



For
**Technology,
Quality & Value**

Driveline

- Halfshaft
- Ball Spline Halfshaft
- Intermediate Driveshaft
- Propeller Driveshaft



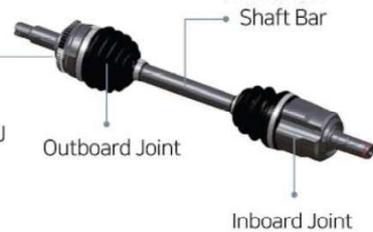
Halfshaft

Features

- Outboard Joint : Rzeppa / High Angle Rzeppa / High Efficiency Rzeppa / CGJ / CTPJ
- Inboard Joint : CGJ / CTPJ / TPJ / VSJ

Customer Benefits

- Light weight
- High durability
- Stable power delivery and enhanced driving feel



Ball Spline Halfshaft

Features

- By separation of absorbing function of angular and length displacement
 - Extremely low GAF (maximum 15N)
 - Extension of plunging capacity (100mm max.)

Customer Benefits

- Excellent NVH Performance due to lower GAF even high angle condition
- Absorption capacity of extremely wide suspension displacement



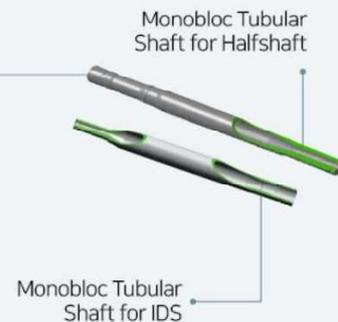
Monobloc Tubular Shaft (MTS)

Features

- Optimally sized monobloc tubular shaft
- Extended tubular section for the maximum weight reduction

Customer Benefits

- Light weight and fuel saving
- Highly stabilized NVH performance



Anti-shudder Tripod Joint (VSJ)

Features

- Low GAF in any running angle
- Simplified spider assembly
- Wide guiding housing structure

Customer Benefits

- Highly stabilized NVH performance
- Low cost achieved by less number of components and simplified assembly



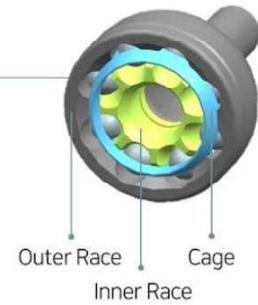
Ultra High Angle Rzeppa Joint (UARz)

Features

- Compact Joint with 6 ~ 8 balls
- Reverse ball track design

Customer Benefits

- Light and compact package
- Increased joint angle capacity (52°)



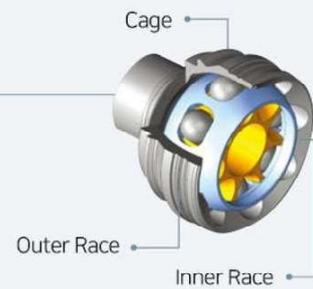
High Efficiency Rzeppa Joint (HERz)

Features

- Compact Joint with 8 balls
- Multi curve shaped ball track design

Customer Benefits

- High efficiency performance
- Light and compact package
- Increased joint angle capacity (50°)



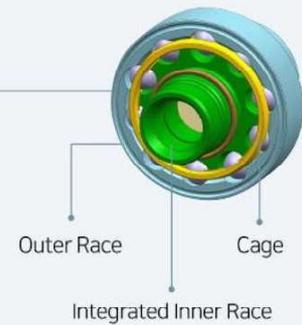
Counter Track Rzeppa Joint for Propeller Shaft (CTRz)

Features

- 8~10 balls design
- Counter ball track
- Closed design without clamp

Customer Benefits

- Light and compact package
- High efficiency Propeller Joint



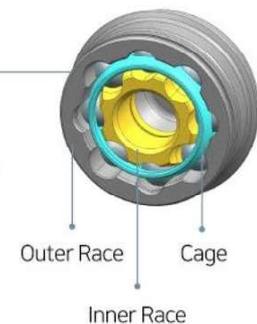
Counter Track Plunging Joint (CTPJ)

Features

- Compact Joint with 8 balls
- Counter ball track
- Plunging Joint for rear application

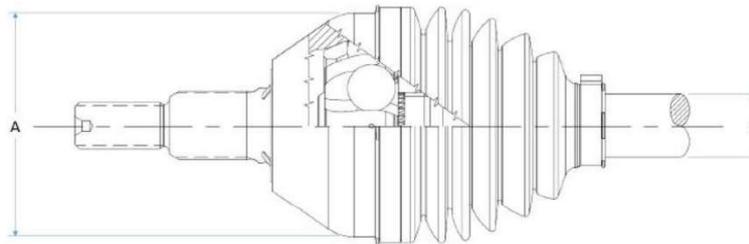
Customer Benefits

- Light and compact package
- High efficiency Joint



Fixed Joint

- Rzeppa • HARz • UARz • HERz



Type	Size	Torque Capacity (Nm)		Balls	A	B	Max Angle
		Ultimate	JAEL				
Rzeppa	13	1,950	1,300	6	69.0	20.0	47°
	16	2,400	1,600		73.3	22.1	
	19	2,850	1,900		78.0	22.9	
	21	3,150	2,100		80.0	23.8	
	23	3,450	2,300		84.2	24.5	
	26	3,900	2,600		86.0	25.3	
	29	4,350	2,900		90.0	26.5	
	32	4,800	3,200		93.0	27.8	
	37	5,550	3,700		100.0	29.6	
HARz	26	3,900	2,600	6	86.0	25.3	50°
	29	4,350	2,900		89.0	27.3	
	32	4,800	3,200		90.9	27.8	
	37	5,550	3,700		99.7	29.6	
	41	6,150	4,100		104.0	29.5	
	45	6,750	4,500		109.4	30.2	
	51	7,650	5,100		111.0	31.5	
UARz	32	4,800	3,200	6	94.0	27.2	52°
	41	6,150	4,100		106.0	30.2	
HERz	41	6,150	4,100	8	95.0	30.2	50°
	51	7,650	5,100		106.0	31.5	
	60	9,000	6,000		112.0	34.0	

Rzeppa : Standard Fixed Joint

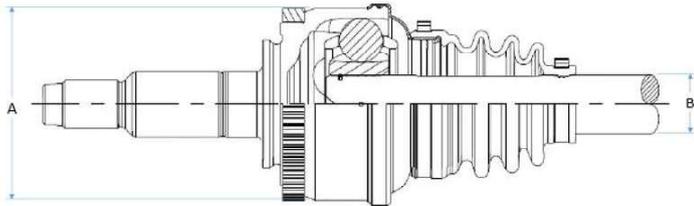
UARz : Ultra-high Angle Rzeppa Joint

HARz : High Angle Rzeppa Joint

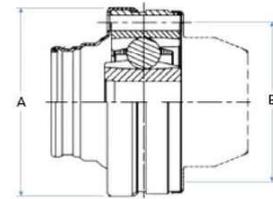
HERz : High Efficiency Rzeppa Joint

Plunging Joint (Ball Type)

- CGJ • CTPJ



<CGJ & CTPJ>



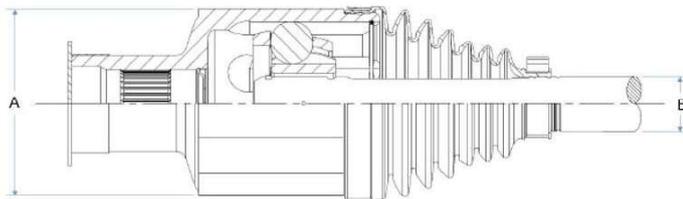
<CGJ (P/shaft)>

Type	Size	Torque Capacity (Nm)		Balls	A	B	Max Angle
		Ultimate	JAEL				
CGJ	16	2,400	1,600	6	73.6	93.0	23°
	19	2,850	1,900		79.1	96.0	
	21	3,150	2,100		84.0	99.0	
	26	3,900	2,600		88.0	103.0	
	32	4,800	3,200		91.4	109.0	
	37	5,550	3,700		99.0	110.0	
CGJ (P/shaft)	16	2,400	1,600	6	86.0	73.6	23°
	21	3,150	2,100		89.0	84.0	
	32	4,800	3,200		92.0	91.4	
CTPJ	41	6,150	4,100	6	92.0	95.0	23°
	45	6,750	4,500		96.5	98.0	

CGJ : Cross Groove Joint

CTPJ : Counter Track Plunging Joint

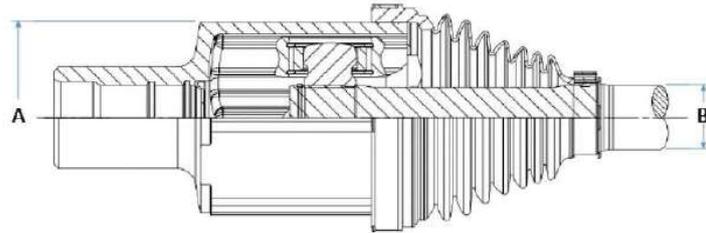
- Double Offset Joint (DOJ)



Size	Torque Capacity (Nm)		Balls	A	B	Max Angle
	Ultimate	JAEL				
32	4,800	3,200	6	88.5	27.8	30.5°
37	5,550	3,700		98.0	29.6	
45	6,750	4,500		101.0	30.2	
65	9,750	6,500		117.0	34.0	

Plunging Joint (Tripod Type)

• TPJ • VSJ

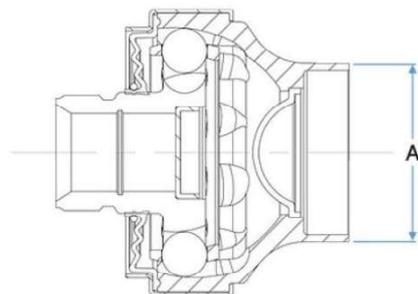


Type	Size	Torque Capacity (Nm)		A	B	Max Angle
		Ultimate	JAEL			
TPJ	13	1,950	1,300	64.2	20.0	23°
	16	2,400	1,600	71.0	22.1	
	19	2,850	1,900	73.0	22.9	
	21	3,150	2,100	73.0	23.8	
	26	3,900	2,600	79.8	25.3	
	29	4,350	2,900	80.0	27.3	
	32	4,800	3,200	86.2	27.8	
VSJ	26	3,900	2,600	85.0	25.3	26°
	29	4,350	2,900	88.0	27.3	
	32	4,800	3,200	91.0	27.8	
	37	5,550	3,700	94.5	29.6	

TPJ : Tripod Joint

VSJ : Vertex Straight Joint (for Anti-shudder)

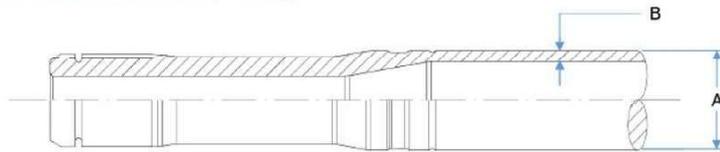
Counter Track Rzeppa Joint for Propeller Shaft (CTRz)



Size	Torque Capacity (Nm)		Balls	A	Max Angle
	Ultimate	JAEL			
21	3,150	2,100	8	81.4	5°
29	4,350	2,900	10	96.4	

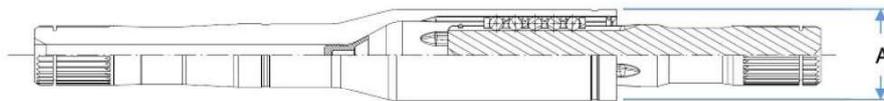
Interconnecting Shaft

- Monobloc Tubular Shaft (MTS)



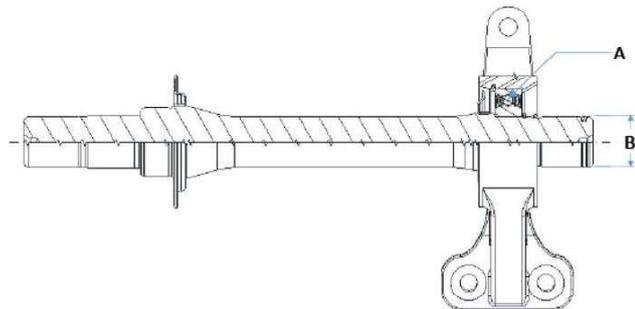
Size	Torque Capacity (Nm)		A	B
	Ultimate	JAEL		
23	3,450	2,300	30.0	2.5
26	3,900	2,600	32.0	3.0
32	4,800	3,200	34.0	3.6
37	5,550	3,700	35.0	4.0
41	6,150	4,100	35.2	4.0
45	6,750	4,500	35.5	5.0

- Ball Spline Shaft (BSS)



Size	Torque Capacity (Nm)		A	Stroke
	Ultimate	JAEL		
41	6,150	4,100	48.6	65
51	7,650	5,100	52.5	50

- Intermediate Drive Shaft (IDS)



A (Bearing Dim.)	B	Running Temp. (Max)	Shaft Type
62x30x16	36	150 °C (175 °C)	Solid
72x35x25	46	120 °C (145 °C)	Tubular
68x40x15	43	150 °C (175 °C)	Tubular

Contact Point

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