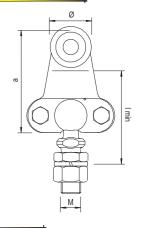
4 WHEELED SUSPENSION WITH SWIVEL SCREW FIXING PLUS SIDE GUIDANCE

Part No	Max. Load		Dimensions (mm)							
		A (min)	A (norm)	A (spec)	В	С	L (min)	М	Ø	
1314T/F	40kg	70	70	-	70	32	66	M12	27.9	
1414T/F	80kg	85	120	-	90	40	78	M16	34	
1514T/F	200kg	120	165	220	100	50	103	M20	48	
1614T/F	400kg	145	200	-	140	62	126	M24	60	



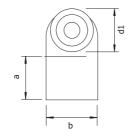
2 WHEELED SUSPENSION WITH SWIVEL SCREW FIXING

Part No	Max. Load	Dimensions (mm)						
		a (min)	I (min)	М				
1315	20kg	70	66	M12	27.9			
1415	40kg	85	78	M16	34			
1515	100kg	115	98	M20	48			
1615	200kg	145	126	M24	60			
1715	400kg	180	136	M30	89			



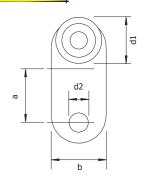
2 WHEELED SUSPENSION FOR WELDING

Part No	Max. Load	Dimensions (mm)				
		а	d1			
13115	20kg	25	30	27.9		
1411S	40kg	34	40	34		
1511S	100kg	34	50	48		
1611S	200kg	42.5	70	60		
1711S	400kg	48	100	89		



2 WHEELED SUSPENSION WITH SINGLE EYE

Part No	Max. Load	Dimensions (mm)							
		а	d1	d2					
1311	20kg	31	30	27.9	10				
1411	40kg	40	40	34	14				
1511	100kg	42	50	48	18				
1611	200kg	46.5	70	60	22				
1711	400kg	75 80 89 26							







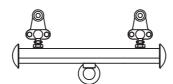




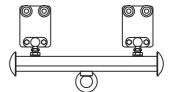
2 TROLLEY LOAD CARRIER

Profile		Dimensions (mm)										
	L	m	h (min)	е	e1	e2	Н	H1	H2			
300	300	180	65	165	41	46	266	142	147			
400	450	300	77	165	48	56	286	169	177			
500	600	420	98	165	55	65	323	213	223			
600	700	500	126	184	70	85	385	271	286			
700	1000	700	137	186	85	170	433	332	417			

Profile Size	300	400	500	600	700
2 x 2 Wheeled Trolleys	40kg	80kg	200kg	400kg	800kg
2 v 4 Whooled Trolley	20ka	160kg	400ka	200ka	1600kg

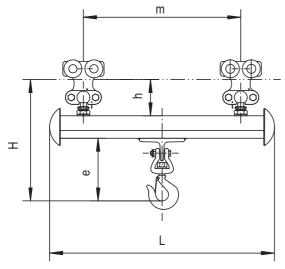


2 wheel trolley arrangement

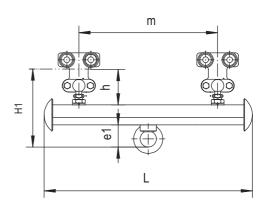


4 wheel trolley arrangement

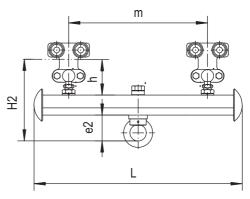
2 Trolley Load Carriers can be supplied using both 2 Wheeled Trolleys or 4 Wheeled Trolleys. The effective carrying load is determined by the type of wheel unit. The chart below gives the allowable loads for the different trolley types.



Type: Clevis Hook



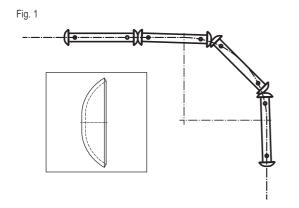
Type: Fixed Ring

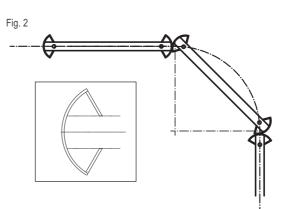


Type: Swivel Ring

BUFFER CUPS

The use of our buffer cups optimises the contact between two load carriers, especially between curves and switches. Fig. 1 shows our standard buffer cup being used where the length of the load trolley does not exceed the radius of the curve. In the event that the radius will be smaller than the length of the load carrier we would suggest that the buffer ring option (Fig. 2) is used.









SUPPORT BRACKETS

A wide range of standard support brackets to suit most building constructions and supporting steelwork is available. In the event of a requirement for special mounting, we have the capability to design special manufactured items completely to customers requirements.

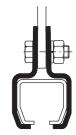
When considering any system and the method of mounting it is essential that the roof, ceiling or floor structure is of adequate strength for the proposed system. We recommend consulting a qualified structural consultant to advise in this area.

Below are illustrations of typical mounting using standard MET-TRACK® support brackets, of which the more common brackets are detailed within the next few pages.



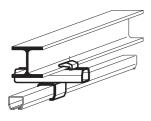
CLAMP/SPLIT SUPPORT BRACKET

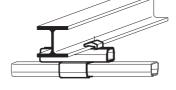
Type: 1305 - 1705



SPLIT SUPPORT BRACKET

Type: 1308 - 1708









COMBINATION SPLIT SUPPORT BRACKET

Type: 1302A - 1702A

COMBINATION SPLIT SUPPORT BRACKET

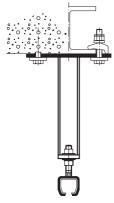
Type: 1302B - 1702B



Type: 301 - 701

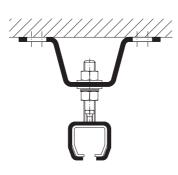
DOUBLE CEILING SUPPORT BRACKET

Type: 302D - 502D



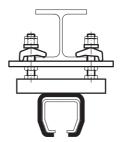


Special Bracket Design



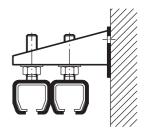
OFFSET CEILING SUPPORT BRACKET

Special Design



LINDAPTOR SUPPORT BRACKET ARRANGEMENT

Type: 1309 - 1709



DOUBLE ADJUSTABLE WALL **SUPPORT BRACKET**

Type: 404WD - 704WD with 2 x 304 - 704



DOUBLE WALL **SUPPORT BRACKET**

Type: 301D - 501D



ADJUSTABLE WALL SUPPORT BRACKET

Type: 404W - 604W with 304 - 704



ADJUSTABLE SUPPORT BRACKET

Type: 304 - 704



PLAIN SUPPORT BRACKET

Type: 1304 - 1704



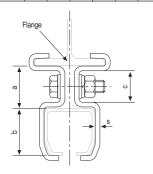


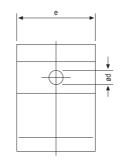
MET-TRACK® GOLD SERVICE HANDLING SOLUTIONS



CLAMP / SPLIT SUPPORT BRACKET -

Dimensions (mm) b Screw Ød e f 1405 44 25 9 55 1505 56 60 42 17 90 10 6 M16 1605 46 17 110 10 M16 63 75 8 **1705** 90 110 17 120 16 10 M16

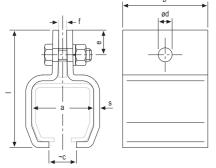


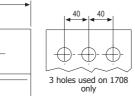


Pa	Part No. For 76mm Flange									
1405/76	1505/76	1605/76	1705/76							
Part No. For 89mm Flange										
1405/89	1505/89	1605/89	1705/89							
Pa	rt No. For 1	02mm Flan	ge							
1405/102	1505/102	1605/102	1705/102							

SPLIT SUPPORT BRACKET

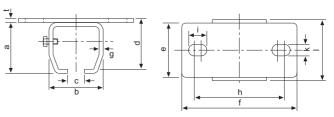
Part No	Dimensions (mm)									
	а		~C	Ød	е			_	Screw	
1308	40	55	16	13	24	8	4	88.5	M12	
1408	48.5	55	22	13	24.5	8	4	98.5	M12	
1508	65	90	25	17	32	10	6	131	M16	
1608	80	110	30	17	32	10	8	151	M16	
1708	90	120	30	17	32	16	10	192	M16	





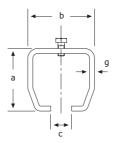
CEILING SUPPORT BRACKET

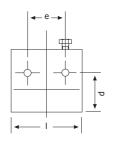
Part No		Dimensions (mm)											
	а	b	С	d	е	f	g	h	i	k	t		Screw
302	45.5	50	16	45.5	50	115	4	88	19	11	4	55	M8
402	54	60	20	54.5	60	130	4.5	102	21	13	5	68	M8
502	75	80	25	75	80	170	6	133	27	17	6	90	M8
602	94	100	32	96	100	210	8	160	34	22	10	110	M10
702	134	114	38	136	120	260	10	202	45.5	22	12	120	M12



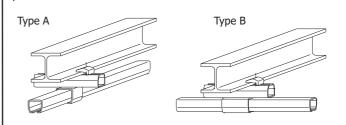
PLAIN SUPPORT BRACKET

Part No	Dimensions (mm)									
	а	b		d	е	f	g	1	Screw	
1304	45.5	50	16	26	29	-	4	55	M8	
1404	54	60	20	36	38	-	4.5	68	M8	
1504	75	80	25	47	50	-	6	90	M8	
1604	94	100	32	50	50	45	8	110	M10	
1704	134	114	38	84	60	-	10	120	M12	

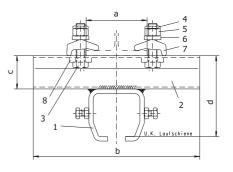




COMBINATION SUPPORT BRACKET



Part No			Dimensions (mm)									
	1	2	3		5	6	7	8		b	С	d
1302	1304	400 Profile	M12 x 60	M12	M12	A14	1306	30 x 30 x 8	150	250	44	85
1402	1404	400 Profile	M12 x 60	M12	M12	A14	1306	30 x 30 x 8	150	250	44	94
1502	1504	500 Profile	M16 x 70	M16	M16	A18	1506	40 x 40 x 8	175	300	60	129
1602	1604	500 Profile	M16 x 70	M16	M16	A18	1506	40 x 40 x 8	175	300	60	146
1702	1704	600 Profile	M20 x 110	M20	M20	A22	1706	50 x 60 x 10	205	330	75	199





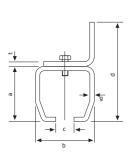


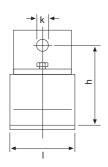
MET-TRACK® GOLD SERVICE HANDLING SOLUTIONS



WALL SUPPORT BRACKET

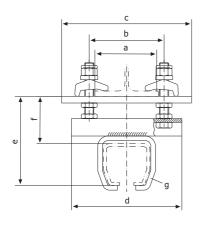
Part No	Dimensions (mm)									
	а	b	С	d	g	h	k	t		Screw
301	46	50	16	75	4	57.5	11	4.5	55	M8
401	54	60	20	93	4.5	72	13	5	68	M8
501	75	80	25	122	6	98.5	17	6	90	M8
601	94	100	32	157	8	124	22	10	110	M10
701	134	114	38	211	10	170	26	12	120	M12





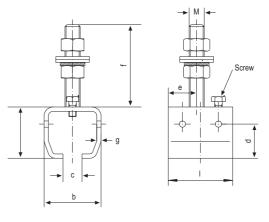
LINDAPTOR SUPPORT BRACKET ARRANGEMENT

Part No	Dimensions (mm)									
		b	С	d	е	f	g			
1309		a+15	a+65	a+45	69±5	34±5	1304			
1409	BEAM	a+15	a+65	a+45	78±5	34.5±5	1404			
1609	出	a+18	a+78	a+54	116±7	56±7	1504			
1709		a+20	a+98	a+68	138±6	63±6	1604			

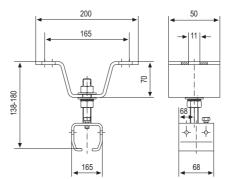


ADJUSTABLE SUPPORT BRACKET

Part No	Dimensions (mm)									
	а	b	С	d	е	f	М	g	1	Screw
304	45.5	50	16	26	22.5	87	M16	4	55	M8
404	54	60	20	36	30	87	M16	4.5	68	M8
504	75	80	25	47	41.5	133	M20	6	90	M8
604	94	100	32	50	48	133	M20	8	110	M10
704	134	114	38	84	45	189	M30	10	120	M12

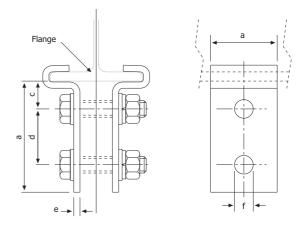


Typical Bracket for use with this support



CLAMP BRACKET

Part No	Dimensions (mm)						
	а	b	С	d	е	øf	Screw
1307	98	50	33	45	6	13	M12
1507	110	70	40	45	8	17	M16









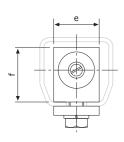
STOPS & FESTOON ACCESSORIES

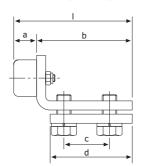
END STOP

*Used for 700 Series Also

Part No	Dimensions (mm)							
	а	b	С	d	е	f	1	Screw
1300P	10	60	30	60	20	25	70	M8
1400P	10	65	30	60	30	29	75	M8
1500P	25	88	40	80	40	50	113	M12
1600P*	25	105	50	90	50	60	130	M16

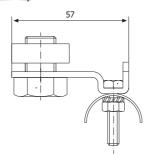
We recommend fitting a dead stop bolt behind the end stop for extra protection





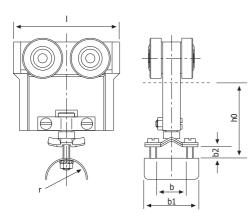
END CABLE CLAMP

Part No	Suitable For Profile Track:
1435E	300 & 400
1535E	500, 600, 700



CABLE TROLLEY

Part No	To Suit Profile	Dimensions (mm)						
		h0	I	b	b1	b2	r	
1435KM	400	32	60	23	40	10	14	
1535KM	500	56.5	78	23	40	10	14	
1735KM	600	55.5	78	23	40	10	14	
1735KM	700	53.5	78	23	40	10	14	



SWITCHES

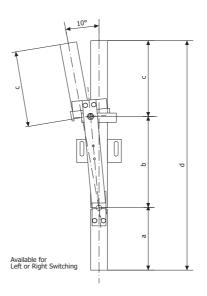
IO° SWITCH

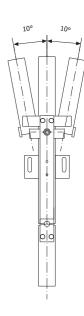
Pa N	irt o	Dimensions (m		(mm)	
Single	Double	а	d	С	d
1331	1333	170	230	200	600
1431	1433	190	280	230	700
1531	1533	250	370	280	900
1631	1633	290	460	350	1100
1731	1733	370	510	420	1300

We recommend fitting a dead stop bolt behind the end stop for extra protection $% \left\{ 1\right\} =\left\{ 1\right\} =\left\{$

These switches can be actuated by: -

- Standard Points Control Mechanism
- Double Chain Pull
- Pneumatic or Electrical/Pneumatic Actuation
- Mechanical Remote Control





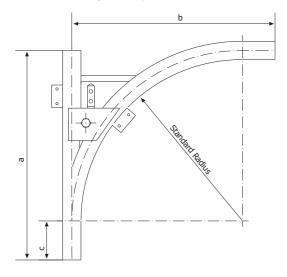
90° SINGLE SWITCH

Part No	Dimensions (mm)				
	а	b	С		
1331ZA	750	750	140		
1431ZA	750	750	140		
1531ZA	900	805	200		
1631ZA	1100	1000	210		

These switches can be actuated by:

- Chain Pull
- · Operating Lever
- Spring Operation
- Alternating Automatically
- Automated
- Pneumatically

Also available with special radii, consult our sales office.



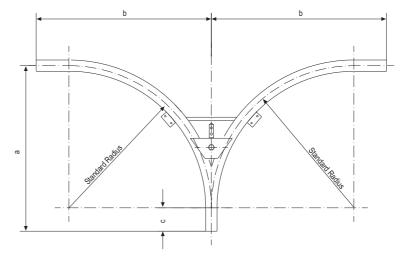
90° DOUBLE SWITCH

Part No	Dimensions (mm)					
	a b c					
1332ZA	750	750	140			
1432ZA	750	750	140			
1532ZA	805	805	200			
1632ZA	1000	1000	210			

These switches can be actuated by: -

- Chain Pull
- Operating Lever
- Spring Operation
- · Alternating Automatically
- Automated
- Pneumatically

Also available with special radii, consult our sales office.



90° SWITCH & TURNTABLE

Part No	Dimensions (mm)				
	а		С		
1332ZA2	830	200	140		
1432ZA2	810	200	140		
1532ZA2	855	250	200		
1632ZA2	1040	250	210		

These switches can be actuated by:

- Chain Pull
- Operating Lever
- Spring Operation
- Alternating Automatically
- Automated
- Pneumatically

Also available with special radii, consult our sales office.

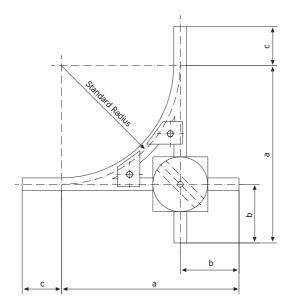
90° THREE WAY SWITCH

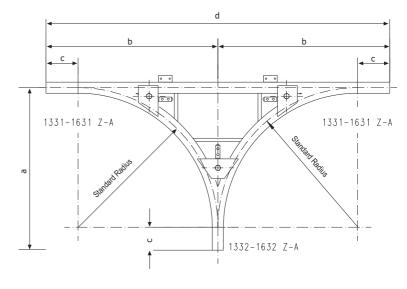
Part No	Dimensions (mm)				
	а	b	С		
1332ZA1	770	750	140		
1432ZA1	750	750	140		
1532ZA1	805	805	200		
1632ZA1	1000	1000	210		

These switches can be actuated by:

- Chain Pull
- Operating Lever
- Spring Operation
- Alternating Automatically
- Automated
- Pneumatically

Also available with special radii, consult our sales office.







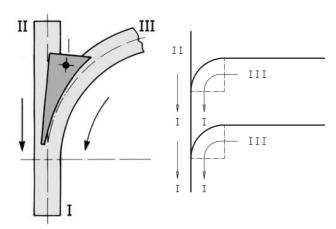


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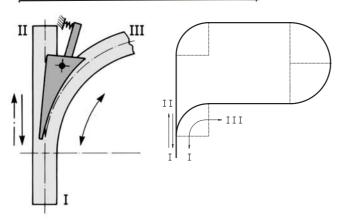
SELF ACTUATING AUTOMATED SWITCHES

TONGUE TYPE A



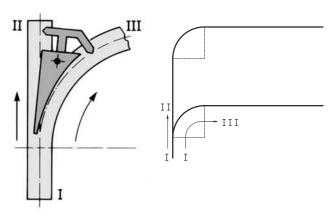
Tongue moves freely to allow travel directions from II to I and III to I

PRESSURE SPRING TYPE B



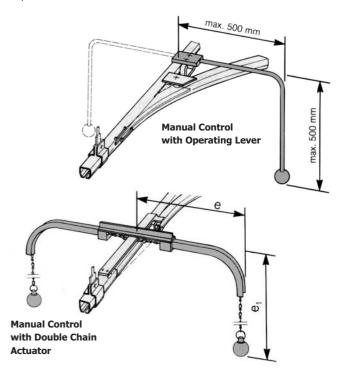
Spring tension ensures tongue is always in correct position to allow travel directions $\rm II$ to $\rm I$, $\rm III$ to $\rm I$ & either $\rm I$ to $\rm III$ or $\rm I$ to $\rm II$.

ALTERNATING TYPE C



Tongue is set to alternate to allow to allow travel I to II and then I to III automatically.

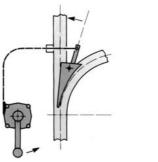
MANUAL & REMOTE CONTROLS FOR SWITCHES

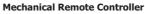


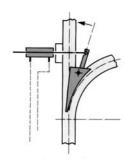
Manual control of switches using the Operating Lever option can only be utilised on installations where the track height is no higher than 2200mm. For installations higher than this dimension the Double Chain Actuator option should be chosen. The dimension "e" and "e1" (normally 500mm) can be altered to suit the application height.

The Double Chain Actuator is also recommended for low installations if the loads being transported are bulky and access to the switch area is restricted.

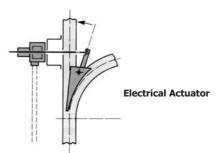
SPECIALS







Pneumatic Cylinder









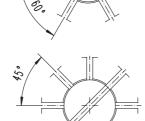
TURNTABLES

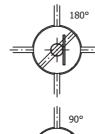
90° SINGLE TRACK TURNTABLE

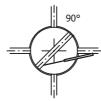
Part No	Dimensions (mm)					
	а	d				
1340	850	450	34			
1440	850	450	34			
1540	1100	600	56			
1640	1300	700	63			
1740	1800	1000	90			

This standard turntable can be configured for operation with 45°

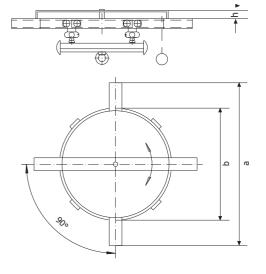
and 60° turns, consult our sales





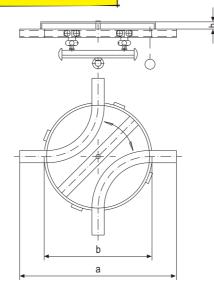


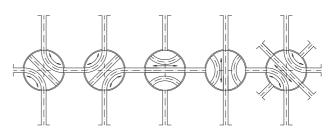
Pneumatic operation available for 90° and 180° rotation.



COMBINATION TURNTABLE

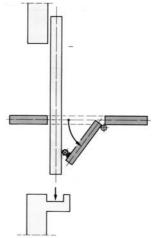
Part No	Dimensions (mm)					
	а	d				
1343	1300	900	34			
1443	1300	900	34			
1543	1800	1300	56			
1643	2200	1600	63			
1743	2800	2000	90			





Typical Layouts

SYSTEM BREAK SWITCH

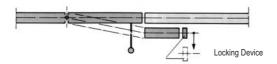


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Where the system feeds an area normally closed off by a door, for example cold store or for fire protection, this unit is fitted to allow the door to be closed when access and load transportation is not required, thus leaving the closed off area functional.

A locking device prevents the load trolleys from falling out the system when the switch is open.

ENTRY/EXIT SECTIONS



These units allow for suspension trolleys and hangers to be loaded and unloaded according to system demand and also for planned inspection. A locking device is fitted to prevent the trolleys from falling when the section is opened. After closing the switch the trolley can be safely removed.



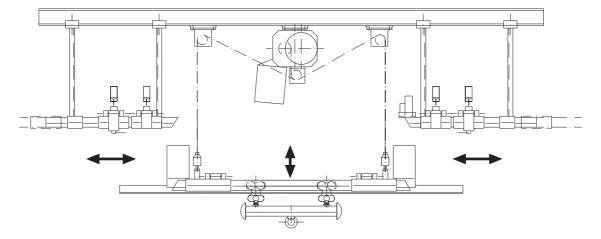


LOADING & UNLOADING

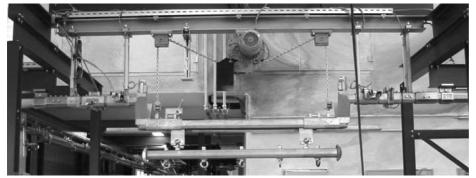
Manual Lifting Device Localised Powered Lifting Continuous Powered Lifting

There are three standard alternatives for loading and unloading conveyor systems. These are via a **Manual Lifting Device**, which allows for loading throughout the system. **Localised Powered Lifting** where the lifting device is powered only where the loading and unloading is to take place. Thirdly, **Continuous Powered Lifting** throughout the system. This option allows operators to load and unload anywhere along the system as with the manual option, but using a powered lifting device.

DROP / LIFT SECTION



The ultimate alternative for loading and unloading systems, our **Drop Lift Section** offers complete safety through PLC control. As the designated track section lowers, the control limits ensure that all stops and transfer sections are engaged. Ideal for constant loading applications. For more details contact our sales office.













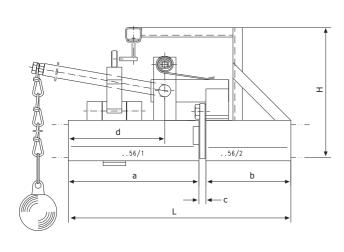
TRANSFERS

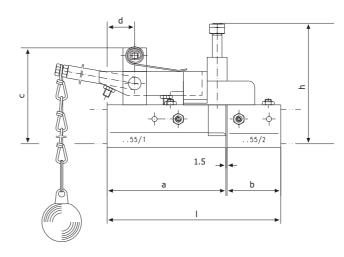
TYPE 1

Part No	Dimensions (mm)						
	L	Н		b		d	
1356	325	191	190	120	15	170	
1456	390	200	225	150	15	170	
1556	470	264	270	180	20	170	
1656	530	282	310	100	20	170	
1756	530	324	300	200	30	170	

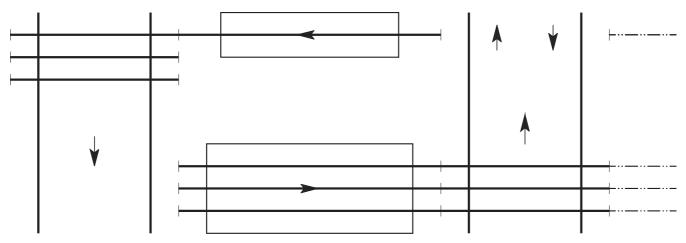
TYPE 2 - NEW

Part No	Dimensions (mm)					
	L	Н	а	b	С	d
1355	176.5	144	120	55	113	35
1455	219.5	152	150	68	121	35
1555	271.5	204	180	90	164	52
1655	311.5	221	200	110	181	68
1755	371.5	351	250	120	219	105





Typical Layouts







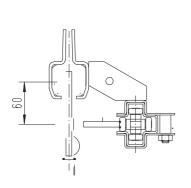


POWER & FREE CONVEYORS

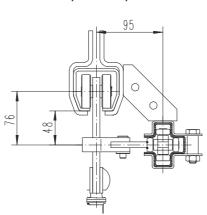
The addition of our F40 or F60 conveyor track offers the ability to transform any manual **MET-TRACK**® system in to a high performance Power & Free system. All our power and free options can be fitted to new and existing installations.

The use of this system is ideal for transportation of loads in areas of high temperatures and aggressive substances, the bridging of height differences or the monitoring and control of production line work through-put.

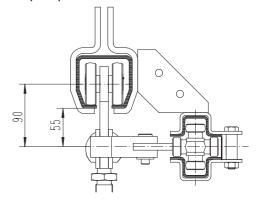
For further information on our circular conveyors and power and free conveyors please consult our sales office.



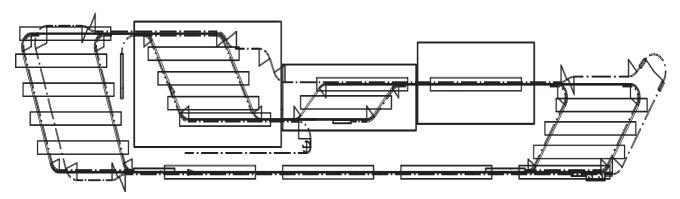
Met-Track® Profile **400** with Power & Free Conveyor **F40** Maximum Loading 160kg



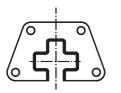
Met-Track* Profile **500** with Power & Free Conveyor **F40** Maximum Loading 400kg

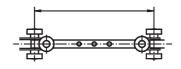


Met-Track® Profile **600** with Power & Free Conveyor **F60** Maximum Loading 1500kg



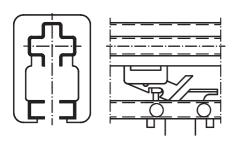
Example Layout, showing various work areas and the transportation routes created utilising our conveyor systems.



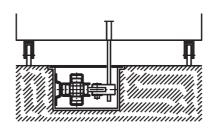


Conveyor Track F40

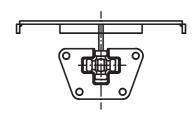
Conveyor Track F60



Power & Free **F40-2**



Underfloor Conveyor Type **F40/F60**



Suspended Conveyor F40-S & F60-S









POWERFEED SYSTEMS

- Festoon Systems
- Standard & Custom Reeling Drums
- Cable & Hose Drag Chains
- Conductor Systems
- Collector Columns
- Flexible Cables
- Plug & Sockets
- Pendant Control Stations
- Radio Remote Pendants
- Worm Gear Limit Switches
- Foot Switches

SAFETY SYSTEMS

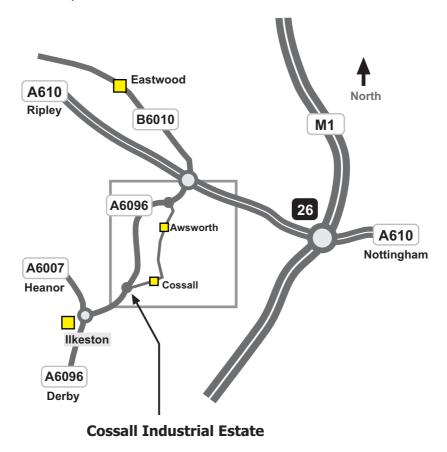
- Vertical Fall Arrest Ladder Systems
- Safetrack Horizontal Track Systems
- Horizontal Wire Systems

MECHANICAL HANDLING

- **MET-TRACK®** Light Cranes
- **MET-TRACK®** Monorails & Conveyors
- **MET-TRACK®** Sliding Door Gear
- **MET-TRACK®** Custom Track Systems
- **Alu-Lift**® Portable Aluminium Gantry
- **Tool Balancers**

OFFSHORE DIVISION

- Cable & Hose Drag Chains
- Cable & Hose Festoon Systems
- Cable & Hose Booms
- Cable & Hose Reeling Drums





Cossall Industrial Estate, Coronation Road, Ilkeston, Derbyshire DE7 5UA



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