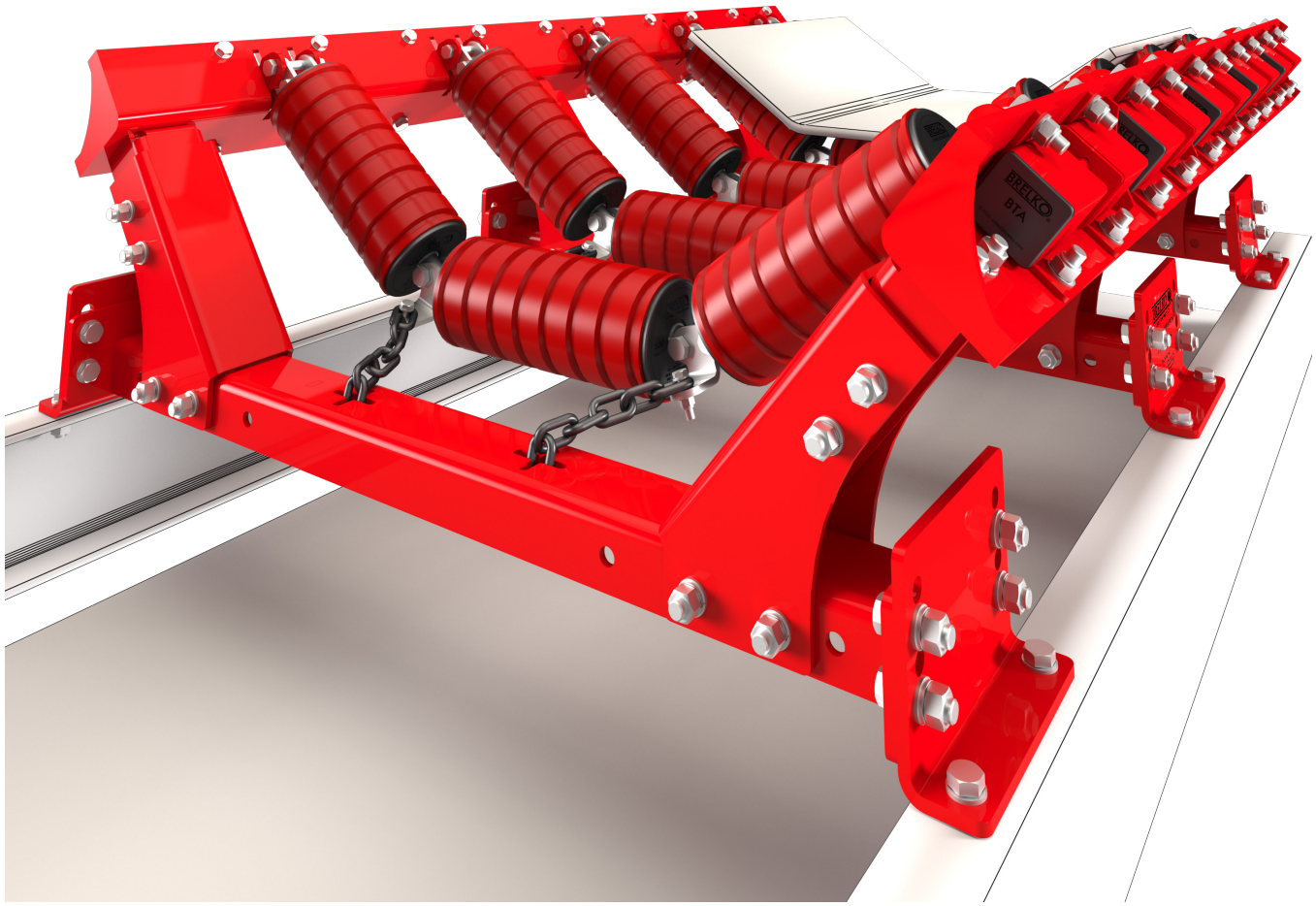
BRELKO®
CONVEYOR PRODUCTS



BELT SUPPORT SYSTEMS

Patented

ISO 9001:2015
ISO 14001:2015
ISO 45001:2018

SERVICE EXCELLENCE
OVER 35 YEARS

P.O. Box 62392 Marshalltown 2107 Tel: +27 11 013 4000 E-Mail: sales@brelko.com Web: www.brelko.com

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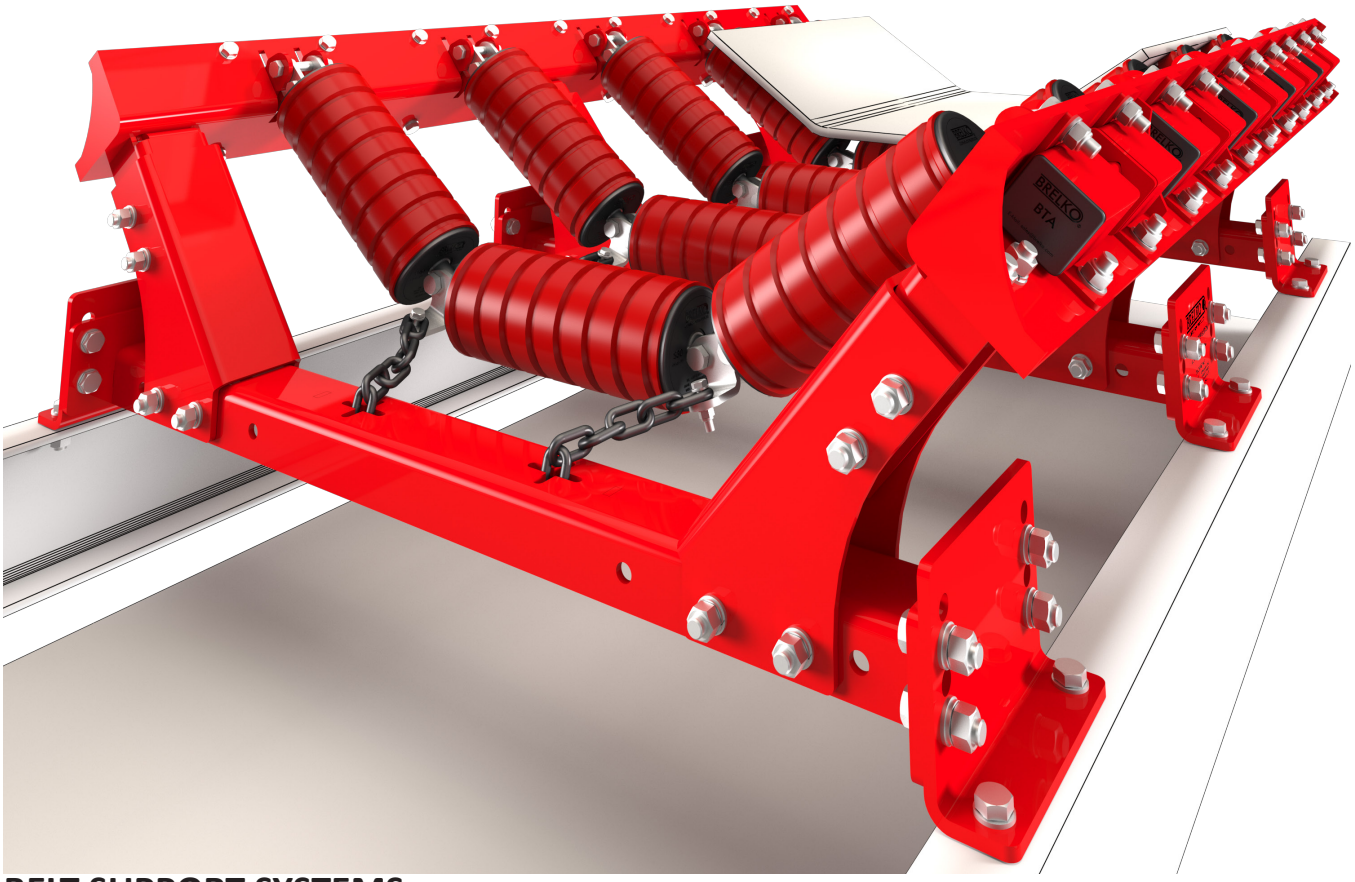
INSTALLATION, OPERATING & MAINTENANCE MANUAL



BELT SUPPORT SYSTEMS

PATENTED

Project Name	:
Project Number	:
Order Number	:
	:
Model Number	:
Purchase Date	:
Purchased From	:
Installation Date	:

Model number information can be found on the label on the belt support crate or pallet.
This information will be helpful for any inquires or questions about the Belt Support System replacement parts, specifications, or troubleshooting.

1. Disclaimer

Brelko Conveyor Products (Pty) Ltd hereby disclaims any liability for: damage due to contamination of the material; user's failure to inspect, maintain and take reasonable care of the equipment; injuries or damage resulting from use or application of this product contrary to instructions and specifications contained herein. Brelko's liability shall be limited to repair or replacement of equipment shown to be defective.

2. Safety Measures and Warnings

Observe all safety rules given herein along with owner and Government standards and regulations. Know and understand lockout/tag-out procedures as defined by National Standards Institutes, National Standard for Personnel Protection - Lockout/Tag-out of Energy Sources - Minimum Safety Requirements and Occupational Health and Safety.

2.1. The following symbols may be used in this manual:

DANGER : immediate hazards that will result in severe personal injury or death.

WARNING : hazards or unsafe practices that could result in personal injury.

CAUTION : hazards or unsafe practices that could result in product or property damages.

IMPORTANT : instructions that must be followed to ensure proper installation/operation of equipment.

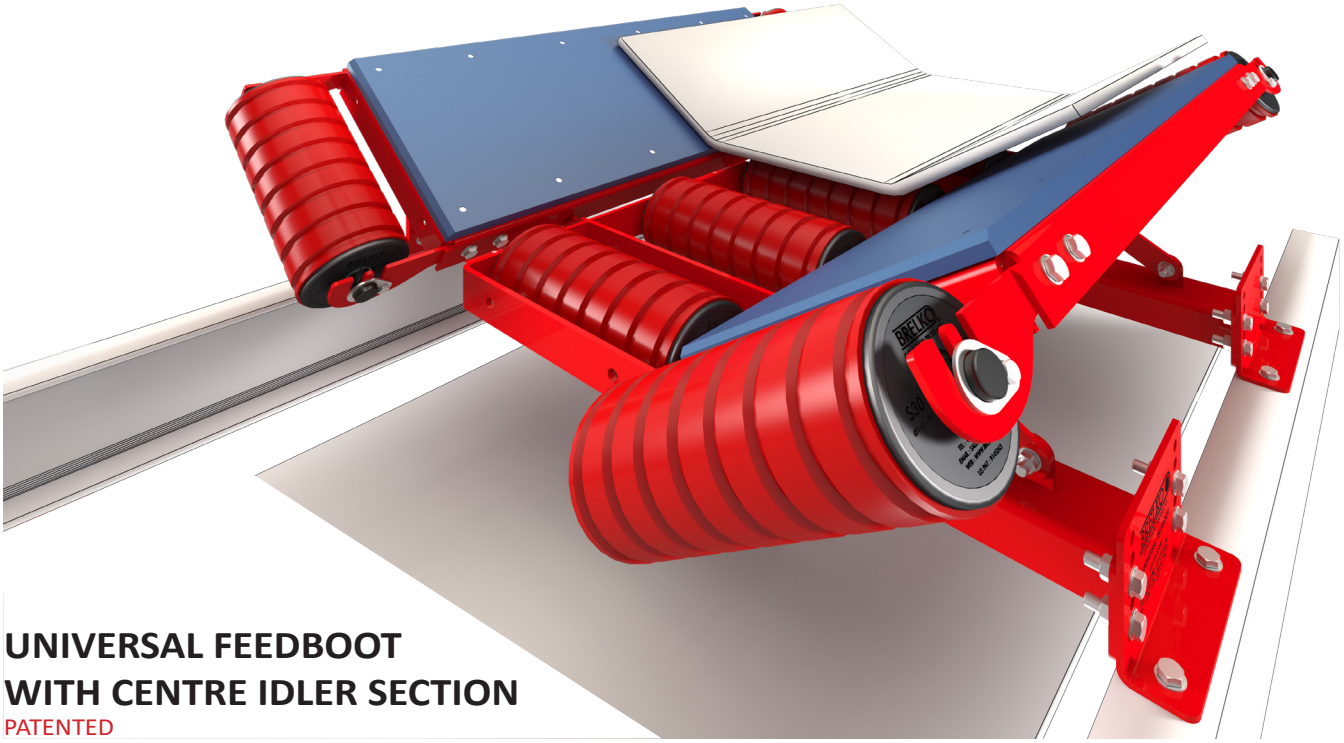
NOTE : general statements to assist the reader.

3. General Information

Brelko Belt Support Systems are designed to operate with minimum maintenance. However, to maintain superior performance some service is required. When the Belt Support System is installed a regular maintenance program should be set up. This program will ensure that the Belt Support System operates at optimal efficiency and problems can be identified and fixed before the Belt Support System stops working. All safety procedures for inspection of equipment (stationary or operating) must be observed. Belt Support Systems operate under conveyor belt loading zones and are in direct contact with the moving belt. Only visual observations can be made while the belt is running. Service tasks can be done only with the conveyor stopped and by following the correct lockout/tag-out procedures.

3.1. Technical Specifications

3.1.1. Feedboot System



UNIVERSAL FEEDBOOT WITH CENTRE IDLER SECTION

PATENTED

APPLICATIONS

- Installed under a conveyor belt loading zone, the Systems absorb the force of failing material to prevent damage to the belt and structure. Suitable for medium impact conditions and particles less than 150mm in size.
- The centre rollers reduce friction and requires less conveyor kilowatts than conventional bars or liners.

FEATURES

- Wing panels adjust to match any standard troughing angle, lined with low friction UHMW-PE liners support belt edges to stabilize the belt line, eliminating belt sag and bounce.
- The support frame is designed to replace existing idler frames and is available in standard 1 metre length.
- Flat belt support surface improves sealing and tracking.

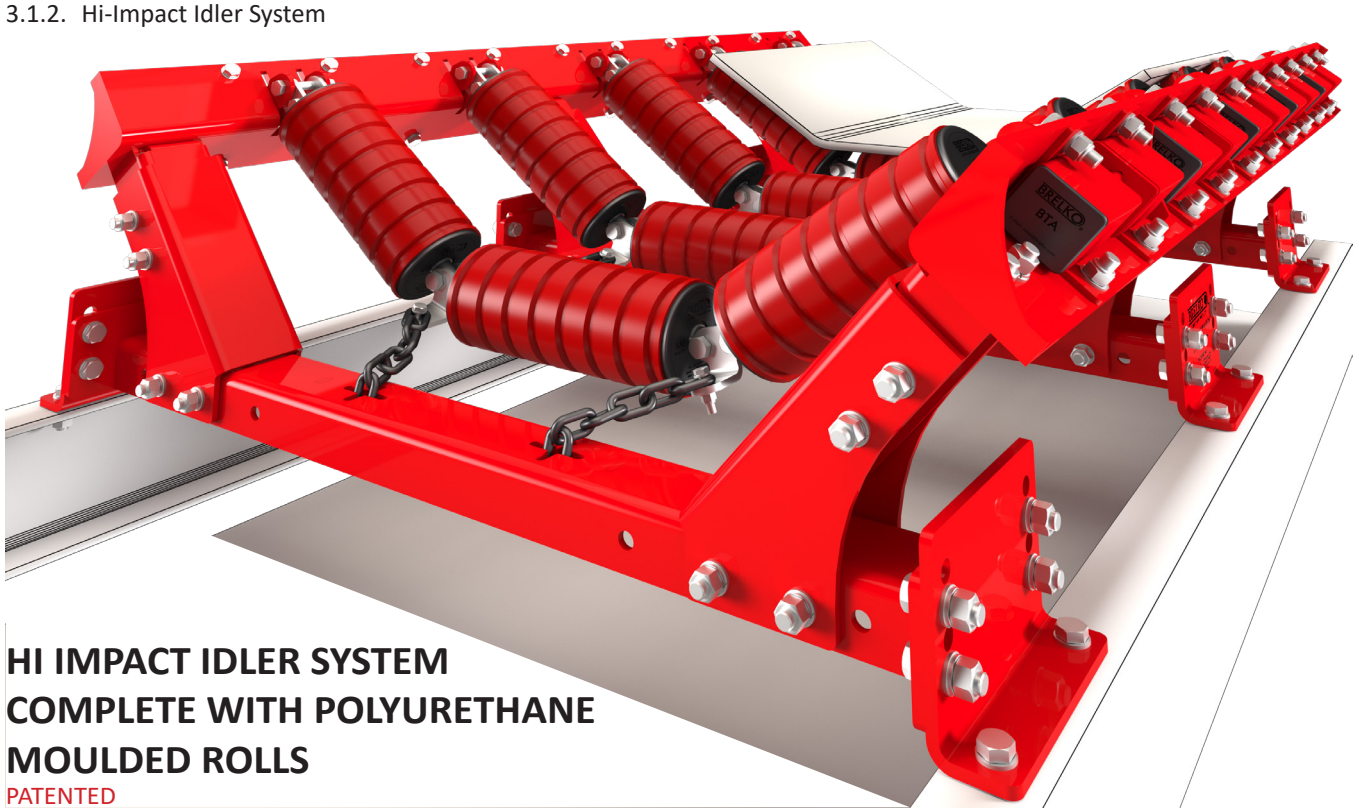
SPECIFICATIONS

Belt Width	Series	Max. Belt Speed (m/sec)	Max. Service Temperature	Handles Reversing Belts & Rollback	Mounting Location
400 to 2400	3R - S30	4.5	60 °C Continuous 90°C Intermittent	X	Please consult installation and Dimension data sheet

3R = 3 ROLL

Series 40 available on request (unique roller support frame accommodates S30 & S40 rollers)

3.1.2. Hi-Impact Idler System



HI IMPACT IDLER SYSTEM COMPLETE WITH POLYURETHANE MOULDED ROLLS

PATENTED

APPLICATIONS

- Installed under a conveyor belt loading zone, the Systems absorb the force of failing material to prevent damage to the belt and structure. Suitable for severe impact conditions and large particles.

FEATURES

- Unique torsion mountings absorb impact loads and are self-dampening, eliminating belt bounce.
- Polyurethane moulded impact rollers help extend belt life and last up to 3 times longer than standard rubber lagged rollers.
- The support frame is designed to replace existing idler frames and is available in standard 2 metre length and fitted with 5 strings of garland rollers.
- Garland roller string arrangement promotes belt tracking.
- Uprights adjust to match 30°, 35° and 45° troughing angles.

SPECIFICATIONS

Belt Width	Series	Max. Belt Speed (m/sec)	Max. Service Temperature	Handles Reversing Belts & Rollback	Mounting Location
600 to 2400	3R - S30 & S40	8.0	60 °C Continuous 90°C Intermittent	X	Please consult installation and Dimension data sheet
1050 to 2400	5R - S30 & S40				

3R = 3 ROLL / 5R = 5 ROLL

3.2. Intended Use

Installed under a conveyor belt loading zone, the Systems absorb the force of failing material to prevent damage to the belt and structure.

FEEDBOOT SYSTEM

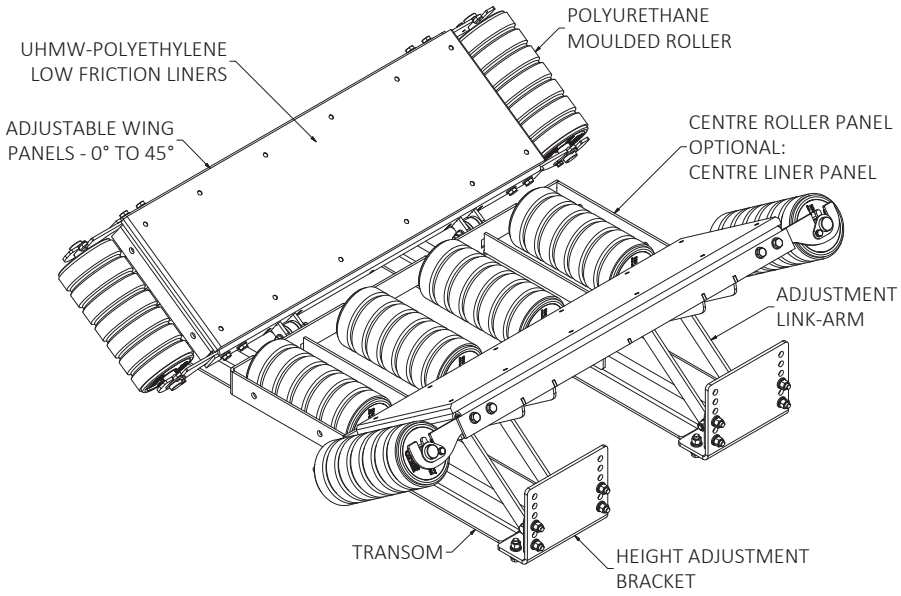


Figure 1

HI-IMPACT SYSTEM

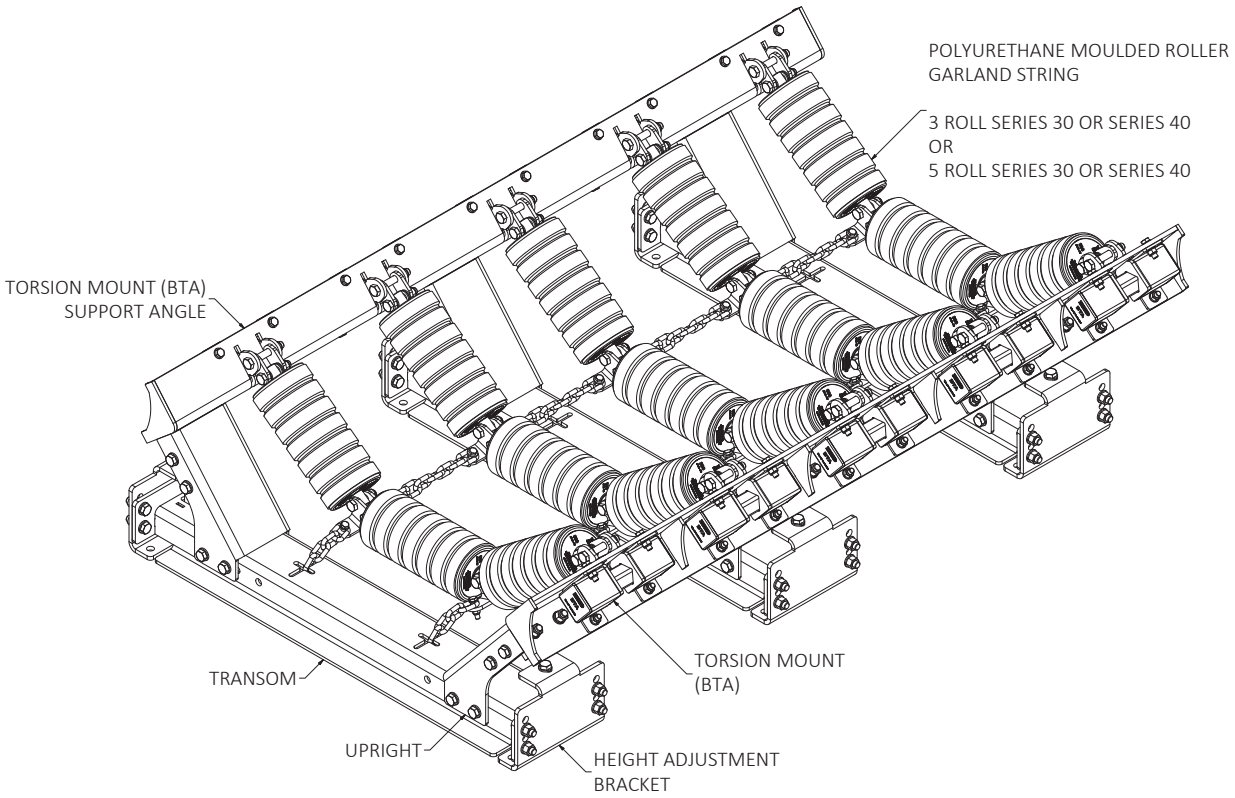


Figure 2

Note: only standard features and options are shown. For additional options or specifying non-standard products, please consult your Brelko representative for assistance.

3.3. Component Overview - Feedboot System - 3 Roll

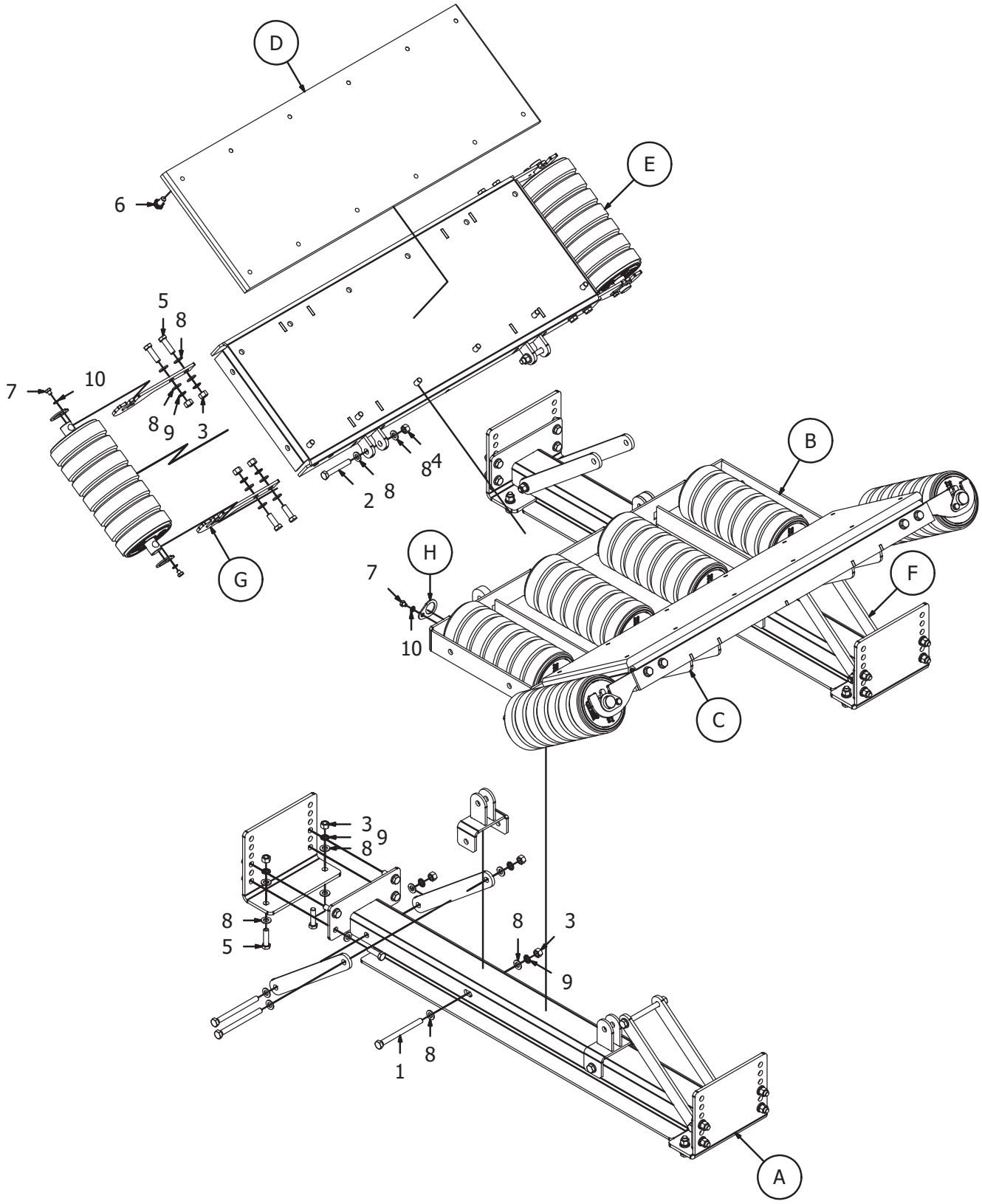


Figure 3

(SHEET 1 OF 2)

3.4. Parts List - Feedboot System

ITEM No.	DESCRIPTION	SIZE (mm)	BELT WIDTH (mm)	CODE
A	Transom Assembly including Stringer Mounting & Height Adjustment Brackets, Link-arms, and Hardware.	N/A	400 - 2400	Specify belt width and centre roller height
B	Centre Roller Frame Assembly including Polyurethane Moulded Rollers and Hardware.	Size 1 Size 2 Size 3 Size 4	400 - 500 600 - 800 850 - 1500 1600 - 2400	Specify belt width
B1	Optional: Centre Liner Frame Assembly including Polyurethane Moulded Rollers and Hardware.	Series 30 Series 40	400 - 2400 1350 - 2400	Specify belt width (Series 40 on request only!)
C	Wing Panel Assembly including UHMW Polyethylene Low Friction Liner, Lead-in & Lead-out Polyurethane Moulded Rollers, and Hardware.	Series 30 Series 40	400 - 2400 1350 - 2400	Specify belt width (Series 40 on request only!)
D	UHMW Polyethylene Low Friction Liners	N/A	400 - 2400	Specify belt width
E	Polyurethane Moulded Roller	Series 30 Series 40	400 - 2400 1350 - 2400	Specify belt width (Series 40 on request only!)
F	Adjustment Link-arm	Size 1 Size 2 Size 3 Size 4	400 - 500 600 - 800 850 - 1500 1600 - 2400	4-2.10.0 4-2.10.1 4-2.10.2 4-2.10.3
G	Lead-in / Lead-out Bracket including Hardware	Series 30/40	400 - 2400	4-L-I-BRK-S30/S40
H	Polyurethane Moulded Roller Retaining Washer	Series 30 Series 40	400 - 2400 1350 - 2400	077-535-0011 077-535-0014

UHMW = Ultra-high Molecular Weight

Hardware Kit - All Belt Widths

ITEM No.	DESCRIPTION	QTY.
1	BOLT - HEX - M12 X 140 - GRD 8.8 - Z/P	12
2	BOLT - HEX - M12 X 80 - GRD 8.8 - Z/P	4
3	NUT - HEX - M12 - GRD 8 - Z/P	52
4	NUT - NYLOC - M12 - Z/P	4
5	SET SCREW - HEX HD - M12 X 40 - GRD 8.8 - Z/P	40
6	SET SCREW - HEX HD - M12 X 25 - NYLON	24
7	SET SCREW - HEX HD - M8 X 16 - GRD 8.8 - Z/P	16
8	WASHER - FLAT - M12 - GRD A - Z/P	112
9	WASHER - SPRING - M12 - GRD A - Z/P	52
10	WASHER - SPRING - M8 - GRD A - Z/P	16

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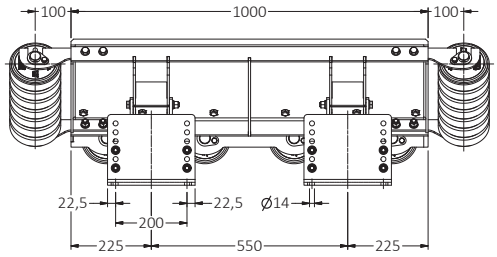
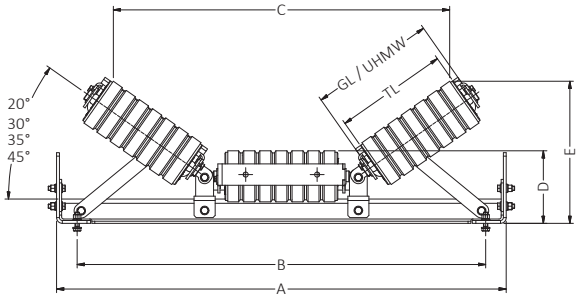
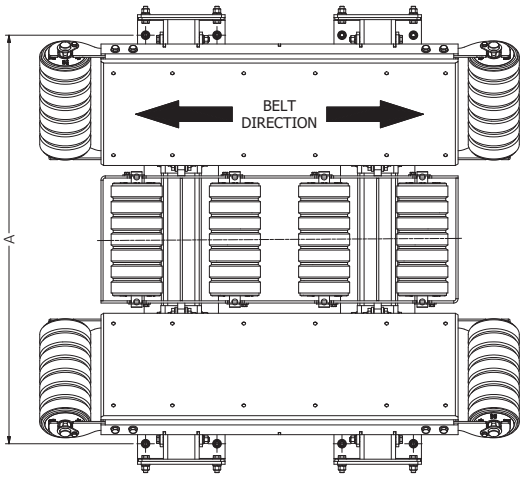
3.5. Dimensions

3.5.1. Feedboot System - 600BW - 1200BW







DIMENSIONS TABLE													
Belt Width			400	450	500	600	650	750	800	850	900	1000	1050	1200
A	SABS / CEMA		750	802	852	954		1106			1260		1412	1564
	PROK		766	816	866	966	1016	1116	1166	TBC	1266	1366	1416	1566
B	SABS / CEMA		634	686	736	838		990			1144		1296	1448
	PROK		650	700	750	850	900	1000	1050	SPECIFY	1150	1250	1300	1450
C	@ 20°		624	682	711	826	855	970	989	TBC	1114	1200	1258	1430
	@ 30°		570	624	652	761	788	898	925	TBC	1034	1116	1171	1335
	@ 35°		539	592	618	724	750	856	882	TBC	987	1067	1119	1278
	@ 45°		471	519	544	640	664	761	785	TBC	882	954	1002	1147
D	min / max		203 / 278 (25MM INCREMENTS)											
E	@20°	min	289	276	279	293	297	310	314	TBC	327	338	344	365
		max	364	351	354	368	372	785	389		402	413	419	440
	@30°	min	299	309	314	334	339	359	364	TBC	384	399	409	439
		max	374	384	389	409	414	434	439		459	474	484	514
	@35°	min	311	323	329	352	357	380	386	TBC	409	426	438	472
		max	386	398	404	427	432	455	461		484	501	513	547
	@45°	min	333	347	354	382	389	418	425	TBC	453	474	488	531
		max	408	422	429	457	464	493	500		528	549	563	606
GL & UHMW-PE LINER			180	200	210	250	260	300	310	SPECIFY	350	380	400	460
TL			124	148	154	194	204	244	254	TBC	294	324	344	404

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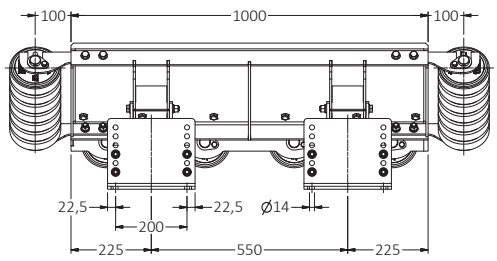
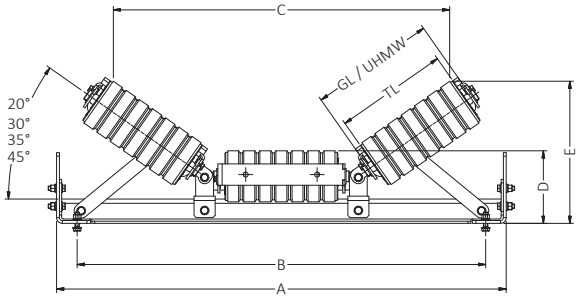
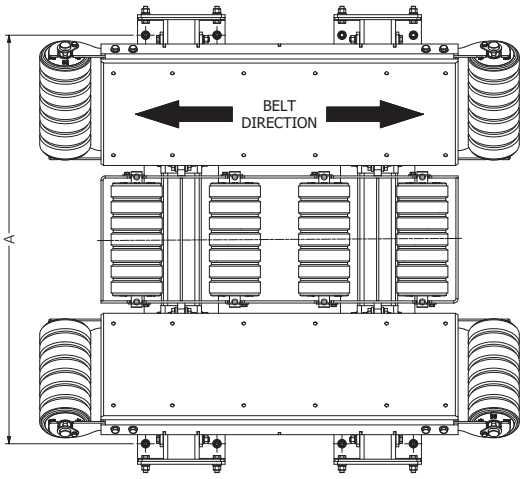
3.5.2. Feedboot System - 1350BW - 2400BW







DIMENSIONS TABLE											
Belt Width			1350	1400	1500	1600	1650	1800	2000	2100	2200	2400
A	SABS / CEMA		1686		1838		1990	2144	2346	2362	2550	2652
	PROK		1736	1786	1886	2086	2136	2286	2486	2586	2686	2886
B	SABS / CEMA		1600		1752		1904	2058	2260	2362	2464	2668
	PROK		1650	1700	1800	2000	2050	2200	2400	2500	2600	2800
C	@ 20°		1574	1678	1747	1779	1891	2035	2265	2337	2438	2640
	@ 30°		1471	1570	1635	1665	1772	1909	2127	2195	2291	2482
	@ 35°		1410	1505	1568	1597	1700	1832	2043	2109	2201	2386
	@ 45°		1268	1355	1413	1439	1533	1654	1847	1908	1992	2161
D	min / max		203 / 278 (25MM INCREMENTS)									
E	@20°	min	382	394	403	406	420	437	464	473	485	509
		max	457	469	475	481	495	512	539	548	560	584
	@30°	min	464	482	494	499	519	544	584	596	614	649
		max	539	557	569	574	594	619	659	671	689	724
	@35°	min	501	521	535	541	564	593	638	653	673	713
		max	576	596	610	616	639	668	713	728	748	788
	@45°	min	566	592	609	616	644	679	736	754	778	828
		max	641	667	684	691	719	754	811	829	853	903
GL & UHMW-PE LINER			510	546	570	581	620	670	750	775	810	880
TL			454	490	514	525	564	614	694	719	754	824

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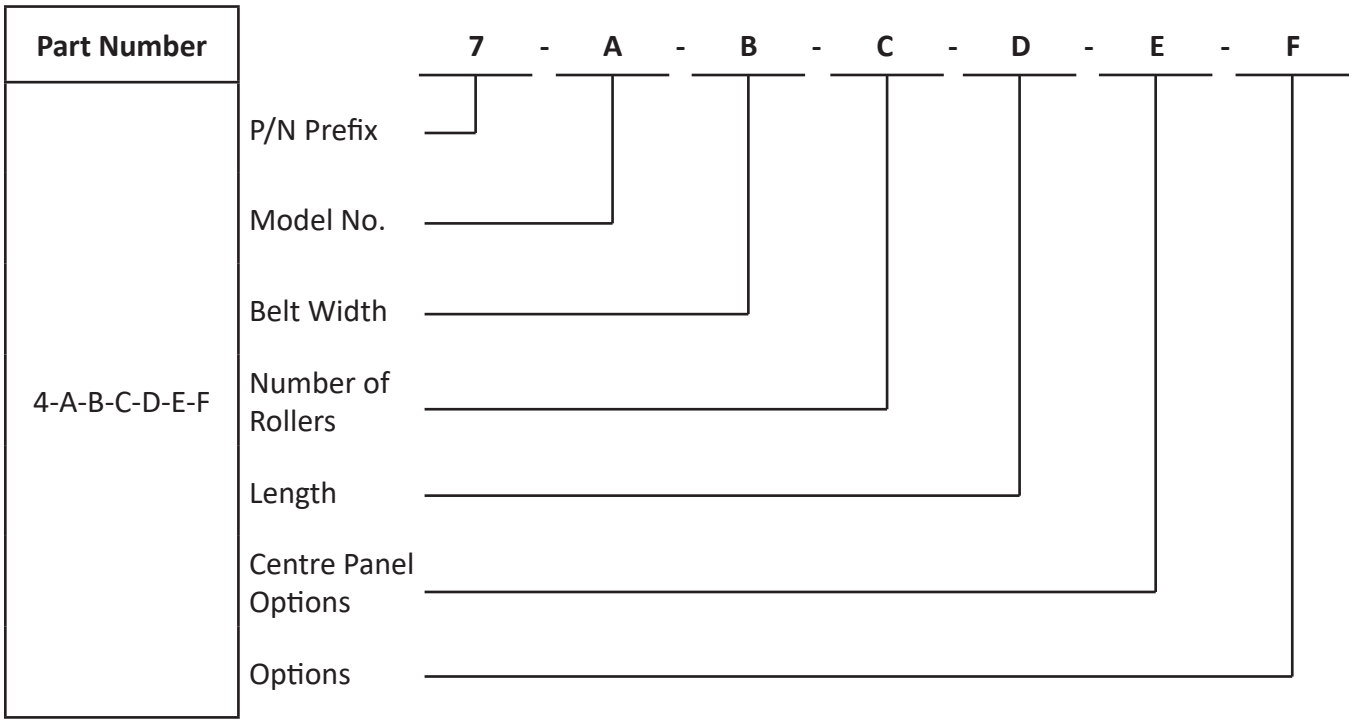
3.6. Order Information

3.6.1. Feedboot Systems



MODEL NUMBER
Example: FBT = Feedboot

BELT WIDTH

Please specify.
Example: 0400 = 400 Belt Width
1200 = 1200 Belt Width

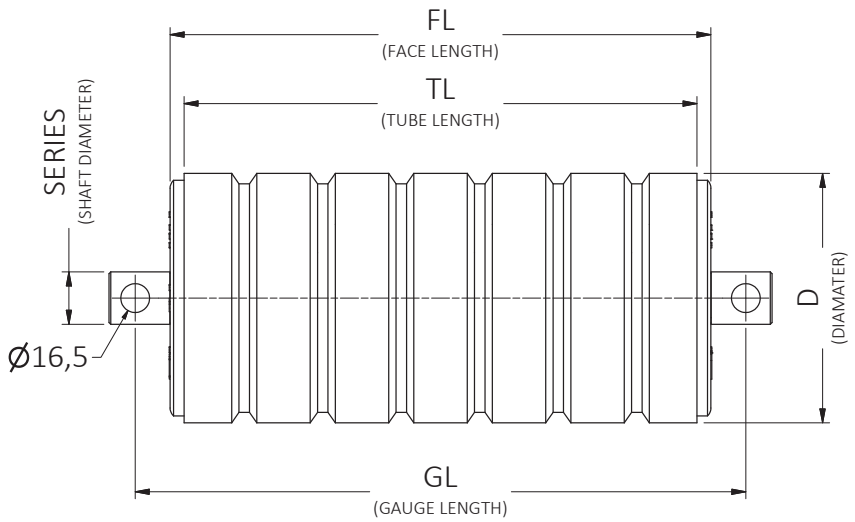
No. OF ROLLERS
3R = 3 Roll Troughing Frame
5R = 5 Roll Troughing Frame

SERIES
Please Specify
1M = 1 Metre (Standard)
2M = 2 Metre (On Request Only)

CENTRE PANEL OPTION
Please Specify
CP = Centre Liner Panel
CR = Centre Roller Panel

OPTIONS
Blank = Standard (Series 30)
Other = Consult your Brelko Representative for available options

3.6.2. Replacement Rollers - Feedboot System



Part No. (PU roller)	**Part No.** (Feedboot System)	**Series**	**Diameter** (D)	**Gauge Length** (GL)	**Face Length** (FL)	**Tube Length** (TL)
5-PLY-GAR-S30-D143-GL180	4-FBT-0400-3R-1M-CP	30	143	180	140	124
5-PLY-GAR-S30-D143-GL200	4-FBT-0450-3R-1M-CP			200	164	148
5-PLY-GAR-S30-D143-GL210	4-FBT-0500-3R-1M-CP			210	170	154
5-PLY-GAR-S30-D143-GL250	4-FBT-0600-3R-1M-CP			250	210	194
5-PLY-GAR-S30-D143-GL260	4-FBT-0650-3R-1M-CP			260	220	204
5-PLY-GAR-S30-D143-GL300	4-FBT-0750-3R-1M-CP			300	260	244
5-PLY-GAR-S30-D143-GL310	4-FBT-0800-3R-1M-CP			310	270	254
TBC	4-FBT-0850-3R-1M-CP			TBC	TBC	TBC
5-PLY-GAR-S30-D143-GL350	4-FBT-0900-3R-1M-CP			350	310	294
5-PLY-GAR-S30-D143-GL380	4-FBT-1000-3R-1M-CP			380	340	324
5-PLY-GAR-S30-D143-GL400	4-FBT-1050-3R-1M-CP			400	360	344
5-PLY-GAR-S30-D143-GL460	4-FBT-1200-3R-1M-CP			460	420	404
5-PLY-GAR-S30-D143-GL510	4-FBT-1350-3R-1M-CP			510	470	454
5-PLY-GAR-S30-D143-GL546	4-FBT-1400-3R-1M-CP			546	506	490
5-PLY-GAR-S30-D143-GL570	4-FBT-1500-3R-1M-CP			570	530	514
5-PLY-GAR-S30-D143-GL581	4-FBT-1600-3R-1M-CP			581	541	525
5-PLY-GAR-S30-D143-GL620	4-FBT-1650-3R-1M-CP			620	580	564
5-PLY-GAR-S30-D143-GL670	4-FBT-1800-3R-1M-CP			670	630	614
5-PLY-GAR-S30-D143-GL750	4-FBT-2000-3R-1M-CP			750	710	694
5-PLY-GAR-S30-D143-GL775	4-FBT-2100-3R-1M-CP			775	735	719
5-PLY-GAR-S30-D143-GL810	4-FBT-2200-3R-1M-CP			810	770	754
5-PLY-GAR-S30-D143-GL880	4-FBT-2400-3R-1M-CP			880	840	824

Series 40 on request only!

3.7. Component Overview - Hi-Impact System

Note: 9 & 10 - these parts are specific to Size 1 and Size 2

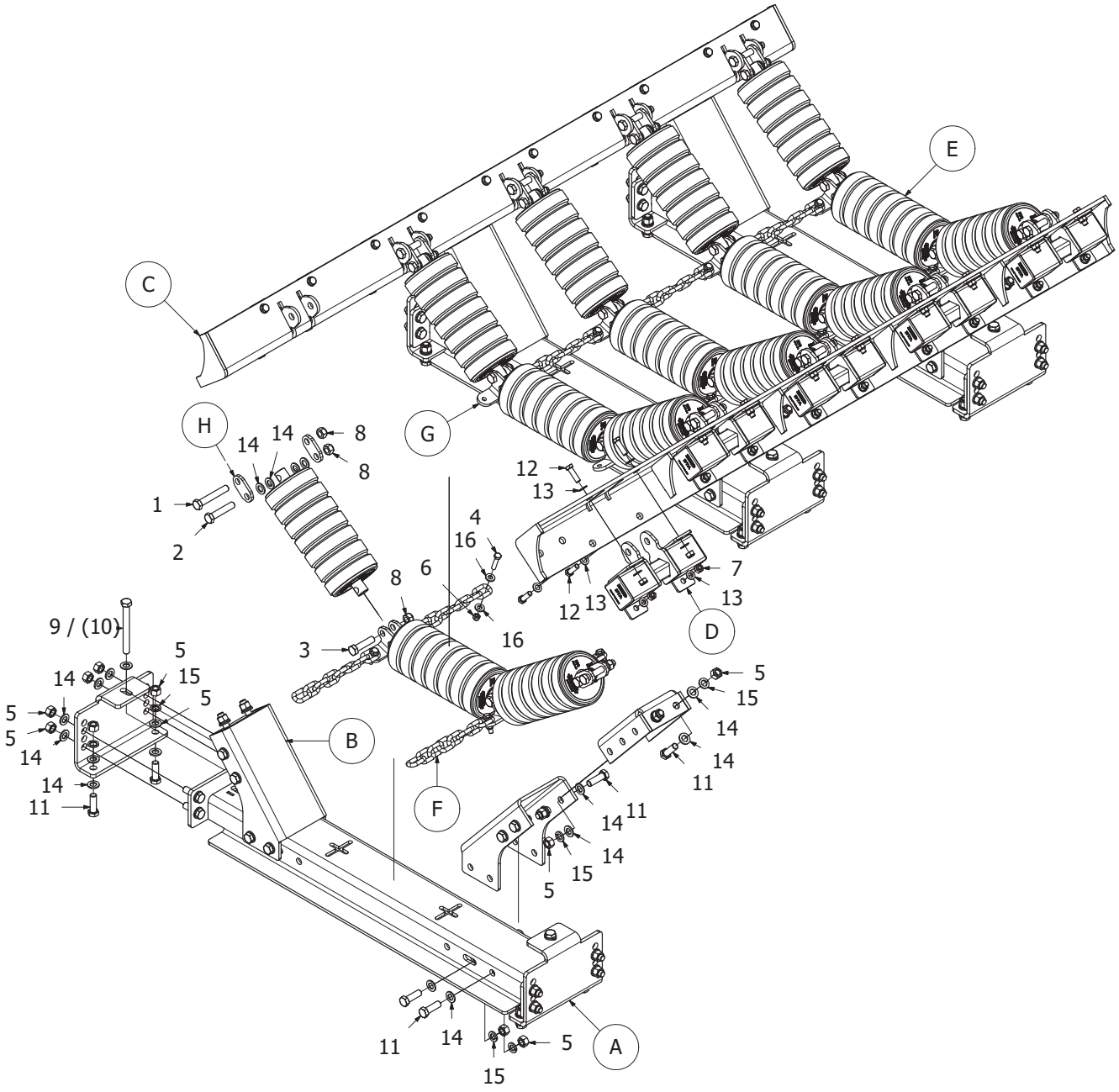


Figure 4

(SHEET 1 OF 2)

3.8. Parts List- Hi-Impact System

ITEM No.	DESCRIPTION	SIZE (mm)	BELT WIDTH (mm)	CODE
A	Transom Assembly including Stringer Mounting & Height Adjustment Brackets and Hardware.	Size 1 Size 2	0600 - 1200 1350 - 2400	Specify belt width and centre roller height
B	Upright Assembly including Troughing Angle Adjustment Bracket and Hardware.	Size 1 Size 2	0600 - 1200 1350 - 2400	Specify belt width
C	BTA Support Angle Assembly and Hardware excluding Brelko Torsion Arms (BTA'S).	Series 30/40	0600 - 2400	Specify belt width
D	Brelko Torsion Arm Assembly (BTA) including Hardware.	Series 30/40	0600 - 2400	6-MNT-DAS (Set of two BTA's)
E	Polyurethane Moulded Roller String.	Series 30 Series 40	0600 - 2400 1000 - 2400	Specify belt width and centre roller height
F	Retaining Chain.	Series 30/40	0600 - 2400	6-2.1.1
G	T-link.	Series 30/40	0600 - 2400	6-2.4
H	Flat-link.	Series 30/40	0600 - 2400	6-2.5

BTA = BRELKO TORSION ARM

Hardware Size 1 600BW to 1200BW / Size 2 (*) - 1350 to 2400BW

ITEM No.	DESCRIPTION	QTY.
1	BOLT - HEX - M16 X 100 - GRD 10.9 - Z/P	10 / (10)
2	BOLT - HEX - M16 X 80 - GRD 10.9 - Z/P	10 / (10)
3	BOLT - HEX - M16 X 65 - GRD 10.9 - Z/P	20 / (20)
4	BOLT - HEX - M10 X 45 - GRD 10.9 - Z/P	20 / (20)
5	NUT - HEX - M16 - GRD 8 - Z/P	60 / (60)
6	NUT - NYLOC - M10 - Z/P	20 / (20)
7	NUT - NYLOC - M12 - Z/P	40 / (40)
8	NUT - NYLOC - M16 - Z/P	40 / (40)
9	SET SCREW - HEX HD - M16 X 150 - GRD 10.9 - Z/P	6
10	SET SCREW - HEX HD - M16 X 200 - GRD 10.9 - Z/P	(6)
11	SET SCREW - HEX HD - M16 X 50 - GRD 10.9 - Z/P	96 / (96)
12	SET SCREW - HEX HD - M12 X 40 - GRD 10.9 - Z/P	40 / (40)
13	WASHER - FLAT - M12 - GRD A - Z/P	80 / (80)
14	WASHER - FLAT - M16 - GRD A - Z/P	238 / (238)
15	WASHER - SPRING - M16 - GRD A - Z/P	96 / (96)
16	WASHER - FENDER - M10X30X5 - GRD A - Z/P	40 / (40)

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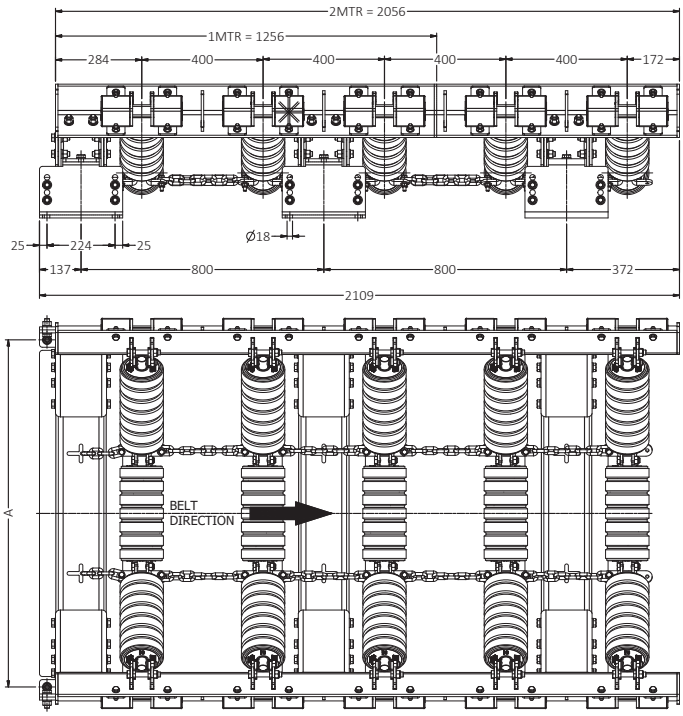
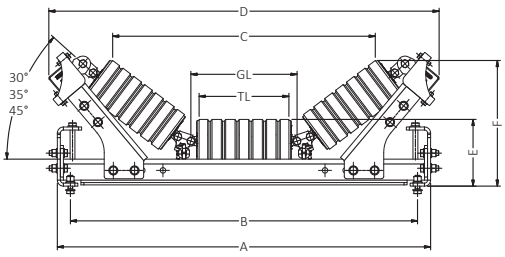
3.9. Dimensions - Series 30

3.9.1. Hi-Impact System - 600BW - 1200BW

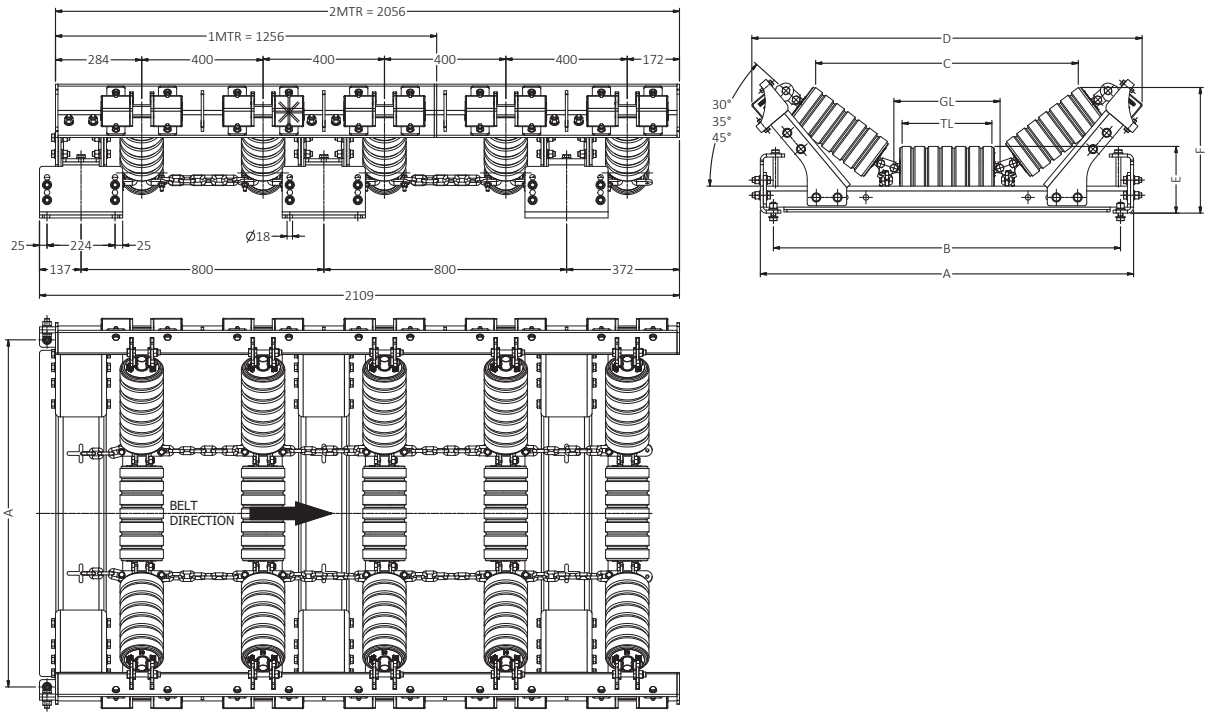




DIMENSIONS TABLE - SERIES 30										
Belt Width			600	650	750	800	850	900	1000	1050	1200
A	SABS / CEMA		986		1076			1230		1382	1534
	PROK		936	986	1086	1136	TBC	1236	1336	1386	1536
B	SABS / CEMA		838		990			1144		1296	1448
	PROK		850	900	1000	1050	SPECIFY	1150	1250	1300	1450
C	@ 30°		Please contact Brelko Conveyor Products for assistance						959	1042	1203
	@ 35°		604	630	734	760	TBC	864	942	993	1149
	@ 45°		531	554	649	673	TBC	767	838	885	1027
D	@30°		Please contact Brelko Conveyor Products for assistance						1408	1461	1623
	@35°		1026	1052	1136	1182	TBC	1286	1364	1416	1572
	@45°		954	977	1072	1095	TBC	1190	1261	1308	1450
E	min / max		220 / 245 (25MM INCREMENT)								
F	@30°	min	Please contact Brelko Conveyor Products for assistance						427	438	469
		max							452	463	494
	@35°	min	381	387	411	417	TBC	441	459	471	507
		max	406	412	436	442		466	484	496	532
	@45°	min	422	430	459	466	TBC	496	517	532	576
		max	447	455	484	491		521	542	657	601
GL			250	260	300	310	SPECIFY	350	380	400	460
TL			194	204	244	254	TBC	294	324	344	404

GL = Gauge Lenght / TL = Polyurethane moulded tube length

3.9.2. Hi-Impact System - 1350BW - 2400BW

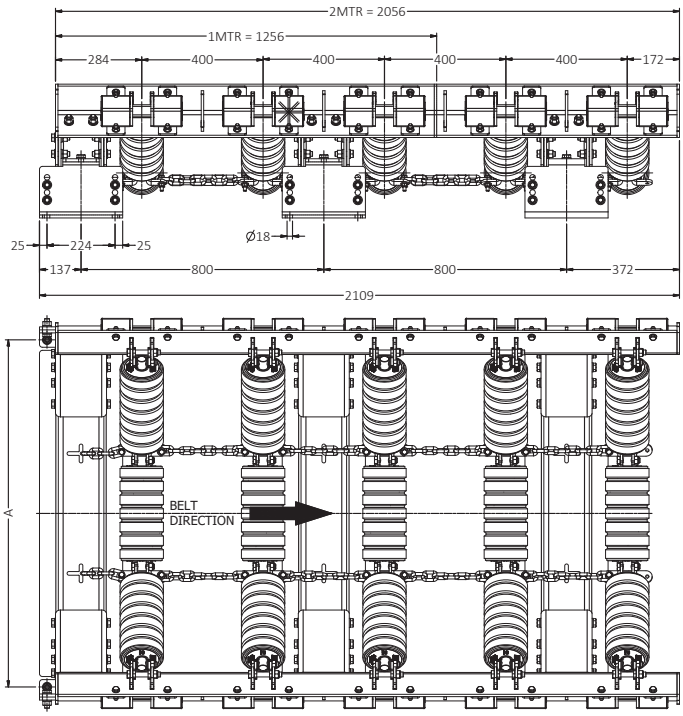


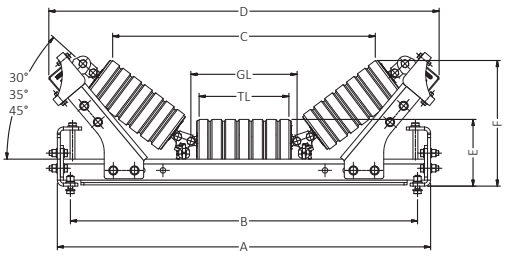
DIMENSIONS TABLE - SERIES 30											
Belt Width			1350	1400	1500	1600	1650	1800	2000	2100	2200	2400
A	SABS / CEMA		1686		1838		1990	2144	2346	2362	2550	2652
	PROK		1736	1786	1886	2086	2136	2286	2486	2586	2686	2886
B	SABS / CEMA		1600		1752		1904	2058	2260	2362	2464	2668
	PROK		1650	1700	1800	2000	2050	2200	2400	2500	2600	2800
C	@ 30°		1338	1435	1500	1530	1635	1770	1985	2053	2147	2336
	@ 35°		1279	1373	1435	1464	1565	1695	1903	1967	2058	2240
	@ 45°		1145	1231	1287	1298	1405	1524	1713	1772	1855	2020
D	@ 30°		1758	1855	1920	1949	2055	2189	2405	2472	2567	2756
	@ 35°		1701	1795	1857	1886	1987	2117	2325	2390	2481	2662
	@ 45°		1568	1653	1710	1736	1828	1946	2136	2195	2277	2443
E	min / max		220 / 295 (@ 25MM INCREMENTS)									
F	@ 30°	min	496	515	528	534	554	581	623	636	655	692
		max	571	590	603	609	629	656	698	711	730	767
	@ 35°	min	537	559	574	580	604	634	682	697	718	760
		max	612	634	649	655	679	709	757	772	793	835
	@ 45°	min	613	639	656	664	693	730	788	806	832	883
		max	688	714	731	739	768	805	863	881	907	958
GL			510	546	570	581	620	670	750	775	810	880
TL			454	490	514	525	564	614	694	719	754	824

GL = Gauge Lenght / TL = Polyurethane moulded tube length

3.10. Dimensions - Series 40

3.10.1. Hi-Impact System - 1000BW - 2400BW





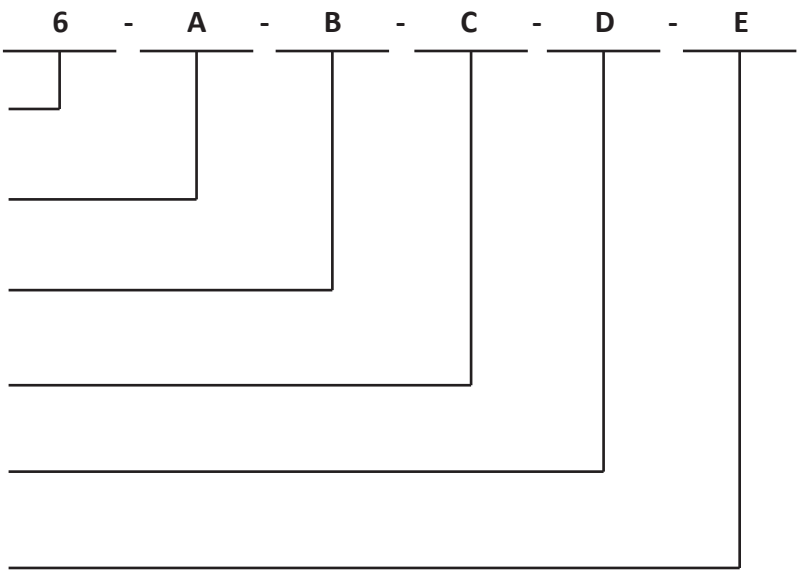
DIMENSIONS TABLE - SERIES 40														
Belt Width			1000	1050	1200	1350	1400	1500	1600	1650	1800	2000	2100	2200	2400
A	SABS / CEMA			1382	1534	1686		1838		1990	2144	2346	2362	2550	2652
	PROK		1336	1386	1536	1736	1786	1886	2086	2136	2286	2486	2586	2686	2886
B	SABS / CEMA			1296	1448	1600		1752		1904	2058	2260	2362	2464	2668
	PROK		1250	1300	1450	1650	1700	1800	2000	2050	2200	2400	2500	2600	2800
C	@ 30°		975	1028	1190	1325	1422	1487	1516	1622	1756	1972	2039	2134	2323
	@ 35°		926	978	1134	1264	1358	1420	1449	1550	1680	1887	1952	2043	2225
	@ 45°		820	867	1009	1127	1212	1269	1295	1387	1505	1694	1754	1754	2002
D	@ 30°		1407	1461	1623	1758	1855	1920	1949	2055	2189	2405	2472	2567	2756
	@ 35°		1364	1416	1572	1701	1795	1857	1886	1987	2117	2325	2390	2481	2662
	@ 45°		1261	1308	1450	1568	1653	1710	1736	1828	1946	2135	2195	2195	2443
E	min / max		220 / 245 (25MM INCREMENT)			220 / 295 (@ 25MM INCREMENTS)									
F	@ 30°	min	415	425	457	483	502	515	521	542	568	611	624	642	679
		max	440	450	482	558	577	590	596	617	643	686	699	717	754
	@ 35°	min	447	459	495	525	547	561	568	591	621	669	684	706	748
		max	472	484	520	600	622	636	643	666	696	744	759	781	823
	@ 45°	min	505	520	563	600	626	644	652	681	717	776	794	794	871
		max	530	545	588	675	701	719	727	756	792	851	869	869	946
GL			380	400	460	510	546	570	581	620	670	750	775	810	880
TL			324	344	404	454	490	514	525	564	614	694	719	754	824

GL = Gauge Lenght / TL = Polyurethane moulded tube length

3.11. Order Information

3.11.1. Hi-Impact System

Part Number
6-A-B-C-D-E



BELT WIDTH
Please specify.
Example: 0400 = 400 Belt Width
1200 = 1200 Belt Width

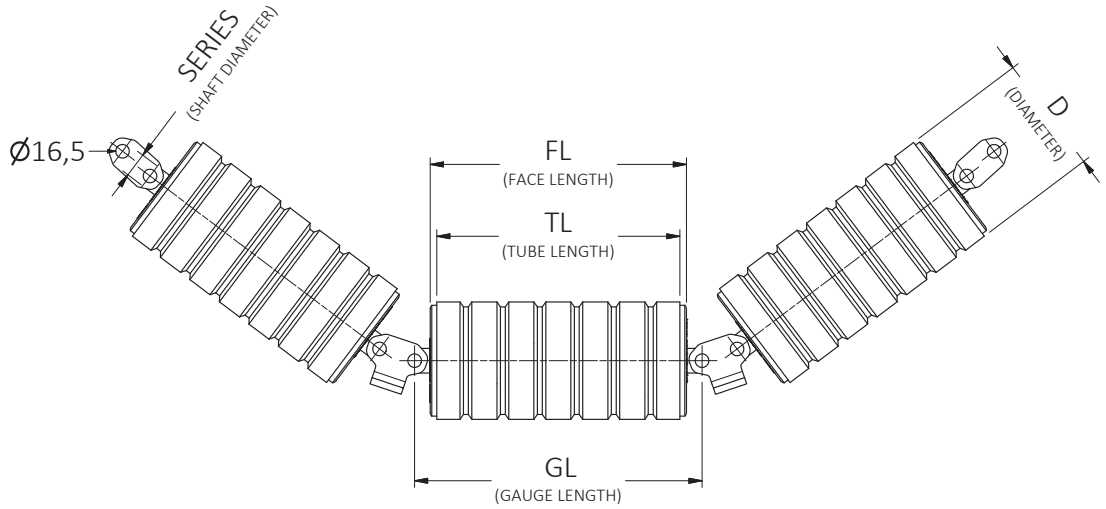
No. OF ROLLERS
3R = 3 Roll Troughing Frame
5R = 5 Roll Troughing Frame

LENGTH
Please Specify
1M = 1 Metre
2M = 2 Metre

SERIES
Please Specify
S30 = Series 30
S40 = Series 40

OPTIONS
Blank = Standard (Series 30)
Other = Consult your Brelko Representative for available options

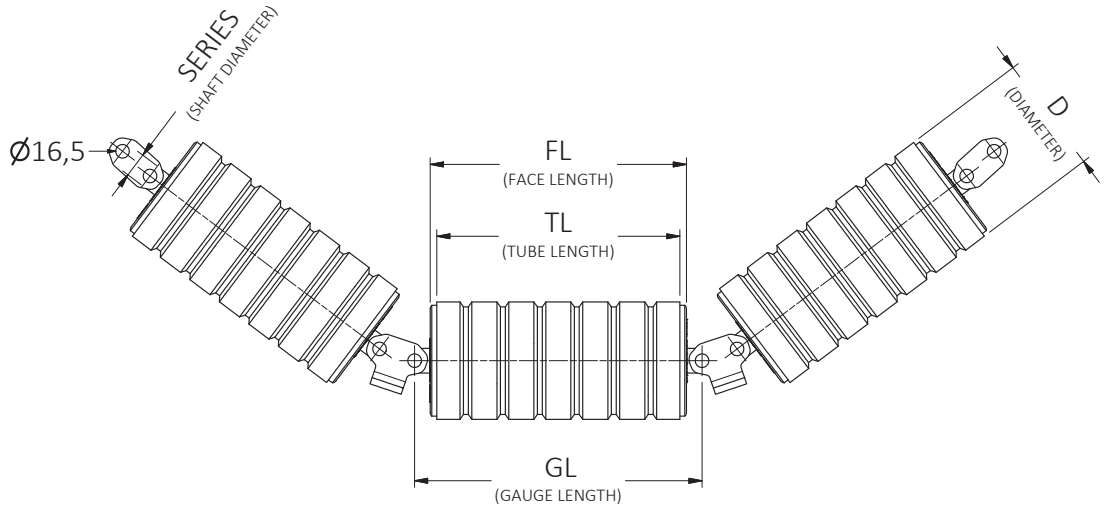
3.12. **Replacement Strings -** Series 30 Hi-Impact System



Part No. (PU roller string)	**Part No.** (Hi-Impact System)	**Series**	**Diameter** (D)	**Gauge Length** (GL)	**Tube Length** (TL)	**Face Length** (FL)
6-3R-ST060-S30	6-0600-3R-2M-S30	30	143	180	140	124
6-3R-ST065-S30	6-0650-3R-2M-S30			200	164	148
6-3R-ST075-S30	6-0750-3R-2M-S30			210	170	154
6-3R-ST080-S30	6-0800-3R-2M-S30			250	210	194
6-3R-ST085-S30	6-0850-3R-2M-S30			260	220	204
6-3R-ST090-S30	6-0900-3R-2M-S30			300	260	244
6-3R-ST100-S30	6-1000-3R-2M-S30			310	270	254
6-3R-ST105-S30	6-1050-3R-2M-S30			TBC	TBC	TBC
6-3R-ST120-S30	6-1200-3R-2M-S30			350	310	294
6-3R-ST135-S30	6-1350-3R-2M-S30			380	340	324
6-3R-ST140-S30	6-1400-3R-2M-S30			400	360	344
6-3R-ST150-S30	6-1500-3R-2M-S30			460	420	404
6-3R-ST160-S30	6-1600-3R-2M-S30			510	470	454
6-3R-ST165-S30	6-1650-3R-2M-S30			546	506	490
6-3R-ST180-S30	6-1800-3R-2M-S30			570	530	514
6-3R-ST200-S30	6-2000-3R-2M-S30			581	541	525
6-3R-ST210-S30	6-2100-3R-2M-S30			620	580	564
6-3R-ST220-S30	6-2200-3R-2M-S30			670	630	614
6-3R-ST240-S30	6-2400-3R-2M-S30			750	710	694

Note: All measurements in millimeters (mm)

3.13. **Replacement Strings -** Series 30 Hi-Impact System



Part No. (PU roller string)	**Part No.** (Hi-Impact System)	**Series**	**Diameter** (D)	**Gauge Length** (GL)	**Tube Length** (TL)	**Face Length** (FL)
6-3R-ST100-S40	6-1000-3R-2M-S40	40	168	310	270	254
6-3R-ST105-S40	6-1050-3R-2M-S40			TBC	TBC	TBC
6-3R-ST120-S40	6-1200-3R-2M-S40			350	310	294
6-3R-ST135-S40	6-1350-3R-2M-S40			380	340	324
6-3R-ST140-S40	6-1400-3R-2M-S40			400	360	344
6-3R-ST150-S40	6-1500-3R-2M-S40			460	420	404
6-3R-ST160-S40	6-1600-3R-2M-S40			510	470	454
6-3R-ST165-S40	6-1650-3R-2M-S40			546	506	490
6-3R-ST180-S40	6-1800-3R-2M-S40			570	530	514
6-3R-ST200-S40	6-2000-3R-2M-S40			581	541	525
6-3R-ST210-S40	6-2100-3R-2M-S40			620	580	564
6-3R-ST220-S40	6-2200-3R-2M-S40			670	630	614
6-3R-ST240-S40	6-2400-3R-2M-S40			750	710	694

Note: All measurements in millimeters (mm)

3.14. Roller and Roller Bearing Data

SERIES	DIAMETER (mm)	SHELL WALL (mm)	NOMINAL SHFT DIAMETER (mm)	BEARING	MIN BEARING DYNAMIC LOAD RATING (N)
30	143	4	30	6205-2RS	14 000
40	168	4	40	6208-2RS	17 800

Bearings
Deep groove sealed bearings, standard clearance, are used.

Steel Tube
Only high-quality tube specially manufactured for conveyor idlers is used and conforms to SANS 657/3.

Steel Shaft
Manufactured from bright mild steel which complies with the requirements for grade 070 M20 of BS 970-1. Shaft diameter tolerance adheres to bearing manufacturer standards and ensures a JS6 fit. Shaft end slots are machined to SABS 1313 standards.

Bearing Housing
Manufactured from high-grade fire-retardant fibre reinforced impact modified thermoplastic and comply with the Restriction of Hazardous Substances (RoHS) Directive 2002/95/EC.

Corrosion Protection
Steel tubes are encased in an 8mm thick robust cut and abrasion resistant polyurethane coating.

Circular Movement Tolerance (TIR)
TIR measured across the full-face width of the roller does not exceed 0.5mm which is the SABS requirement. Actual TIR values are ±0.2mm and can be verified by referencing historical data.

Note: TIR denotes **Total Idler Runout.**

4. Before Installing Belt Support Systems

4.1. Receiving the Goods

Check that the shipment contains all the items specified on the delivery note. If this does not match the delivery note or if the items show any transportation damage, **list it on the freight bill**. Describe the damage and the number of incorrect or faulty items and **contact your supplier immediately**.

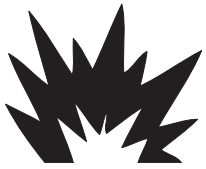
Defective parts should not be used under any circumstances. Claims must be made within 8 days from the arrival of goods. Brelko do not cover claims or exchange of product if installation was not carried out according to installation instructions.

4.2. Work Safety

Always use protective gloves and clothing. Always use a lifeline and soft-sole footwear when work will be carried out on raised platforms. Before you move a Belt Support System, check that it is securely attached to the lifting equipment. Always follow local safety regulations.

⚠ WARNING

Before removing/installing equipment, lock out/tag out energy source to conveyor, and/or conveyor accessories.



Turn off and lock out/tag out energy source according to local standards. If equipment will be installed in an enclosed area, test gas level or duct content before using a cutting torch or welding. Using a cutting torch or welding in an area with gas or dust may cause an explosion.

4.3. Handling

Belt Support Systems are supplied pre-assembled on a wooden pallet. Care should be taken not to damage the pallet when unloaded from the transportation vehicle onto customer's platform.

4.4. Storage

Belt Support Systems can be stored unpacked or in transportation package. Belt Support Systems must not be stored on top of one another, protect the Belt Support Systems by storing them in a cool dry area on a flat surface.

4.5. Recommended Tools List

QTY	DESCRIPTION
2	EXTENSION CORD (30m MIN)
1	ARC WELDER (INVERTER) 200 AMP
1	CHIPPING HAMMER
1	ANGLE GRINDER
1	BABY GRINDER
1	5M TAPE MEASURE
1	SHIFTING SPANNER
1	PIPE WRENCH 650MM
1 SET	SOCKET SET 8MM TO 32MM
1	SOFT FACE HAMMER
2	SAFETY HARNESS
2	G-CLAMPS
1	JIMMY LEVER
1	TORCH (LED)
1	SCRIBER
1	CENTRE PUNCH
1	STANLEY KNIFE
1	4PD HAMMER
1	ANGLE FINDER

QTY	DESCRIPTION
1	ELECTRIC DRILL
1 SET	ELECTRIC DRILL BITS
1	WELDING HELMET
1	FIRE EXTINGUISHER 9KG
1 SET	WELDING SPATS
1	WELDING APRON
1	FIRE BLANKET
1	SMALL BLUE TOOLBOX
1	MAGNETIC BASE DRILL
1 SET	12mm, 14mm, 18mm SLUGGER BITS
2	FLAT RING SPANNER 13
2	FLAT RING SPANNER 17
2	FLAT RING SPANNER 19
2	FLAT RING SPANNER 24
2	FLAT RING SPANNER 30
1	BELT LIFTER
2	1 TON LEVER HOIST
4	1M NYLON SLING

5. Installation

5.1. Feedboot System

Installed under a conveyor belt loading zone, suitable for light impact conditions the Feedboot Systems stabilise the belt line to prevent material escape. The support frames are designed to replace existing idler frames and is available in standard 1 metre length.

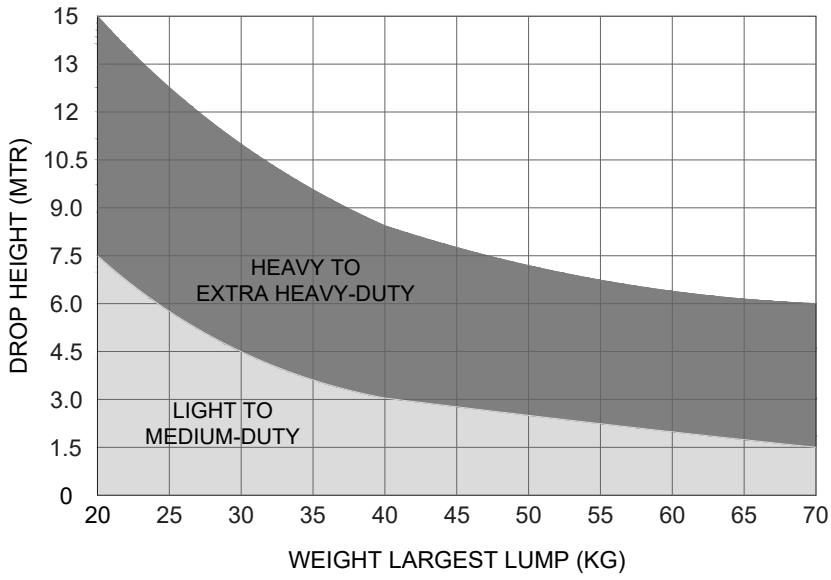
Wing panels adjust to match any standard troughing angle, lined with low friction UHMW-PE liners support belt edges to stabilize the belt line, eliminating belt sag and bounce improving sealing and tracking. The centre rollers reduce friction and requires less conveyor kilowatts than conventional bars or liners.

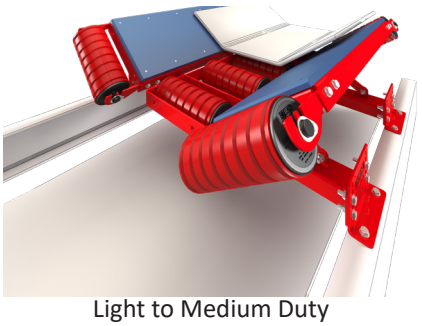
5.2. Hi-Impact System

Installed under a conveyor belt loading zone, the unique torsion mountings and are self-dampening and absorb the force of falling material to prevent damage to the belt and structure and eliminating belt bounce. Suitable for severe impact conditions and large particles. The polyurethane moulded impact rollers help extend belt life and last up to 3 times longer than standard rubber lagged rollers.

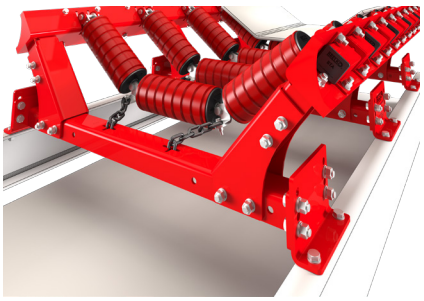
The support frame is designed to replace existing idler frames and is available in standard 2 metre length and fitted with 5 garland roller string arrangements that also promotes belt tracking. Torsion mounting support angle uprights adjust to match 30°, 35° and 45° troughing angles.

System Selection Guide:
Determine weight of largest lump and drop height.





Light to Medium Duty



Heavy to Extra Heavy Duty

Impact Bed Rating

DUTY RATING	IMPACT ENERGY (N-m)
L - Light Duty	< 271
M - Medium Duty	271 to 1,356
H - Heavy Duty	1,356 to 2,710
Consult your Brelko representative > 2,710 N-m	

CEMA STANDARD 575-2000

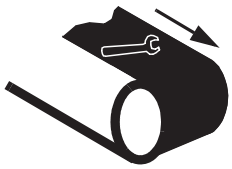
6. After Installing Belt Support Systems

IMPORTANT

Read entire section before starting work.

1. Remove all tools and fire-retardant cover from installation area and conveyor belt. Thoroughly wipe stringers clean around the Belt Support System on both sides of the belt.

⚠ WARNING



Failure to remove tools from installation area and conveyor belt before turning on energy source can cause serious injury to personnel and damage to belt.

⚠ DANGER

Do not touch or go near conveyor belt or conveyor accessories when conveyor belt is running. Body or clothing can get caught and pull body into conveyor belt, causing severe injury or death.

2. Turn on the conveyor and observe Belt Support System. Note: allow belt to run through at least three to five revolutions.

⚠ WARNING

Before adjusting Belt Support System, turn off and lock out / tag out energy source to conveyor and conveyor accessories.

3. Inspect liners and rollers for wear. (A small amount of “break-in” wear may be found. This will stop once the liners wear to conveyor contour.)
4. If excessive wear, uneven wear, or some other problem exists, see “Troubleshooting” guide.

IMPORTANT

5. Make sure all fasteners are tight. Tighten if necessary.

7. Maintenance

Brelko Belt Support Systems are designed to operate with minimum maintenance. However, to maintain superior performance, some service is required. When the Belt Support System(s) are installed a regular maintenance program should be set up. This program will ensure that the Belt Support System operates at optimal efficiency and problems can be identified and fixed before the Belt Support System stops working. All safety procedures for inspection of equipment (stationary or operating) must be observed. Service tasks can be done only with the conveyor stopped and by follow the correct lockout/tag-out procedures.

7.1. New Installation

After the new Belt Support System has run for a few days, a visual inspection should be made to ensure the Belt Support System is performing properly. Adjust as needed.

7.2. Routine Visual Inspection (every 2 to 4 weeks)

A visual inspection of the Belt Support System and belt can determine:

- If the mounts are adjusted at the correct height for optimal roller contact.
- If the liners or rollers are worn and needs to be replaced; and,
- If fugitive material is built up on the Belt Support System.

If any of the above conditions exist, a determination should be made on when the conveyor can be stopped for Belt Support System Maintenance.

7.3. Routine Physical Inspection (every 6 to 8 weeks)

When the conveyor is not in operation and properly locked and tagged out, perform a physical inspection of the Belt Support System performing the following tasks:

- Clean material build-up off the Belt Support System.
- Closely inspect liners or rollers for wear and any damage. Replace if needed.
- Ensure full liner and roller to belt contact.
- Inspect the Belt Support System for damage.
- Inspect all fasteners for tightness and wear. Tighten or replace as needed.
- Replace any worn or damaged components.

When maintenance tasks are completed, test run the conveyor to ensure the Belt Support System is performing properly.

8. Troubleshooting Guide

8.1. Feedboot System

Problem	Possible Cause	Possible Solution
UHMW-PE liners wearing out to fast	Liners are not 10mm below lead-in and lead-out rollers.	Adjust as needed to correct dimension.
	Lead-in roller does not match troughing angle.	Correct the angle of the wing panels to match the belt.
Vibration Noise	Belt rubbing too hard on UHMW-PE liners.	Verify height of lead-in / lead-out rollers.
	Material buildup under system.	Clean buildup, adjust skirting.
	Skirt rubber pushing too hard on belt.	Adjust skirting.
Liner damage	Mechanical splice damaging UHMW-PE liners.	Repair, skive or replace splice.
Frame damage	Tonnage higher than design.	Replace with a Brelko Hi-impact System.
Material leakage	Skirting not touching belt.	Adjust.
	Skirting worn.	Adjust / replace skirting.

8.2. Hi-Impact System

Problem	Possible Cause	Possible Solution
Excessive noise torsion unit (BTA) bottoming out.	Rollers damaged.	Replace rollers.
	Tonnage higher than design.	Reduce tonnage. If not possible, contact Brelko about upgrading Hi-impact System to heavier unit.
	Material impact velocity too high.	Check condition of rock-boxes and internal chute components.
	Torsion units (BTA) worn out.	Replace torsion unit.
Material leakage	Skirting not touching belt.	Adjust.
	Skirting worn.	Adjust / replace skirting.

9. EU Declaration of Conformity

according to 2006/42/EC, appendix IIB for incorporation of partly completed machinery

We, Brelko Conveyor Products (PTY) Ltd

of, 44 Chambers Street, Reuven Extension 1, Booysens, Johannesburg, South Africa

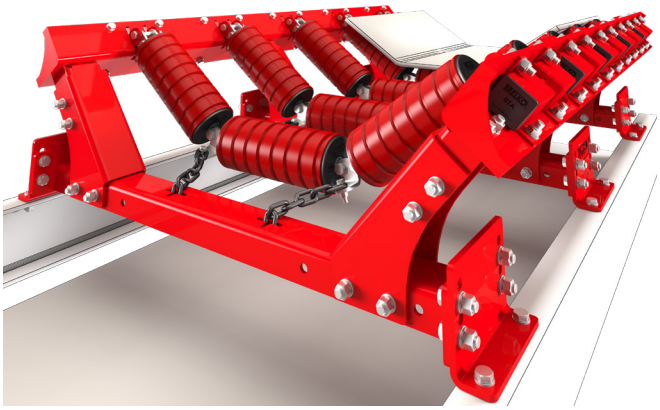
Declare that the declaration of Conformity is issued under our sole responsibility and belongs to the following product rage:

Model Number(s) : 6-A-B-C-D-E or 4-A-B-C-D-E-F

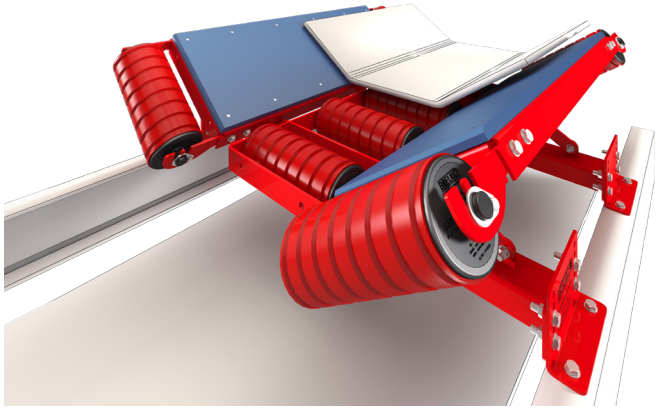
Type : Belt Support Systems

Part Number : See shipping documents (example: 6-1050-3R-2M-S30 or 4-FBT-1050-3R-1M-CR)

Machinery of the declaration:



HI-IMPACT SYSTEMS



FEEDBOOT SYSTEMS

Complies with the applicable Essential Health and Safety Regulations (EHSR) of the:-

2006/42/EC - Machinery and its amending directive; and additional EU regulation,
2014/34/EU - Manufacturer ATEX and its amending directive

Directive 2014/34/EU - Specific marking of explosion protection

CE Ex II 2D c IIIC T135°C Db

The following harmonised standards has been applied:

BS EN IEC 60079-00:2018	Explosive atmospheres	- Part 01: Machinery General requirements;
BS EN ISO 80079-36:2016	Explosive atmospheres	- Part 36: Non-electrical Machinery for explosive atmospheres Basic method and requirements
BS EN ISO 80079-37:2016	Explosive atmospheres	- Part 37: Non-electrical Machinery for explosive atmospheres Non-electrical type of protection constructional safety “c”

The above listed products are also produced under an integrated management system compliant with the international standards:

ISO 9001:2015 - Quality Management System
ISO 14001:2015 - Environmental Management System; and,
ISO 45001:2018 - Occupational Health and Safety Management System.

This partly completed machinery must not be put into operation until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of this Directive 2006/42/EG, where appropriate.

This declaration is invalidated by any modification outside the scope of those intended by the manufacturer.

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