

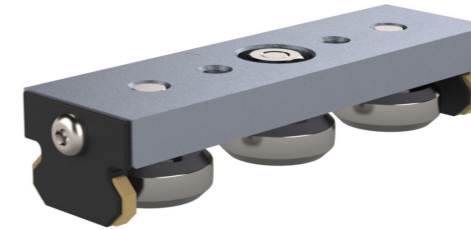
UTILITRAK LINEAR GUIDES

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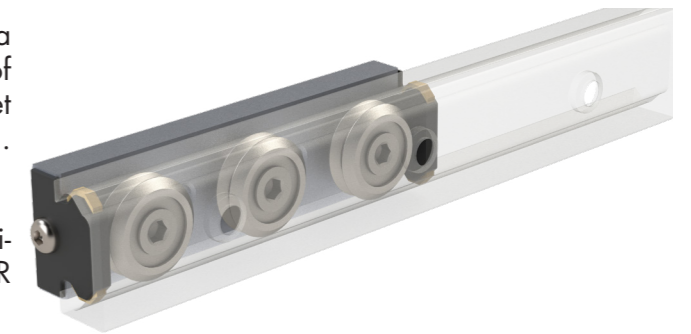
Introducing UtiliTrak® Linear Guides

The UtiliTrak linear guide system from Bishop-Wisecarver is designed for commercial applications which can benefit from ease of installation, narrow footprint and minimal maintenance.



UtiliTrak offers high reliability in a compact design. It can be mounted to an unmachined surface and has a wide tolerance for misalignment when running parallel guides. Material and seal options ensure an option for a wide variety of applications including hostile environments and high temperatures.

UtiliTrak Industry standard V technology offers a low maintenance solution reducing the life cost of the system. Benefits include low friction and quiet operation as well as high speeds and acceleration.



The VC range offers a default choice for most applications with alternative formats in SW, PW and CR options for more specialised requirements:

- **VC** – Carbon steel hybrid DualVee technology, simple design, ideal for the majority of commercial applications
- **SW** – Carbon steel combining DualVee V wheels and MadeWell Crown rollers where additional compliance in alignment is required
- **PW** – Based on aluminium channel and polymer overmoulded wheels, suitable for low load applications where weight is a consideration, and/or corrosion resistance is required
- **CR** – Stainless steel track mounted to an aluminium channel, suited to heavier applications where corrosion resistance is a pre-requisite

Features and benefits



Harsh Environments



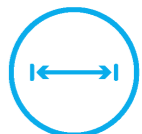
Low noise



High temperatures



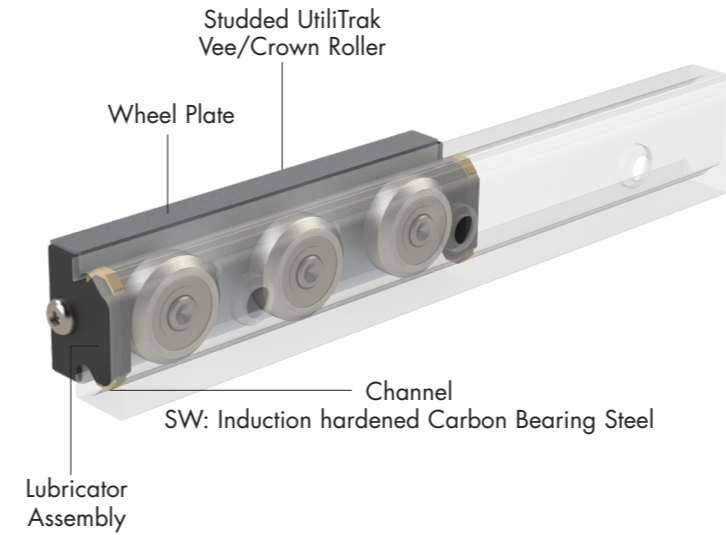
Smooth running



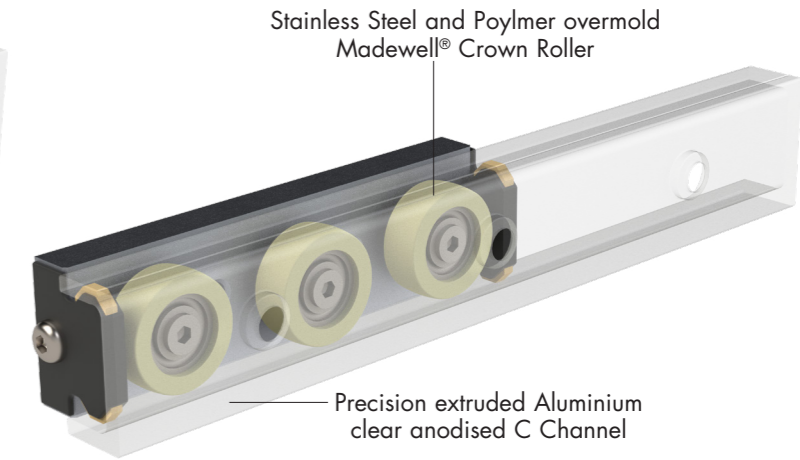
Unlimited travel lengths

		VC Series	PW Series		SW Series		CR Series
		Vee/Crown	Crown	90° Vee	Crown	90° Vee	90° Vee
Overview	Compatible Channel	90° Vee Channel Open 'C' Channel	Open 'C' Channel	90° Vee Channel	Open 'C' Channel	90° Vee Channel	90° Vee Composite Channel
	Compatible Wheel Plate	90° Vee/Crown	Crown Roller	90° Vee	Crown Roller	90° Vee	90° Vee
	Loading Direction	Vee is Axial & Radial Crown is Radial Only	Radial Only	Axial & Radial	Radial Only	Axial & Radial	Axial & Radial
	Optional Brake	Yes	Yes	Yes	Yes	Yes	Not Available
	Available Sizes	1, 2, 3	0, 1, 2	0, 1, 2	1, 2, 3	1, 2, 3	1, 2, 3
Channel	Material(s)	Carbon Steel	Aluminum	Aluminum	Carbon Steel	Carbon Steel	Stainless Steel & Aluminum
	Standard Coating	Polyurethane Paint Black Oxide (2019)	Clear Anodise	Clear Anodise	Polyurethane Paint Black Oxide (2019)	Polyurethane Paint Black Oxide (2019)	Clear Anodise
	Hardened	Yes	No	No	Yes	Yes	Yes
	Finish	Precision Ground	Extruded	Extruded	Precision Ground	Precision Ground	Polished
Wheel Plate	# of Wheels	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5	3
	Bearings	Double Row Angular Contact	Single Row Deep Groove	Single Row Deep Groove	Double Row Angular Contact	Double Row Angular Contact	Double Row Angular Contact
	Wheel Material	Carbon Steel	Polymer Overmold Stainless Steel	Polymer Overmold Stainless Steel	Carbon Steel	Carbon Steel	Stainless Steel
	Wheel Material Grade	52100	Polyacetal & 440C	Polyacetal & 440C	52100	52100	440C
	Max Angular Misalignment	+/- 2°	+/- 7°	0°	+/- 7°	0°	0°
	Wheel Bottom Hex Feature (Size 2 and 3)	Not Available	Standard	Standard	Standard	Optional	Not Available
	Preloaded Adjustment Hex	Metric	Metric	Metric	Metric	Inch	Metric
	Lubrications	Molded Nylon End Caps	Molded Nylon End Caps	Molded Nylon End Caps	Molded Nylon End Caps	Molded Nylon End Caps	Stamped Stainless Steel Center Mounted
	Wheel Protection	Sealed	Sealed	Sealed	Sealed Shielded	Sealed Shielded Seal/Shield Washroom	Sealed Seal/Shield
	Wheel Versions	Carbon Steel	Corrosion Resistant	Corrosion Resistant	Carbon Steel	Carbon Steel Corrosion Resistant Food/Pharma High/Low Temp. Vacuum Washdown	Corrosion Resistant

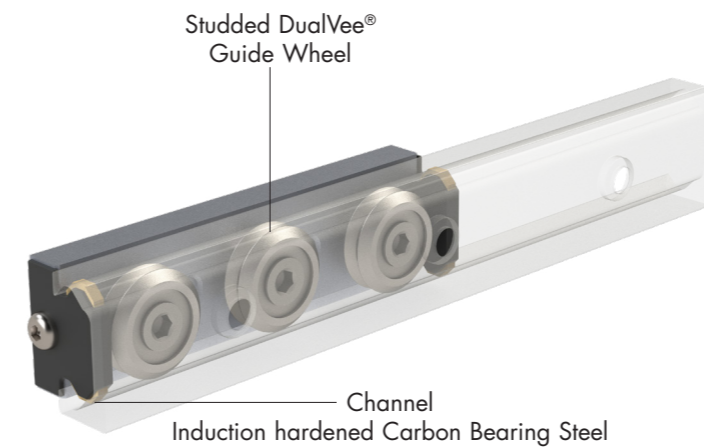
VC WHEEL PLATE IN 90° VEE CHANNEL



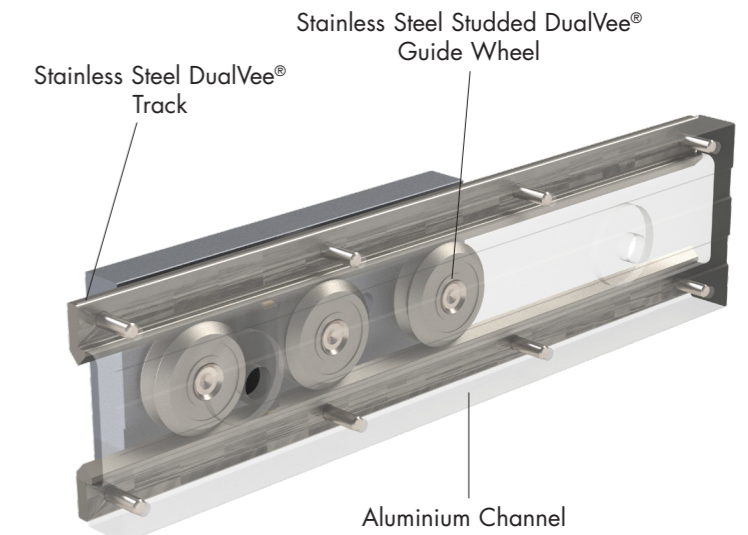
PW CROWN WHEEL PLATE IN OPEN C CHANNEL



SW WHEEL PLATE WITH VEE WHEELS IN CHANNEL



CR WHEEL PLATE IN COMPOSITE CHANNEL



VC Series 3 Wheel Carriage Assemblies

VC Series

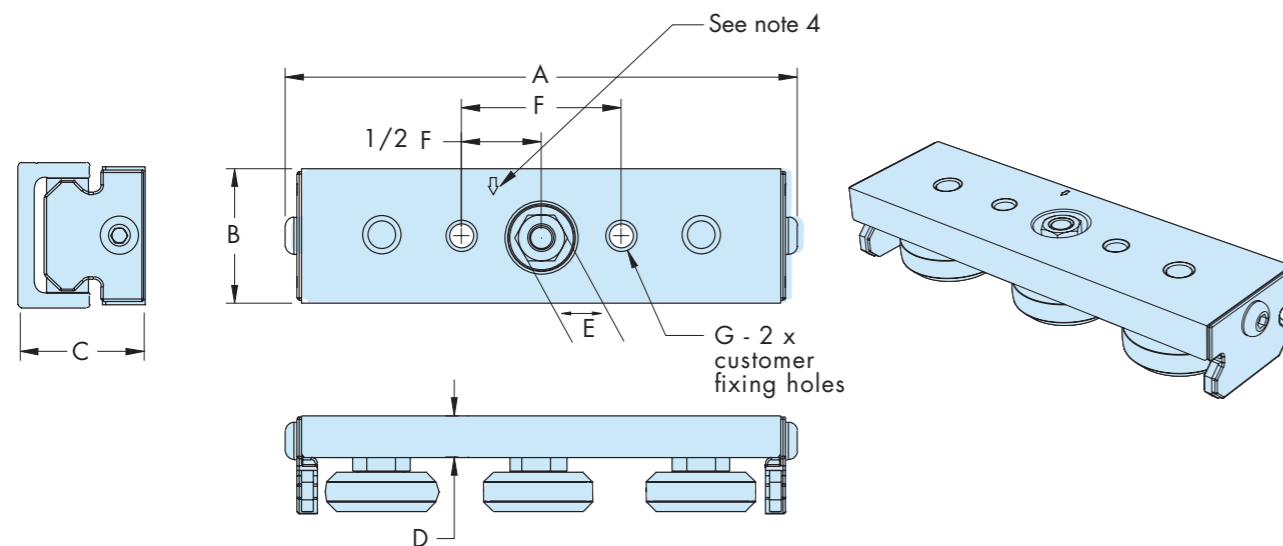
- Simple installation
- Can be used with both V and C channel profiles
- Up to 2° misalignment in C channel profiles
- Eccentric bearing for easy wheel plate adjustment
- Wheels fitted with nitrile seals
- Low rolling resistance
- Low noise
- High speed capacity
- Butt-joining precision ground channel for unlimited travel lengths

Dimensions

UtiliTrak® Size	VC Series 3 Part No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
1	UTVC1XWPA	113.5	24	26.3	8.8	10	40	M6x1
2	UTVC2XWPA	144.2	38	35	11.8	13	45	M8x1.25
3	UTVC3XWPA	201.3	55	50	15.8	15	60	M10x1.5

Load Capacity

UtiliTrak® Size	Radial F_R (N)	Axial F_A (N)	M_P (Nm)	M_Y (Nm)	M_R (Nm)	Mass (g)
VC Series 3 Wheel Carriage						
1	2900	719	18	30.5	7	121
2	5300	1475	58	100	22.7	348
3	11800	5100	229	346	118	999



Notes:

- See V Channel on page 7.
- See Open Channel on page 9.
- See page 17 for Load / Life formulas.
- Arrow indicates optimal direction of load orientation. Indicated F_R load capacity is reduced for loads in the opposite direction for 3 and 5 wheel carriages.

VC Series 4 and 5 Wheel Carriage Assemblies

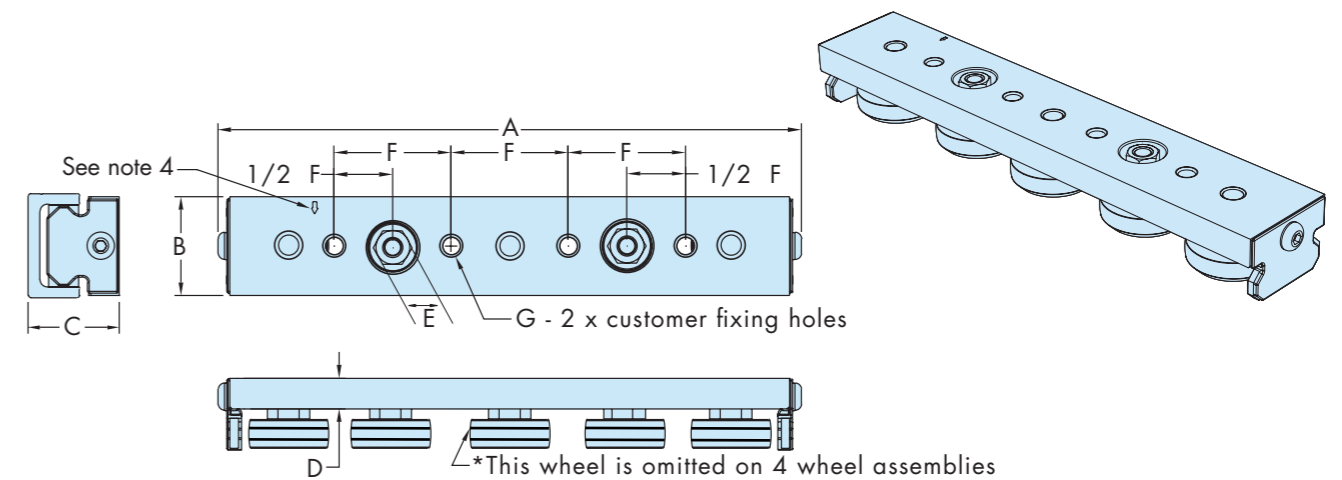
Dimensions

UtiliTrak® Size	VC Series 4 Part No.	VC Series 5 Part No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
1	UTVC1XWPA4	UTVC1XWPA5	166.5	24	26.3	8.8	10	35	M6x1
2	UTVC2XWPA4	UTVC2XWPA5	224.2	38	35	11.8	13	45	M8x1.25
3	UTVC3XWPA4	UTVC3XWPA5	317.3	55	50	15.8	15	60	M10x1.5

Load Capacity

UtiliTrak® Size	Radial F_R (N)	Axial F_A (N)	M_P (Nm)	M_Y (Nm)	M_R (Nm)	Mass (g)	Radial F_R^{*5} (N)	Axial F_A (N)	M_P (Nm)	M_Y (Nm)	M_R (Nm)	Mass (g)
	VC Series 4 Wheel Carriage						VC Series 5 Wheel Carriage					
1	2440	862	32.3	30.5	45.8	173	2900	1014	32.3	45.8	12.6	193
2	5300	1770	58	107	150	503	6300	2080	107	150	40.9	573
3	11800	6122	229	408	519	1446	14040	7140	408	519	212.4	1632

Application loads are generally less than the maximum capacity shown. It is strongly recommended that load and life are determined using the calculations shown on page 17.



Notes:

- See V Channel on page 7.
- See Open Channel on page 9.
- See page 17 for Load / Life formulas.
- Arrow indicates optimal direction of load orientation. Indicated F_R load capacity is reduced for loads in the opposite direction for 3 and 5 wheel carriages.

PW/SW Series 3 Wheel Carriage Assemblies

PW Series

- Vee style carriage assembly for PW Series aluminum channel
- Light to medium duty transport applications
- Low noise
- Lightweight and economical

SW Series

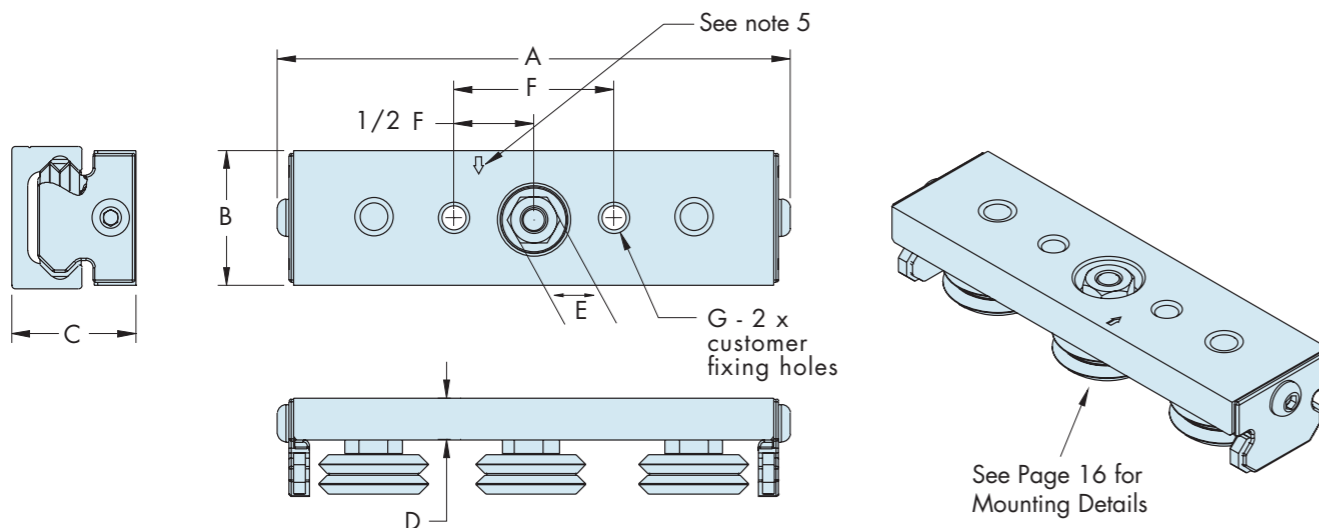
- Vee style carriage assembly for SW Series steel channel
- Medium to heavy duty transport applications
- High speed capability
- Smooth antifriction operation

Dimensions

UtiliTrak® Size	PW ⁴ Part No.	VC/SW ¹ Part No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
0	UTOWPAP	-	79.9	18	22	7.9	8	22	M4x0.7
1	UT1WPAP	UT1WPAX	113.5	24	26.3	8.8	10	40	M6x1
2	UT2WPAP	UT2WPAX	144.2	38	35	11.8	13	45	M8x1.25
3	-	UT3WPAX	201.3	55	50	15.8	15	60	M10x1.5

Load Capacity

UtiliTrak® Size	Radial F _R (N)	Axial F _A (N)	M _P (Nm)	M _Y (Nm)	M _R (Nm)	C (N)	Radial F _R ^{*5} (N)	Axial F _A (N)	M _P (Nm)	M _Y (Nm)	M _R (Nm)	C (N)
	PW Series Wheel Carriage						SW Series Wheel Carriage					
0	55	88	3	1.5	1	130	-	-	-	-	-	-
1	110	155	8	3	2	200	2440	719	18	30.5	7	5600
2	165	311	18	8	4	350	5300	1475	58	100	22.7	10200
3	-	-	-	-	-	-	11800	5100	229	346	118	21600



Notes:

1. SW series comes standard with shielded wheels, for wheels with Nitrile seals add "X" to the end of the Part Number as follows: UT1WPAX.
2. See page 17 for Load / Life formulas.
3. See page 16 for mounting orientation.
4. PW wheel carriages have polymer outer Vee wheels over moulded on stainless steel bearings.
5. Arrow indicates optimal direction of load orientation. Indicated F_R load capacity is reduced for loads in the opposite direction for 3 and 5 wheel carriages.

VC/PW/SW Series Vee Channel

PW Series

- Matched component for PW Series Vee wheel carriage assemblies
- 6063-T6 aluminum alloy channel
- Lightweight

VC/SW Series

- Matched component for VC and SW Series Vee wheel carriage assemblies
- Carbon bearing steel with hardened raceways
- Running surface smooth to Ra 0.8µm

Dimensions

UtiliTrak® Size	PW Part No.	VC/SW Part No.	H (mm)	J (mm)	K (mm)	L Max ¹	M (mm)	N Dia x Depth (Counterbore)	O (Mounting Hole)	P (mm)
0	UTTA0	-	11	4	20	3600	See formula below	8.3 x 3	4.8	80
1	UTTA1	UTTS1	15	4	26	3600		9.8 x 2.8	5.8	80
2	UTTA2	UTTS2	19.7	4.5	40	3600		14.3 x 3	8.8	80
3	-	UTTS3	30	8	58	3600		14.3 x 5	8.8	80

Weights

UtiliTrak® Size	Channel Weight (kg/m)	Wheel Carriage Weight (g)	Wheel Carriage Weight (g)	
			PW Series	SW Series
0	0.3	46	-	-
1	0.5	92	1.46	114
2	0.93	243	2.7	330
3	-	-	5.91	943

To Calculate M:

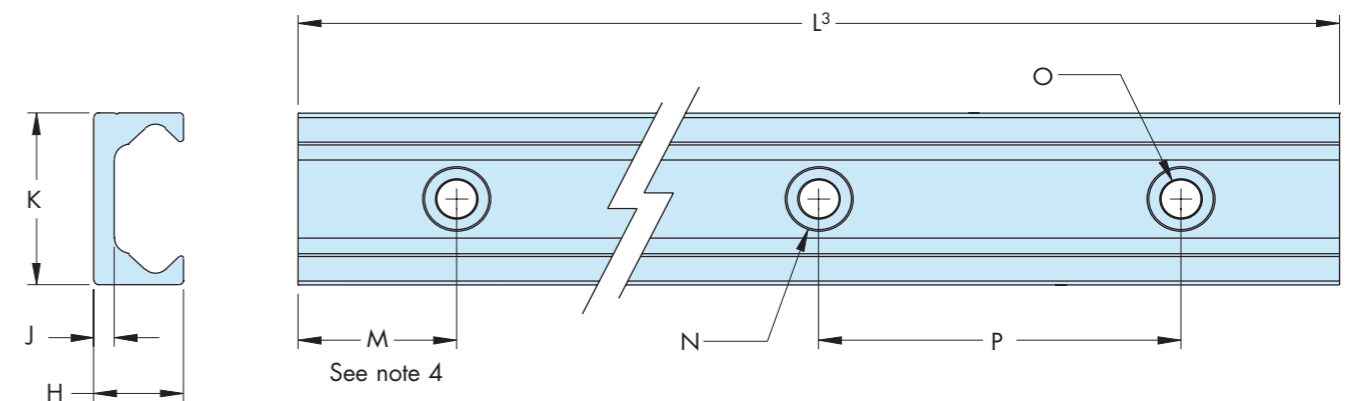
Step 1: Calculate number of hole spaces

$$\frac{\text{Length (in mm)} - X}{80} = \# \text{ of hole spaces (round down to nearest whole number)}$$

- X = 14 (size 0)
- X = 16 (size 1)
- X = 18 (size 2)
- X = 20 (size 3)

Step 2: Calculate M

$$\frac{\text{Length} - (\# \text{ of spaces} \times 80)}{2} = M \quad (\text{Note 4})$$



Notes:

1. "L" is maximum one piece length.
2. For ordering add length in mm after Part Number Ex. UTTA0-1000 (one metre length).
3. Overall length +/- 2 mm.
4. Customer to advise 'M' dimensions when ordering, otherwise end hole position will be equal at both ends.

PW/SW Series Crown Roller 3 Wheel Carriage Assemblies

PW Series

- Crown roller style carriage assembly for PW Series aluminum channel
- Intended for radial loads only
- Low noise
- Lightweight and economical

SW Series

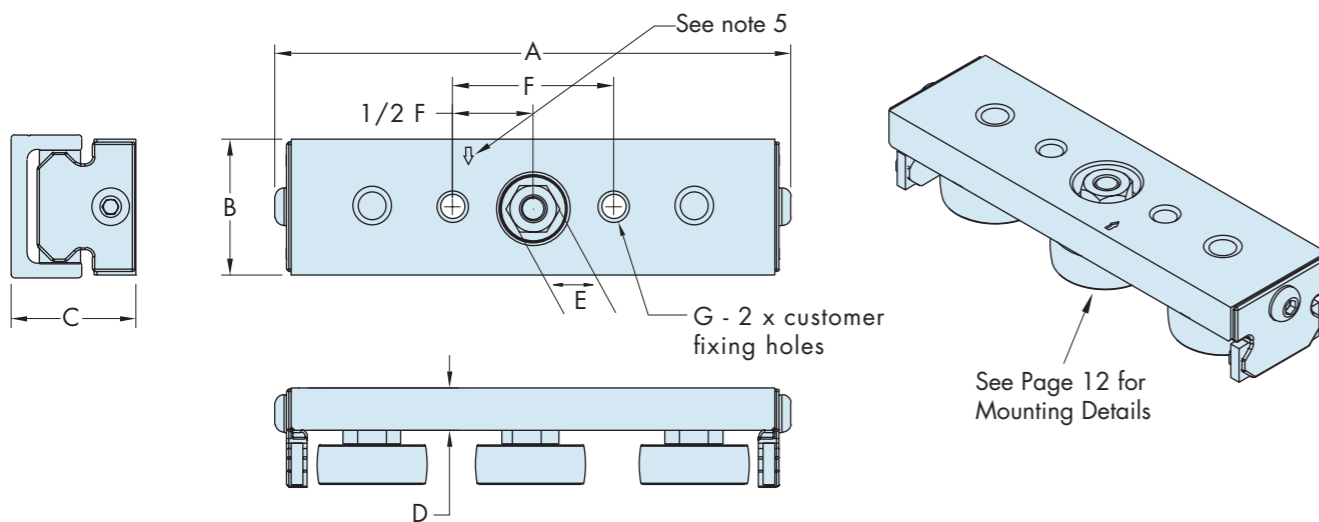
- Crown roller style carriage assembly for SW Series steel channel
- Intended for radial loads only
- High speed capability
- Smooth antifriction operation

Dimensions

UtiliTrak® Size	PW ⁴ Part No.	SW ¹ Part No.	A (mm)	B (mm)	C Min-Max	D (mm)	E (mm)	F (mm)	G (mm)
0	UTOWPAPR	-	79.9	18	22-23.1	7.9	8	22	M4x0.7
1	UT1WPAPR	UT1WPAR	113.5	24	25.3-27.6	8.8	10	40	M6x1
2	UT2WPAPR	UT2WPAR	144.2	38	34.7-37.4	11.8	13	45	M8x1.25
3	-	UT3WPAR	201.3	55	46.9-53.4	15.8	15	60	M10x1.5

Load Capacity

UtiliTrak® Size	Radial F _R (N)	Axial F _A (N)	M _P (Nm)	M _Y (Nm)	M _R (Nm)	C (N)	Radial F _R ^{*5} (N)	Axial F _A (N)	M _P (Nm)	M _Y (Nm)	M _R (Nm)	C (N)
	PW Series Wheel Carriage						SW Series Wheel Carriage					
0	55	0	0	1.5	0	130	-	-	-	-	-	-
1	110	0	0	3	0	200	2440	0	0	30.5	0	5600
2	165	0	0	8	0	350	5300	0	0	100	0	10200
3	-	-	-	-	-	-	11800	0	0	346	0	21600



Notes:

1. SW series comes standard with shielded wheels, for wheels with Nitrile seals add "X" to the Part Number as follows: UT1WPAXR, UT2WPAXR, UT3WPAXR.
2. See page 17 for Load / Life formulas.
3. See page 16 for mounting orientation.
4. PW wheel carriages have polymer outer wheels over moulded on stainless steel bearings.
5. Arrow indicates optimal direction of load orientation. Indicated F_R load capacity is reduced for loads in the opposite direction for 3 and 5 wheel carriages.

VC/PW/SW Series Open Channel

PW Series

- Matched component for PW Series MadeWell™ crown roller carriage assemblies
- 6063-T6 aluminum alloy channel
- Lightweight

VC/SW Series

- Matched component for SW Series crown roller carriage assemblies
- Carbon bearing steel with hardened raceways
- Running surface smooth to Ra 0.8µm

Dimensions

UtiliTrak® Size	PW Part No.	SW Part No.	H	J	K	L Max ¹	M	N Dia x Depth (Counterbore)	O (Mounting Hole)	P
0	UTTRA0	-	11	4	20	3600	See formula below	8.3 x 3	4.8	80
1	UTTRA1	UTTRS1	15	4	26	3600		9.8 x 2.8	5.8	80
2	UTTRA2	UTTRS2	19.7	4.5	40	3600		14.3 x 3	8.8	80
3	-	UTTRS3	30	8	58	3600		14.3 x 5	8.8	80

Weights

UtiliTrak® Size	Channel Weight (kg/m)	Wheel Carriage Weight (g)	Channel Weight (kg/m)		Wheel Carriage Weight (g)	
			PW Series	SW Series	PW Series	SW Series
0	0.29	47	-	-	-	-
1	0.43	94	1.33	121	-	-
2	0.8	246	2.47	320	-	-
3	-	-	5.36	910	-	-

To Calculate M:

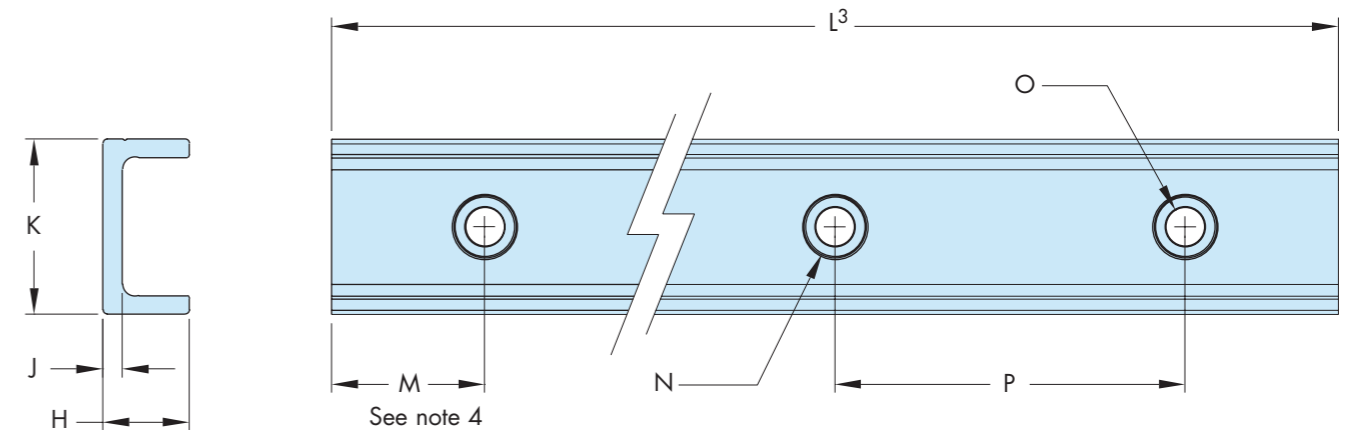
Step 1: Calculate number of hole spaces

$$\frac{\text{Length (in mm)} - X}{80} = \# \text{ of hole spaces (round down to nearest whole number)}$$

- X = 14 (size 0)
- X = 16 (size 1)
- X = 18 (size 2)
- X = 20 (size 3)

Step 2: Calculate M

$$\frac{\text{Length} - (\# \text{ of spaces} \times 80)}{2} = M \quad (\text{Note 4})$$



Notes:

1. "L" is maximum one piece length.
2. For ordering add length in mm after Part Number Ex. UTTRA0-1000 (one metre length).
3. Overall length +/- 2 mm.
4. Customer to advise 'M' dimensions when ordering, otherwise end hole position will be equal at both ends.

SW Series 4 and 5 Wheel Carriage Assemblies

- Vee style extended carriage for SW Series steel channel
- UtiliTrak's® highest load capacity
- Larger surface area

Dimensions

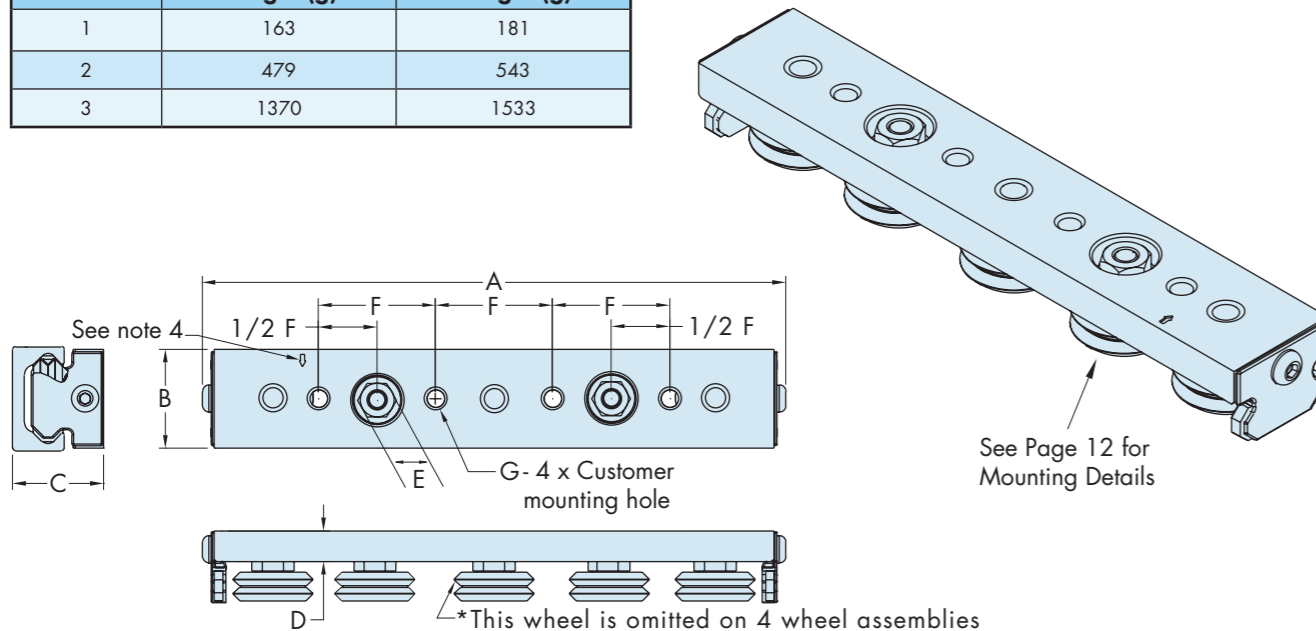
UtiliTrak® Size	4-Wheel ¹ Part No.	5-Wheel ¹ Part No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
1	UT1WPAX-4A	UT1WPAX-5A	166.5	24	26.3	8.8	10	35	M6x1
2	UT2WPAX-4A	UT2WPAX-5A	224.2	38	35	11.8	13	45	M8x1.25
3	UT3WPAX-4A	UT3WPAX-5A	317.3	55	50	15.8	15	60	M10x1.5

Load Capacity

UtiliTrak® Size	Radial F_R (N)	Axial F_A (N)	M_P (Nm)	M_Y (Nm)	M_R (Nm)	C (N)	4-Wheel Carriage						5-Wheel Carriage					
							Radial F_R^{*4} (N)	Axial F_A (N)	M_P (Nm)	M_Y (Nm)	M_R (Nm)	C (N)	Radial F_R^{*4} (N)	Axial F_A (N)	M_P (Nm)	M_Y (Nm)	M_R (Nm)	C (N)
1	2440	862	18	45.8	9.8	5600	2900	1014	18	45.8	12.6	6650	2900	1014	18	45.8	12.6	6650
2	5300	1770	58	150	31.8	10200	6300	2080	58	150	40.9	12110	6300	2080	58	150	40.9	12110
3	11800	6122	229	519	165.2	21600	14040	7140	229	519	212.4	25650	14040	7140	229	519	212.4	25650

Weight

UtiliTrak® Size	SW Series Only	
	4-Wheel Carriage Weight (g)	5-Wheel Carriage Weight (g)
1	163	181
2	479	543
3	1370	1533



Notes:

1. SW series comes standard with shielded wheels, for wheels with Nitrile seals add "X" to the Part number as follows: UT1WPAX-4A, UT2WPAX-5A, etc.
2. See page 17 for Load / Life formulas.
3. See page 16 for mounting orientation.
4. Arrow indicates optimal direction of load orientation. Indicated F_R load capacity is reduced for loads in the opposite direction for 3 and 5 wheel carriages.

SW Series Crown Roller 4 and 5 Wheel Carriage Assemblies

- Crown roller style extended carriage for SW Series steel channel
- UtiliTrak's® highest load capacity
- Larger surface area

Dimensions

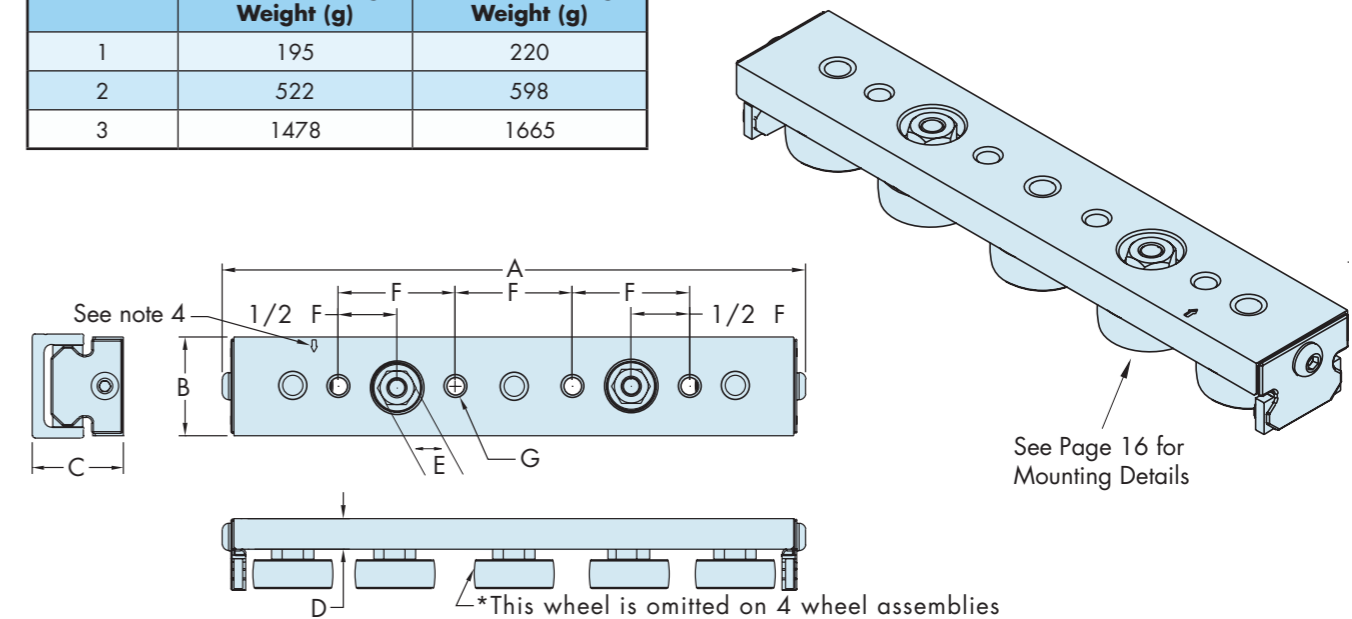
UtiliTrak® Size	4-Wheel ¹ Part No.	5-Wheel ¹ Part No.	A (mm)	B (mm)	C (Min-Max)	D (mm)	E (mm)	F (mm)	G (mm)
1	UT1WPAR-4A	UT1WPAR-5A	166.5	24	25.3 - 27.6	8.8	10	35	M6x1
2	UT2WPAR-4A	UT2WPAR-5A	224.2	38	34.7 - 37.4	11.8	13	45	M8x1.25
3	UT3WPAR-4A	UT3WPAR-5A	317.3	55	46.9 - 53.4	15.8	15	60	M10x1.5

Load Capacity

UtiliTrak® Size	Radial F_R (N)	Axial F_A (N)	M_P (Nm)	M_Y (Nm)	M_R (Nm)	C (N)	4-Wheel Carriage						m5-Wheel Carriage					
							Radial F_R^{*4} (N)	Axial F_A (N)	M_P (Nm)	M_Y (Nm)	M_R (Nm)	C (N)	Radial F_R^{*4} (N)	Axial F_A (N)	M_P (Nm)	M_Y (Nm)	M_R (Nm)	C (N)
1	2440	0	0	45.8	0	5600	2900	0	0	45.8	0	6650	2900	0	0	45.8	0	6650
2	5300	0	0	150	0	10200	6300	0	0	150	0	12110	6300	0	0	150	0	12110
3	11800	0	0	519	0	21600	14040	0	0	519	0	25650	14040	0	0	519	0	25650

Weight

UtiliTrak® Size	SW Series Only	
	4-Wheel Carriage Weight (g)	5-Wheel Carriage Weight (g)
1	195	220
2	522	598
3	1478	1665



Notes:

1. Carriages come standard with shielded wheels, for wheels with Nitrile seals add "X" to the Part Number as follows: UT1WPAXR-4A, UT2WPAXR-5A, etc.
2. See page 17 for Load / Life formulas.
3. See page 16 for mounting orientation.
4. Arrow indicates optimal direction of load orientation. Indicated F_R load capacity is reduced for loads in the opposite direction for 3 and 5 wheel carriages.

CR Series Stainless Steel Wheel Carriage Assemblies

CR Series 3 Wheel Carriage Assembly

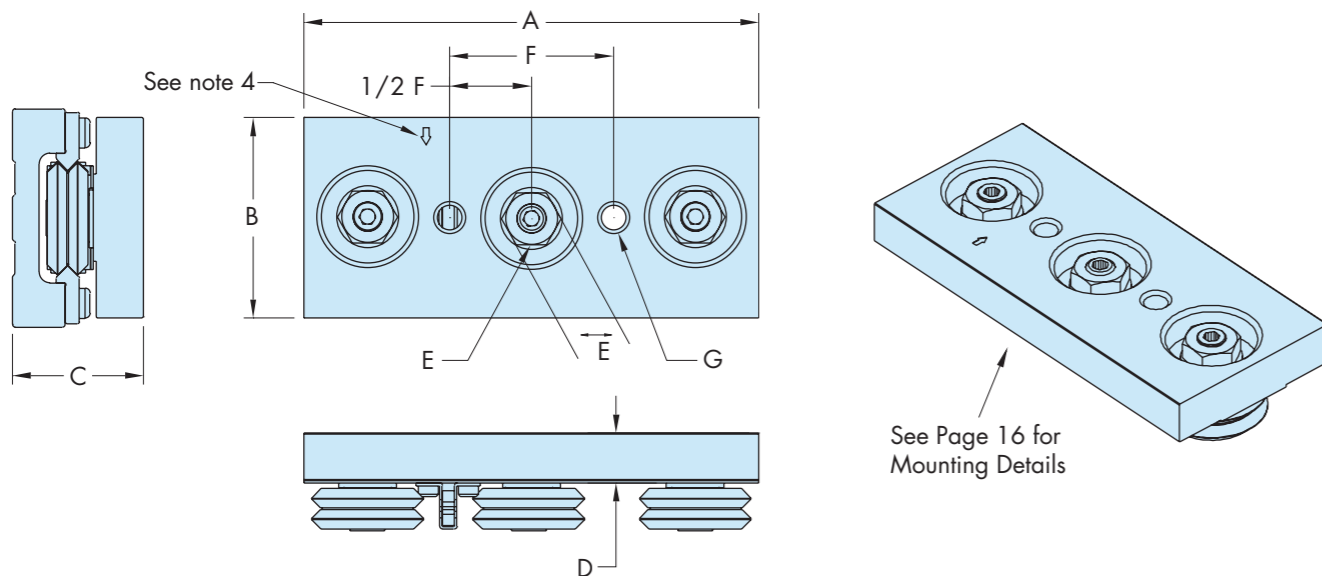
- Vee style carriage assembly for stainless steel composite (CR Series) channel
- 440°C stainless steel, corrosion resistant
- Available in 3-wheel assembly only

Dimensions

UtiliTrak® Size	Part Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
1	UTCCA1-SS	100	38	28	10.1	7	40	M6x1
2	UTCCA2-SS	125	55	36	13.7	13	45	M8x1.25
3	UTCCA3-SS	170	80	50	19.6	17	60	M10x1.5

Load Capacity

UtiliTrak® Size	Radial F_R (N)	Axial F_A (N)	M_P (Nm)	M_Y (Nm)	M_Z (Nm)	C (N)
1	1111	705	14	21	3	1625
2	2671	1749	40	61	9	3900
3	5739	4763	146	176	35	8400



Notes:

1. Clean room or high temperature guide wheel options are available. Contact HepcoMotion for a quotation.
2. Direction of arrow on carriage plate indicates how the load should be oriented to achieve radial loading on the two concentric guide wheels.
3. For clean room/high temperature compatible guide wheels, add "-227" to the end of the Part Number.
4. Arrow indicates optimal direction of load orientation. Indicated F_R load capacity is reduced for loads in the opposite direction for 3 and 5 wheel carriages.

CR Series Stainless Steel Composite Channel Assemblies

- Matched component for CR Series wheel carriage assemblies
- Induction heat treated 420 stainless steel DualVee® track mounted to an extruded aluminum channel
- Corrosion resistant
- Several standard lengths to choose from

Dimensions

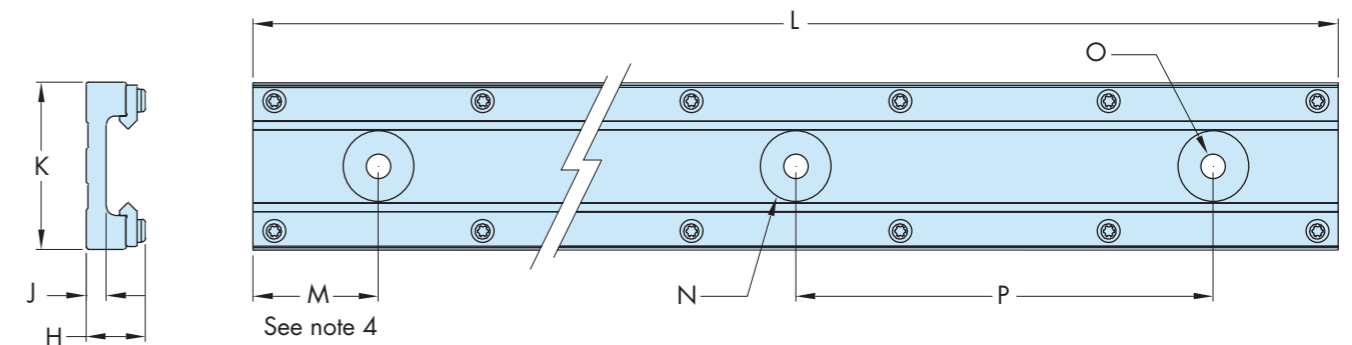
UtiliTrak® Size	Part Number ²	H (mm)	J (mm)	K (mm)	L Max	M (mm)	N Dia x Depth (Counterbore)	O (Mounting Hole)	P (mm)
1	UTCTPA1-length-SS	17.7	5.9	40	3490	45	18.8 x 2	6.9	100
2	UTCTPA2-length-SS	21.5	7.3	60	3390	45	25.4 x 3	8.8	150
3	UTCTPA3-length-SS	29.5	9.0	85	3415	82.5	28.6 x 5	10.5	250

Standard Lengths (mm)

Size 1	Size 2	Size 3
190	240	415
290	390	665
390	540	915
490	690	1165
590	840	1415
690	990	1665
790	1140	1915
890	1290	2165
990	1440	2415
1090	1590	2665
1990	2190	2915
2990	2790	3165
3490	3390	3415

Weight

UtiliTrak® Size	Channel Weight (kg/m)	Carriage Weight (g)
1	1.457	136
2	2.591	385
3	4.884	1107



Notes:

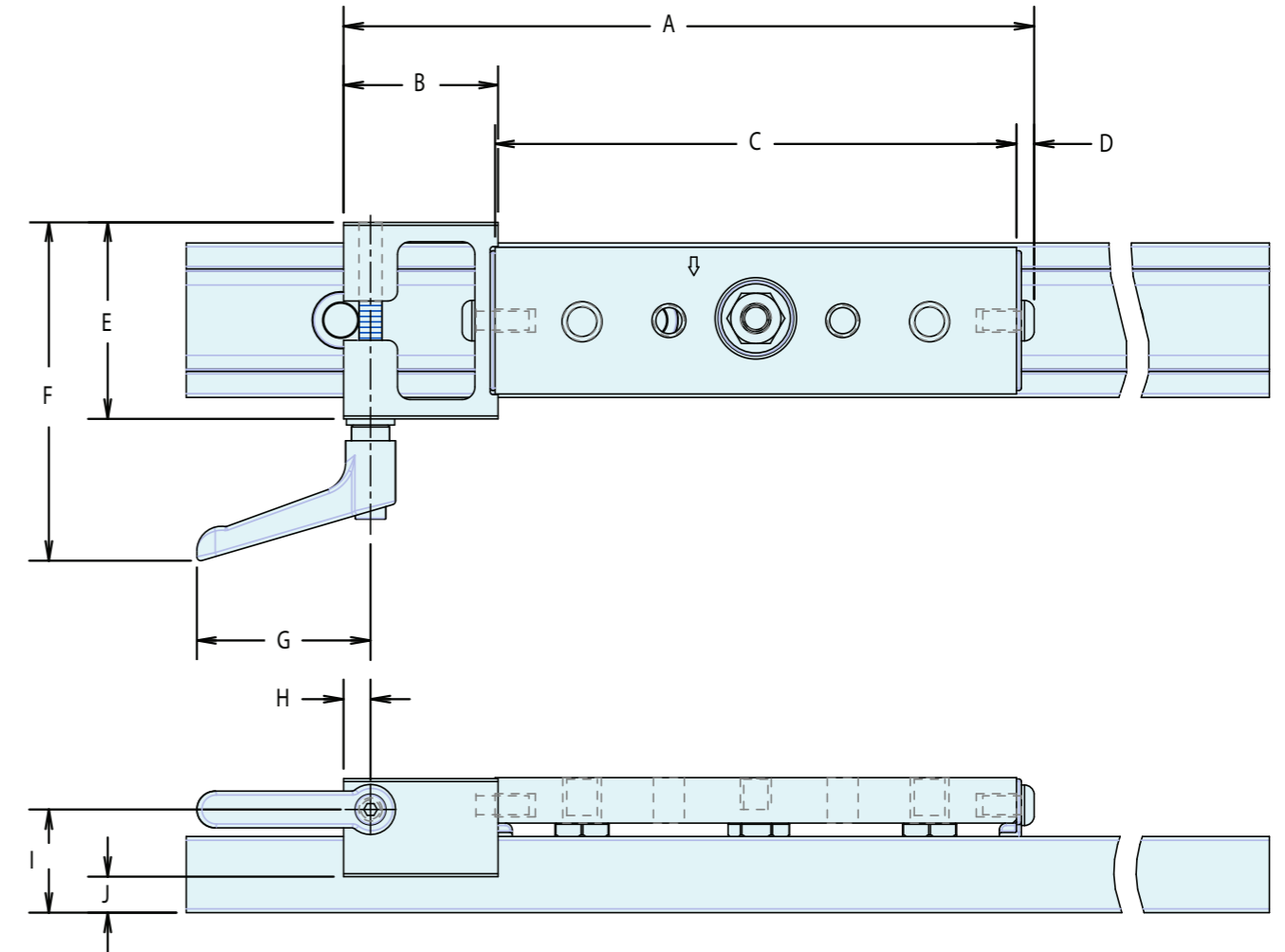
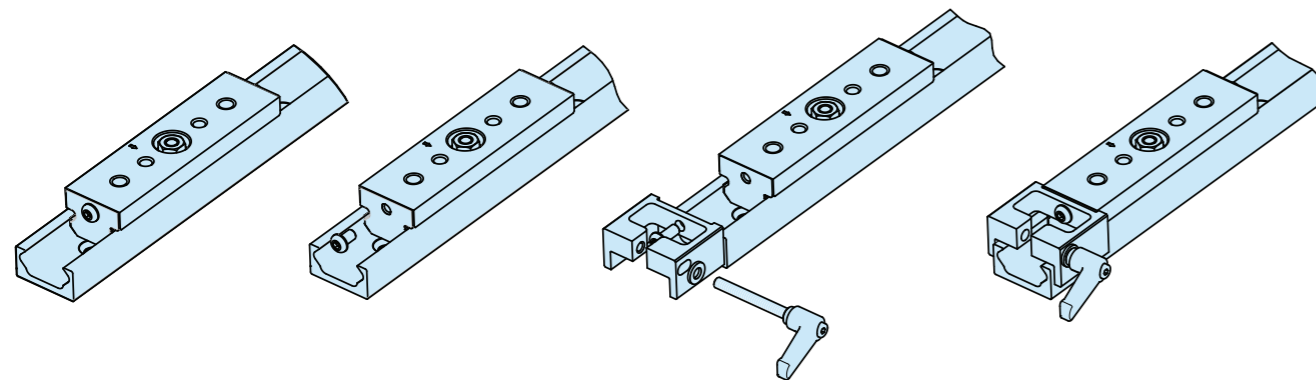
1. Contact HepcoMotion for quotation on non-standard channel lengths.
2. "Length" equals channel length in mm in the middle of the UT channel Part Number.
3. Channel length tolerance is ± 2 mm.
4. Customer to advise 'M' dimensions when ordering, otherwise end hole position will be equal at both ends.

Key Features

- Four available designs for UtiliTrak® sizes 0, 1, 2 & 3
- Brakes fit on VC, SW & PW series carriages. They can be manually locked at any user-selected position on the UtiliTrak® rail
- A compact brake system ideal for applications where handle arm access space is limited
- Easily retrofitted by end-user to existing UtiliTrak® systems or factory pre-assembled on new systems
- An additional brake assembly can be installed at the opposite end of the wheel plate for adding braking strength
- The brake block assembly fits over the existing lubricator end caps
- Simple two-component assembly (brake block and handle)
- The brake block is fabricated from aluminium and hard anodized for corrosion resistance, abrasion resistance, good gripping/braking action, and long life
- Brake system components are positioned below the carriage's payload mounting surface
- Angular position of the handle arm can be adjusted to any position without affecting the brake engagement status or level of braking force



The brake block mounts to either end of the UtiliTrak® carriage and has a pair of brake arms that straddle the UtiliTrak® rail. The handle is mounted on one side of the brake block. The brake system is engaged by turning the handle clockwise, which causes the brake block to clamp to the rail. When the carriage needs to be moved again, the brake system can be disengaged by simply turning the handle counterclockwise until the brake arms no longer contact the rail.



Size	Part Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)
0	UTOBRKCLMPK	106.17	30.00	74.02	2.92	26.47	63.20	44.96	6.99	15.42	0.81
1	UT1BRKCLMPK	144.24	35.00	106.53	3.47	36.80	73.54	44.96	6.99	18.70	4.61
2	UT2BRKCLMPK	178.82	40.01	135.00	4.57	50.90	87.63	44.96	6.99	26.73	9.33
3	UT3BRKCLMPK	250.90	56.01	189.99	5.66	66.47	113.44	62.99	11.00	37.78	17.92

System Adjustment

Carriage adjustment is pre-set at the factory, but is easily field adjusted by rotating the eccentric guide wheels. This allows modification of running characteristics such as friction and breakaway force.

1. Adjustment should be performed while the carriage is engaged with the channel.
2. Looking down on the top of the carriage, as shown in Fig. 1, the eccentric stud is locked into place with a hex nut.



3. Loosen the eccentric wheel/stud assembly by turning the hex nut counter-clockwise with a socket wrench.
4. When the wheel/stud assembly is loose enough, it can be rotated with a wrench, as shown in Fig. 2. Rotating the eccentric wheel's stud will adjust the wheel location into or out of contact with the channel.

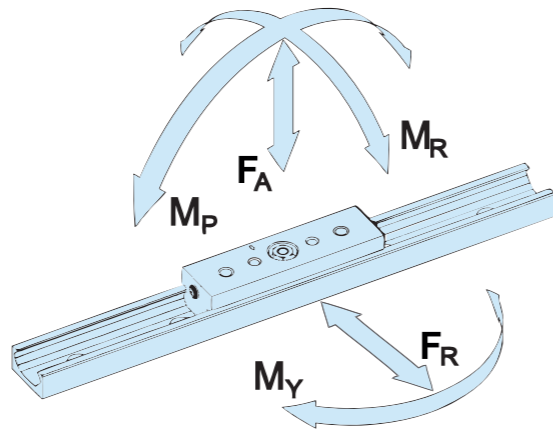


5. Begin with a small adjustment to the setting and re-tighten the stud by turning the hex nut clockwise. If the setting is too loose, the carriage will exhibit excessive play, such as rocking. If the setting is too tight, the carriage will exhibit excessive friction. Move the carriage up and down the entire channel length to ensure that it does not feel too loose or tight at any given location along the channel. It may take a couple of attempts to find the proper setting for your system. Take care not to over preload PW Series polymer wheel carriages. It is important that the carriage setting is correctly adjusted prior to operation.

Loading Details

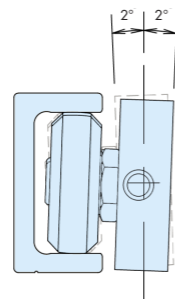
The UtiliTrak® Vee guides accept loads in all. As such, it is good engineering practice to orient the slide such that the two outside wheels support the load radially. Each carriage assembly includes an arrow pointing towards the optimal direction of load orientation. Loads oriented in this direction will produce a radial load on each of the concentrically mounted (outer) guide wheels.

The crown roller assembly should be subjected to radial loads only.

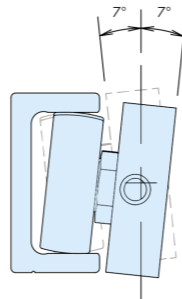


Misalignment Capabilities

V/Crown Wheel
up to 2° misalignment



Crown Wheel
up to 7° misalignment



Load Capacity

The load capacity ratings in this guide are based on 100km of service life. As with any linear bearing technology, UtiliTrak® sizing should be done conservatively. If the guide selection is such that load capacities are marginal, it may be appropriate to consider the next larger size. Our applications engineers are available to assist with the evaluation of any application specific loading parameters.

Lubrication

The rolling elements within DualVee® guide wheels are permanently lubricated and sealed against the operating environment. The contact surfaces between the wheel and channel, however, require lubrication to maximise the life and speed capacity of the guide. All UtiliTrak® carriages come complete with lubricators, consisting of an oil saturated felt within a housing. Lubricators should be periodically checked and re-oiled to ensure that a sufficient coating of lubricant is maintained on the channel guideway surfaces.

Load/Life Calculations

The summation of applied loads divided by system load capacities (Max) should be less than or equal to one:

$$L_F = \frac{F_R}{F_{R(MAX)}} + \frac{F_A}{F_{A(MAX)}} + \frac{M_R}{M_{R(MAX)}} + \frac{M_Y}{M_{Y(MAX)}} + \frac{M_P}{M_{P(MAX)}} \leq 1$$

The applied force on the system is equivalent to:

$$F = F_{R(MAX)} * L_F$$

With an equivalent applied load, the system life can now be calculated:

$$L_{km} = 100 * \left(\frac{C}{F} * \frac{1}{f_c} \right)^3$$

L_{km} = System life in kilometres

C = System Dynamic Load Rating

F = Equivalent Load

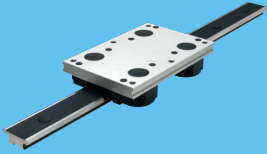
f_c = Correction Factor

Correction Factor Table

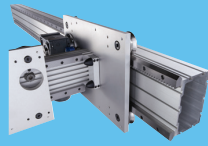
Environmental Factor	Correction Value f_c
No shock, no vibration, clean working environment, below 1 metre/sec	1.46
Light shock, light vibration, between 1 metre/sec to 2 metres/sec	1.85
Shocks, vibrations, harsh environment, above 2 metres/sec	3

HepcoMotion®

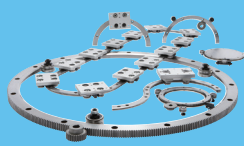
ADVANCED LINEAR SOLUTIONS



GV3
Linear Guidance and
Transmission System



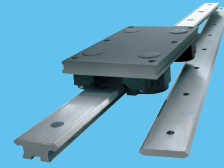
HDS2
Heavy Duty Slide
System



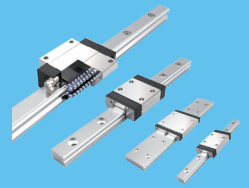
PRT2
Ring Slides and
Track System



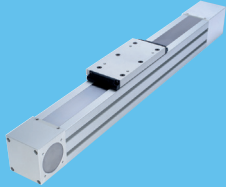
HDRT
Heavy Duty Ring Slides
and Track System



SL2
Stainless Steel Based
Slide System



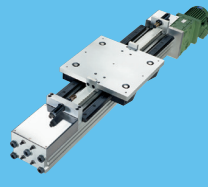
HLG
Hepco Ball Guides



SBD
Sealed Belt
Drive



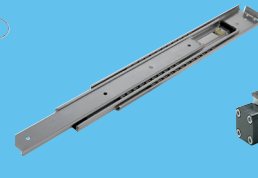
MCS
Aluminium Frame
and Machine
Construction System



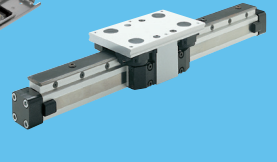
HDLS
Heavy Duty Driven
Linear System



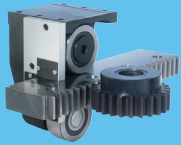
DLS
Linear Transmission and
Positioning System



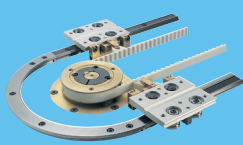
HTS
Telescopic Ball
Bearing Slides



HPS
Powerslide-2 Guided
Rodless Cylinder



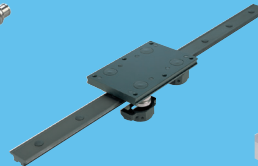
MHD
Heavy Duty Track Roller
Guidance System



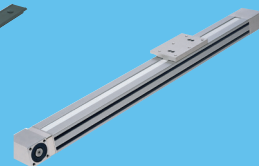
DTS
Driven Track
System



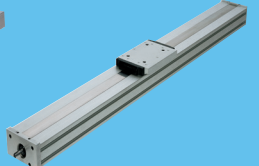
**Hepco
Ball Screws**



SimpleSelect®
Vee Slide Linear
Guidance Systems



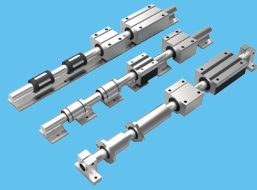
PDU2
Profile Driven Unit



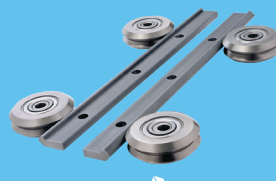
PSD 120
Profile Screw
Driven Unit



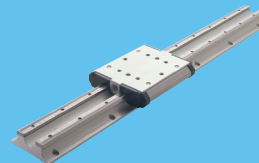
Shaft
Precision Steel and
Aluminium Shaft



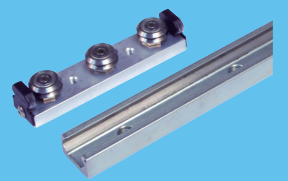
Ball Bushings
Linear Bearing
System



DUALVEE®
Single Edge Slide System



LoPro®
Aluminium Based
Slide System



UtiliTrak®
Lightweight U Channel
Guideway

For further information on HepcoMotion® products and details of worldwide representation, please visit:

HepcoMotion.com

HepcoMotion
Group Headquarters
www.hepcotion.com
Lower Moor Business Park
Tiverton Way, Tiverton
EX16 6TG
England
Tel: +44 (0)1884 257000
E-mail: sales@hepcotion.com

HepcoMotion Germany
(Also covering Austria &
German-speaking Switzerland)
www.hepcotion.com/de
Tel: +49 (0) 9128 92710
Email: info.de@hepcotion.com

HepcoMotion Spain
www.hepcotion.com/es
Tel: +34 93 205 84 47
Email: info.es@hepcotion.com

HepcoMotion France
(Also covering
French-speaking Switzerland)
www.hepcotion.com/fr
Tel: +33 (0) 1 34 64 30 44
Email: info.fr@hepcotion.com

HepcoMotion South Korea
www.hepcotion.co.kr
Tel: +82 (0) 31 352 7783
Email: hepcokr@chol.com

HepcoMotion Benelux
(Covering Belgium,
Luxembourg & Netherlands)
www.hepcotion.com/nl
Tel: +31 (0) 492 551290
Email: info.nl@hepcotion.com

HepcoMotion China
www.hepcotion.com.cn
Tel: +86 21 5648 9055
Email: sales.china@hepcotion.com



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