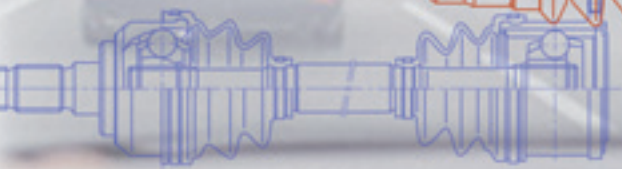


For New Technology Network

NTN®

CONSTANT VELOCITY JOINTS for AUTOMOBILES

等速ジョイント 自動車用



CAT. No. 5601-IV/JE

NTN constant velocity joint for automobiles supports the concept of "Fun to Drive"

NTN constant velocity joints are used in automotive propeller shafts and half shafts to transmit power from the engine to the wheels.

In today's automotive market there are increasing demands to create safer, more comfortable, environment-friendly vehicles.

In response to these needs, NTN constant velocity joints have always provided long life, outstanding function, low weight and compactness.

As a pioneer in the field of constant velocity joints, NTN has gained abundant experience over the years and this experience has been used for innovations and continuous improvements of our products.

"Fun to Drive" をささえる NTN 等速ジョイント〈自動車用〉

今、より安全に・より快適に、そして地球環境にやさしい車づくりが求められています。エンジンからタイヤへ動力を伝える駆動軸、推進軸に使われるNTN等速ジョイントも、このようなニーズに応えるべく、長寿命、高機能で軽量、コンパクトな製品を提供してきました。NTNは、等速ジョイントのパイオニアとして永年培ってきた技術を生かし、常に新しいものにチャレンジしています。

**Longer life,
more
durable**

長寿命・高強度化
の実現

**Environment-
friendly**

環境への配慮

**More lightweight
and compact**

軽量・コンパクト化の実現

**Minimal
vibration**

(for enhanced comfort)

低振動化(快適性)の実現

HALF SHAFT

ハーフシャフト

CONSTANT VELOCITY JOINT

等速ジョイント

FIXED JOINT
固定式
ジョイント

BJ

Ball Fixed Joint

EBJ

High Efficiency Compact Ball Fixed Joint

UJ

Undercut Free Joint

EUJ

High Efficiency Compact Undercut Free Joint

DOJ

Double Offset Joint

EDJ

High Efficiency Compact Double Offset Joint

TJ

Angular Contact Tripod Joint

ETJ

E type Tripod Joint

PTJ

Pillow Journal Tripod Joint

LJ

Cross Groove Joint

PLUNGING JOINT
しゅう動式
ジョイント



P4



P5



P6



P7



P8



P9



P10



P11



P12



P13

FIXED JOINT
固定式
ジョイント

BJ

Ball Fixed Joint

HEBJ

High Speed EBJ

DOJ

Double Offset Joint

HEDJ

High Speed EDJ

TJ

Angular Contact Tripod Joint

LJ

Cross Groove Joint

PLUNGING JOINT
しゅう動式
ジョイント

CONSTANT VELOCITY JOINT

等速ジョイント



P14



P15



P16



P17



P18



P19



P20

PROPELLER SHAFT

プロペラシャフト

HLJ

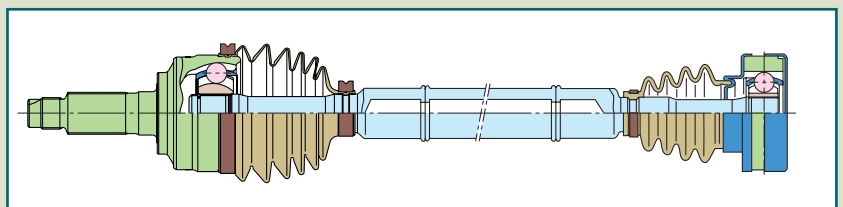
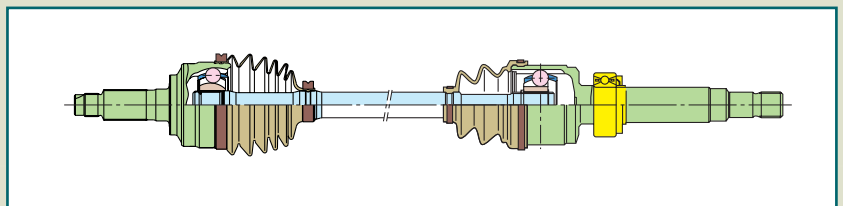
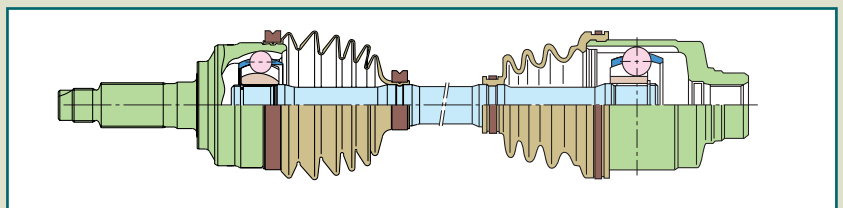
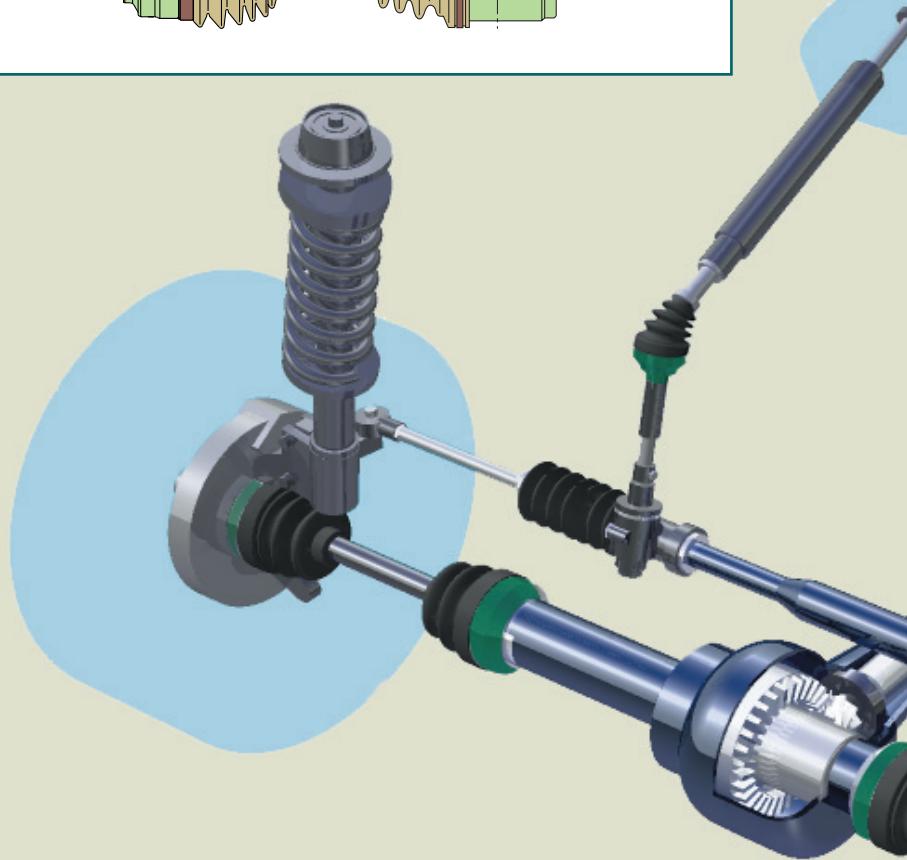
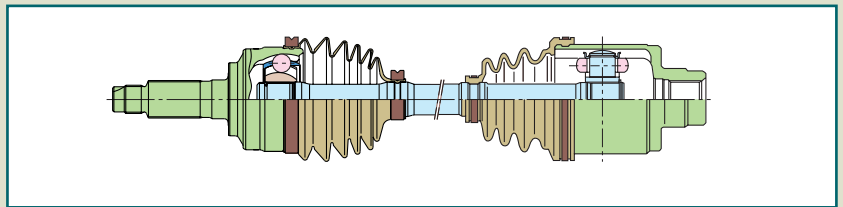
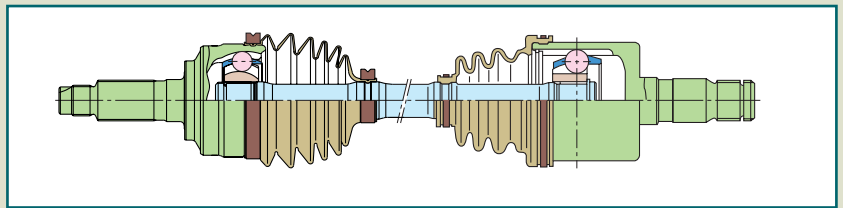
High speed Cross Groove Joint

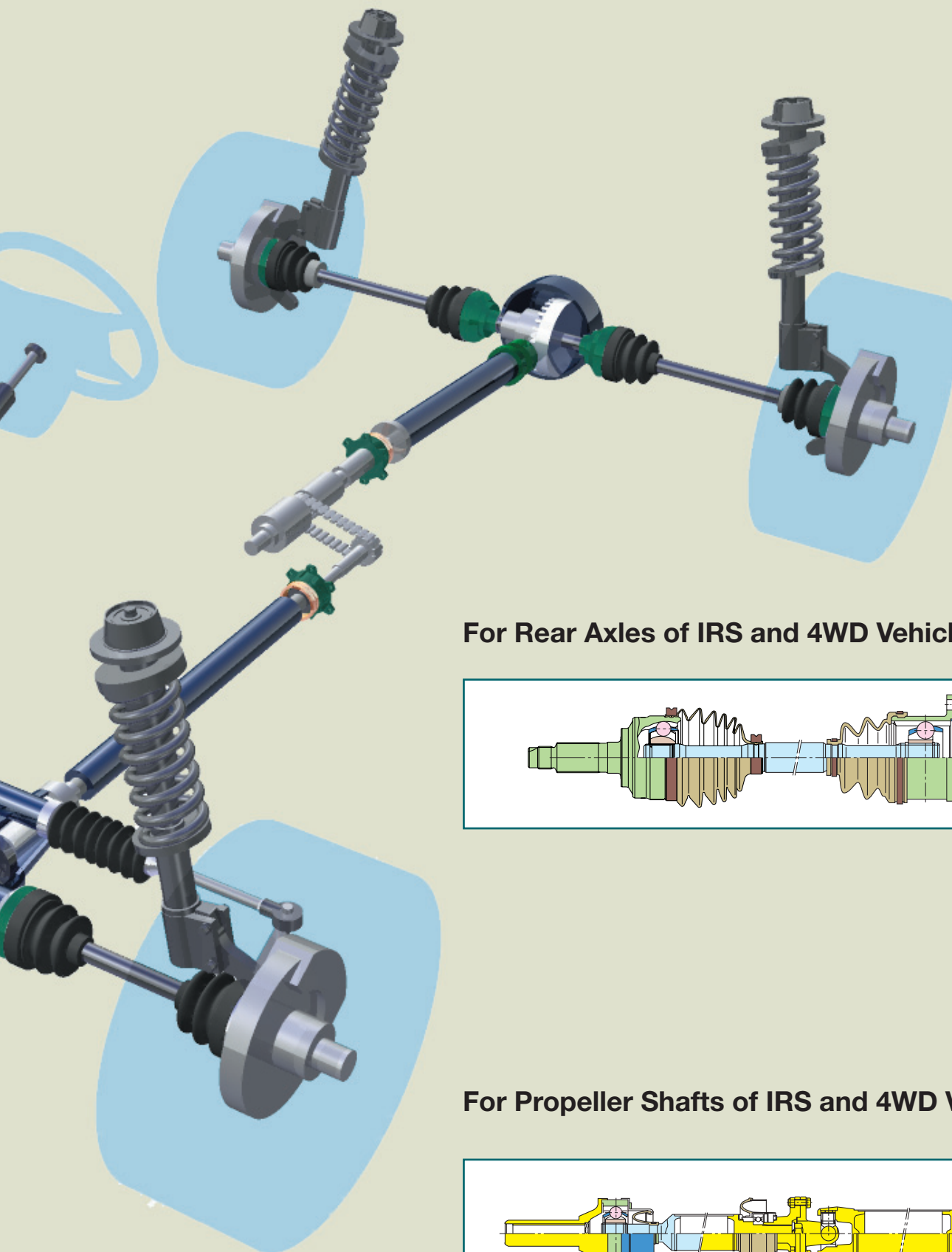
Typical Application
of
NTN Constant Velocity Joint

等速ジョイントの応用例

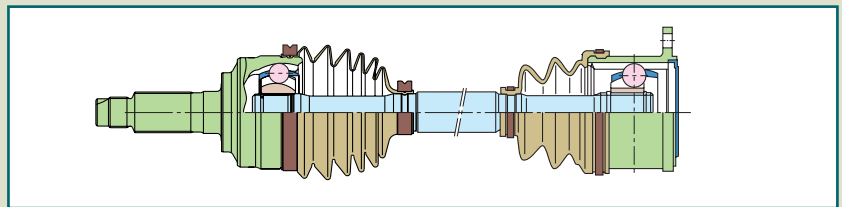


For Front Axles of FWD and 4WD Vehicles

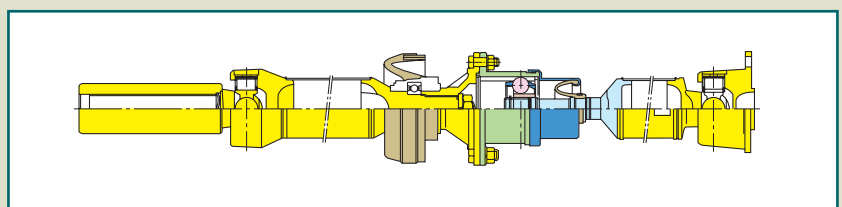
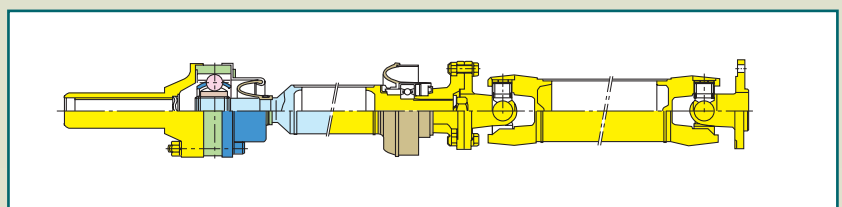




For Rear Axles of IRS and 4WD Vehicles

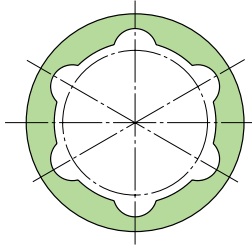


For Propeller Shafts of IRS and 4WD Vehicles

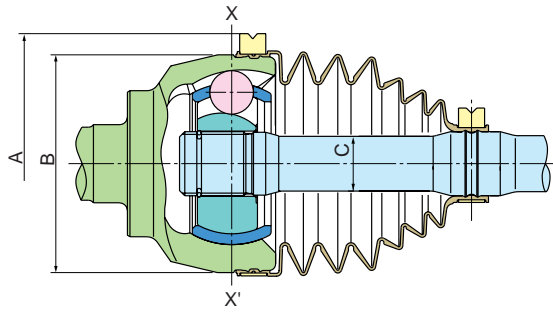


BJ

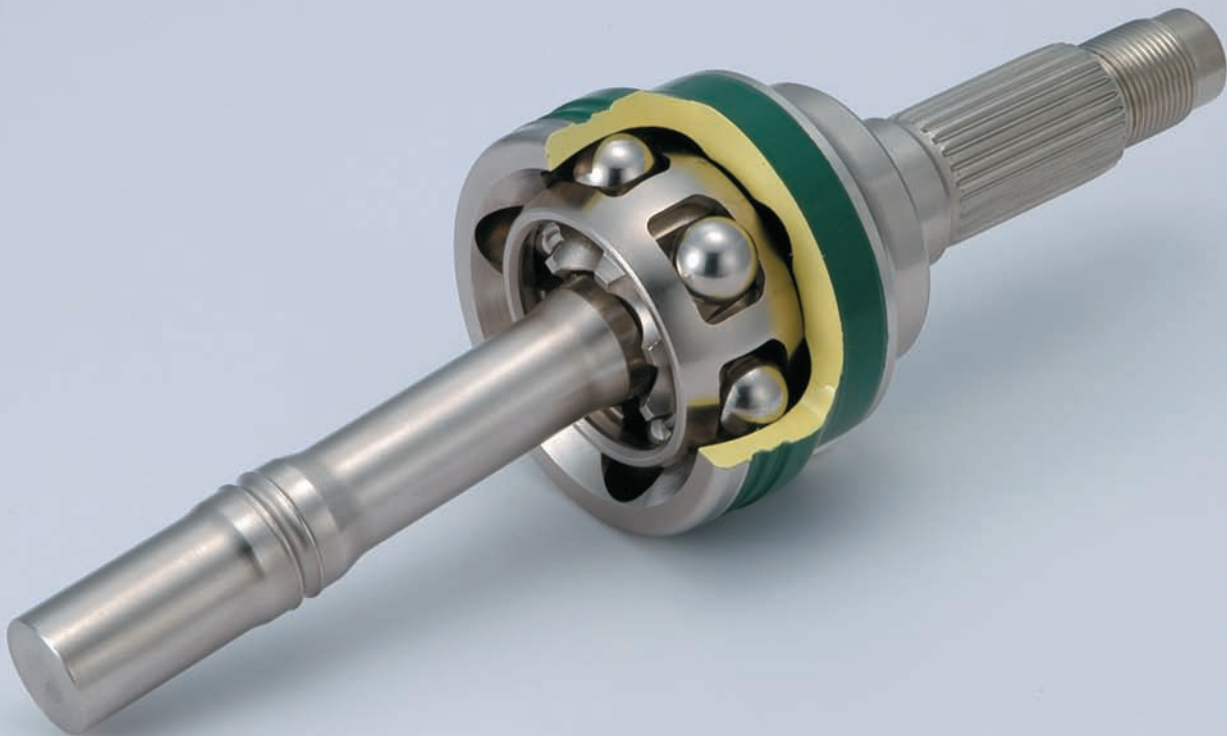
HALF SHAFT ハーフシャフト



Section X-X'

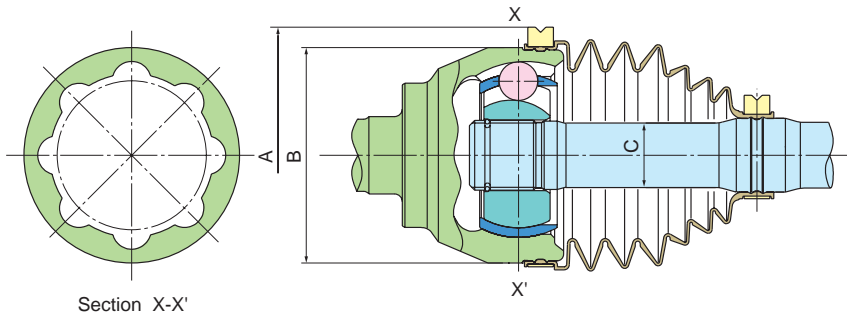


MAX Permissible working angle 最大角	part number 呼び番号	Dimension 寸法 mm		
		A	B	C
46.5°	BJ68LAC	84.3	65.3	17.0
	BJ71LAC	88.0	69.0	18.0
	BJ75LAC	91.6	72.6	19.0
	BJ79LAC	95.3	76.3	20.1
	BJ82LAC	98.9	79.9	21.2
	BJ87LAC	102.6	83.6	22.2
	BJ92LAC	106.4	87.4	23.3
	BJ95LAC	109.0	90.0	24.0
	BJ100LAC	113.7	94.7	25.4
	BJ104LAC	118.2	99.2	26.5
	BJ109LAC	122.2	103.2	27.6
	BJ117LAC	130.2	111.2	29.7
	BJ125LAC	138.2	119.2	31.8
BJ133LAC	146.4	127.4	33.9	



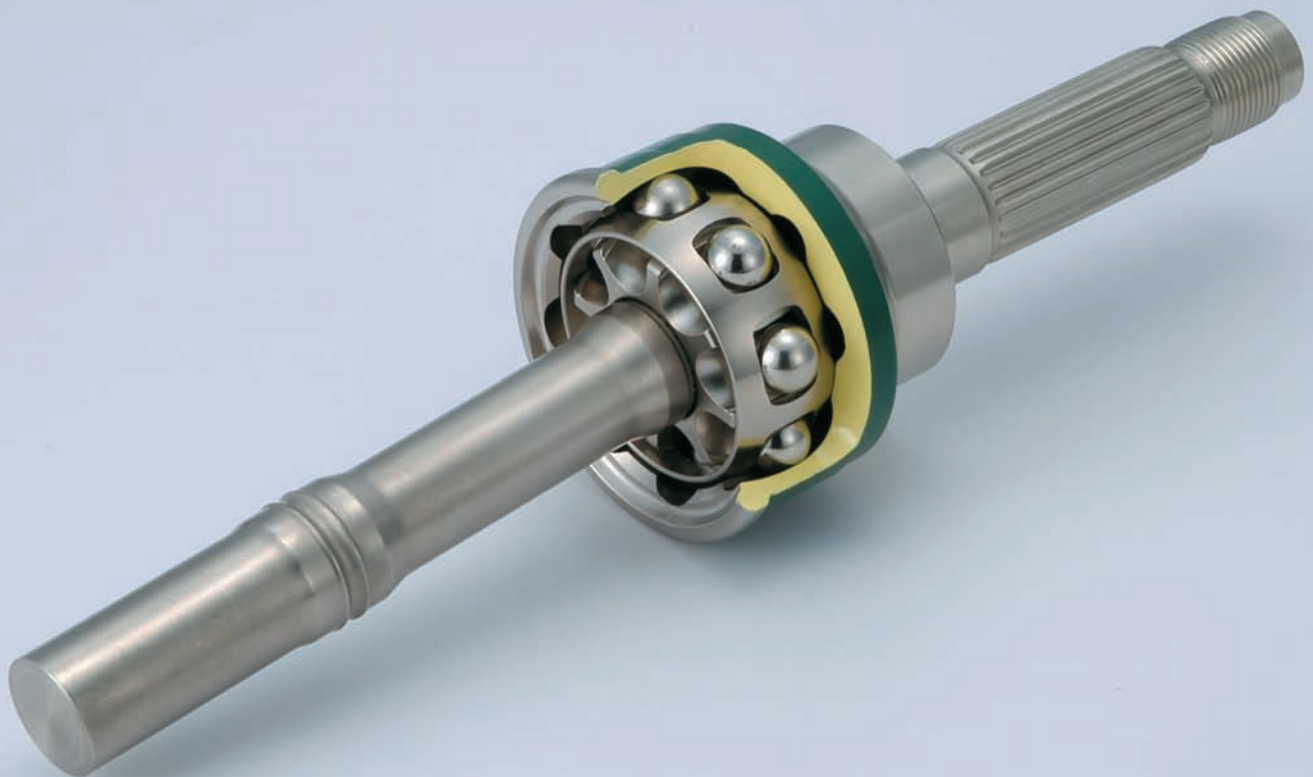
EBJ

HALF SHAFT
ハーフシャフト



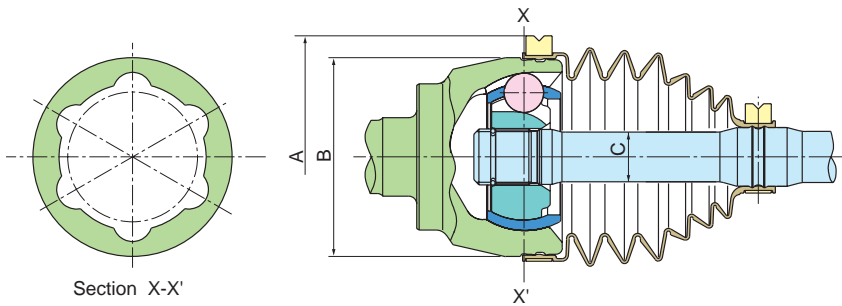
MAX Permissible working angle 最大角	part number 呼び番号	Dimension 寸法 mm		
		A	B	C
47°	EBJ82M	91.6	72.6	21.2
	EBJ87M	95.3	76.3	22.2
	EBJ92M	99.7	80.7	23.3
	EBJ95M	102.6	83.6	24.0
	EBJ100M	106.4	87.4	25.4
	EBJ104M	109.7	90.7	26.5
	EBJ109M	113.7	94.7	27.6
	EBJ113M	117.7	98.7	28.6
	EBJ117M	121.6	102.6	29.7
	EBJ125M	129.5	110.5	31.8

- The model EBJ is lighter and more compact than the model BJ.(E series)
- The model EBJ features higher efficiency and a lower temperature rise than the model BJ.
- BJの軽量・コンパクト型（Eシリーズ）
- 高効率，低発熱

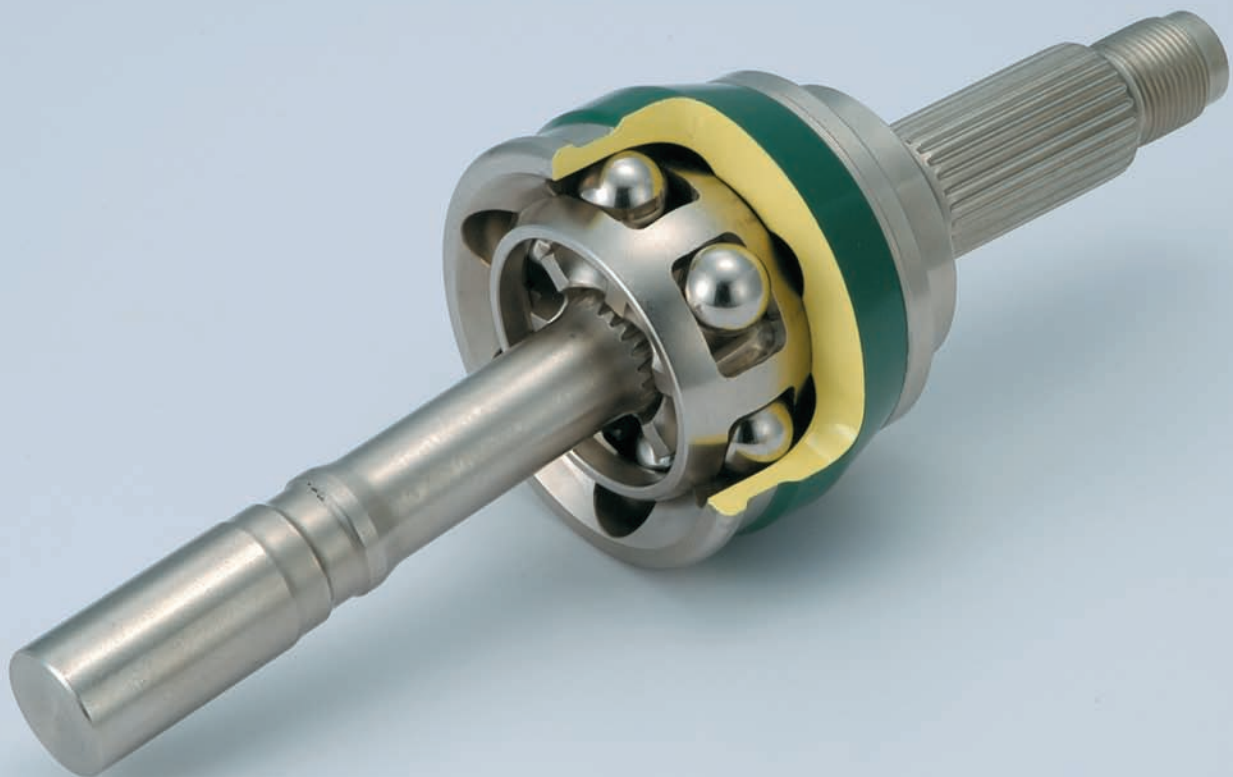


UJ

HALF SHAFT
ハーフシャフト

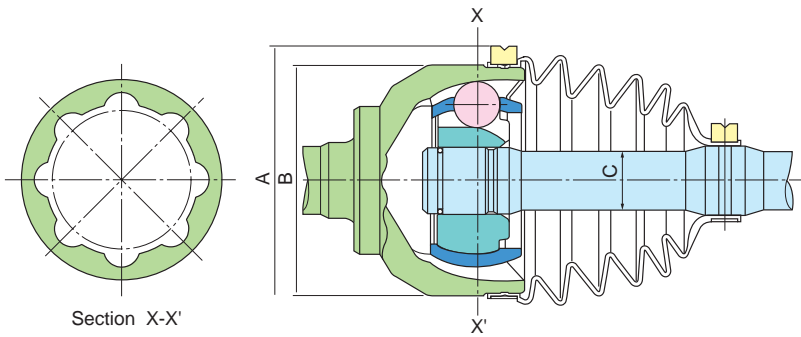


MAX Permissible working angle 最大角	part number 呼び番号	Dimension		
		寸法 mm		
		A	B	C
50°	UJ68	88.0	69.0	17.0
	UJ71	91.6	72.6	18.0
	UJ75	95.3	76.3	19.0
	UJ79	98.9	79.9	20.1
	UJ82	102.6	83.6	21.2
	UJ87	106.4	87.4	22.2
	UJ92	109.0	90.0	23.3
	UJ95	113.7	94.7	24.0
	UJ100	118.2	99.2	25.4
	UJ104	122.2	103.2	26.5
	UJ109	126.2	107.2	27.6
UJ117	134.2	115.2	29.7	



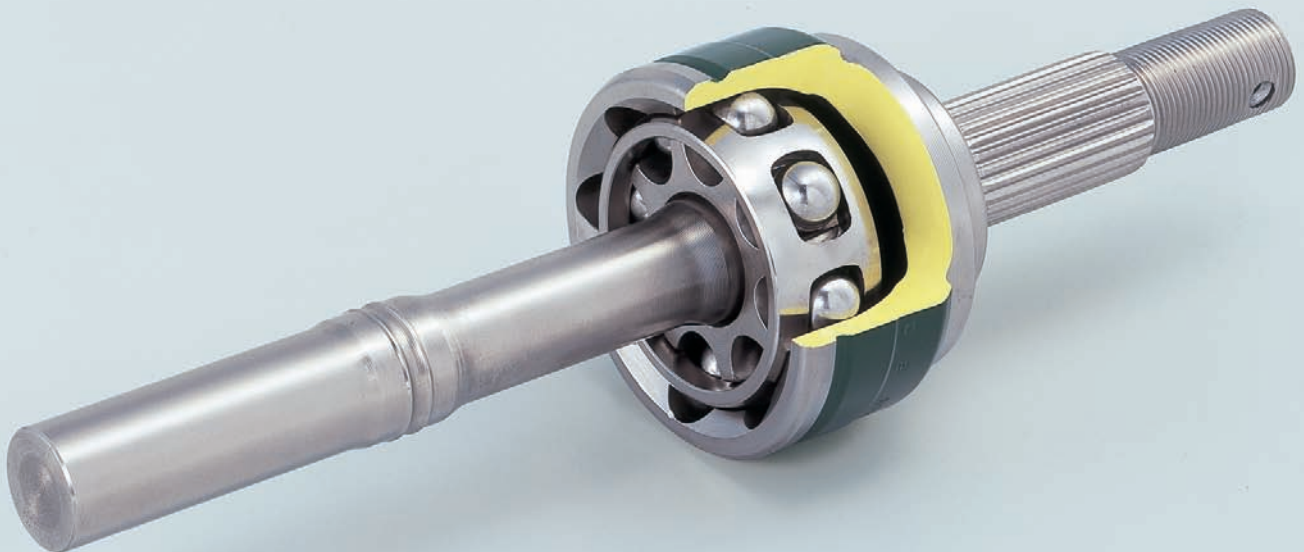
EUJ

HALF SHAFT ハーフシャフト



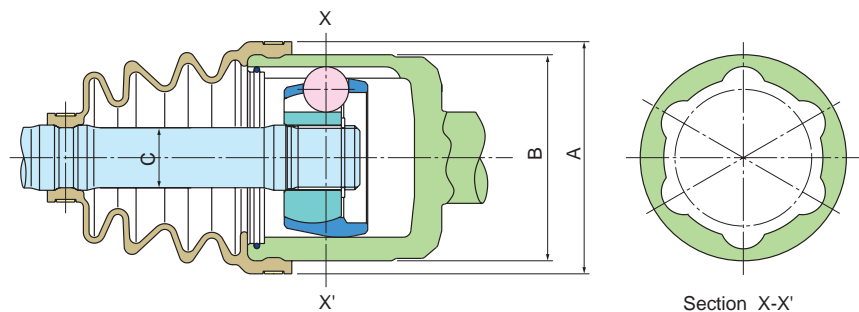
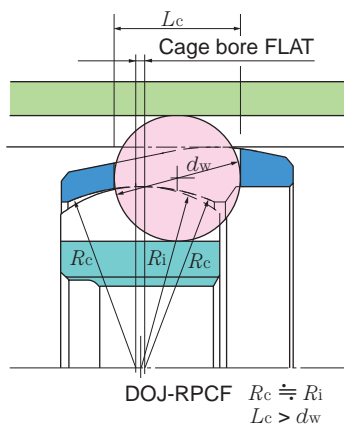
MAX Permissible working angle 最大角	part number 呼び番号	Dimension 寸法 mm		
		A	B	C
50°	EUJ71	85.4	65.5	18.0
	EUJ75	89.3	69.4	19.0
	EUJ79	92.9	73.0	20.1
	EUJ82	96.9	77.0	21.2
	EUJ87	100.7	80.8	22.2
	EUJ95	106.8	86.9	24.0
	EUJ100	111.8	91.9	25.4
	EUJ104	115.7	95.8	26.5
	EUJ109	119.0	99.1	27.6
	EUJ117	129.7	109.8	29.7

- The model EUJ is lighter and more compact than the model UJ.(E series)
- The model EUJ features higher efficiency and a lower temperature rise than the model UJ.
- UJの軽量・コンパクト型 (Eシリーズ)
- 高効率, 低発熱



DOJ

HALF SHAFT ハーフシャフト



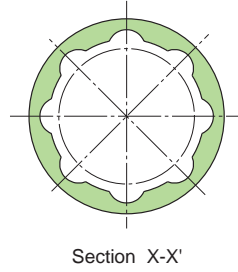
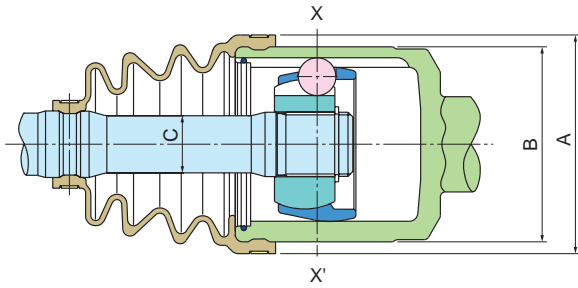
MAX Permissible working angle 最大角	part number 呼び番号	Dimension 寸法 mm		
		A	B	C
25°	DOJ68	71.2	61.5	17.0
	DOJ71	75.7	65.0	18.0
	DOJ75	79.7	69.0	19.0
	DOJ79	83.0	72.5	20.1
	DOJ82	87.4	75.7	21.2
	※ DOJ87	90.7	79.0	22.2
	※ DOJ92	93.6	82.0	23.3
	DOJ95	97.7	85.5	24.0
	DOJ100	100.7	89.0	25.4
	DOJ104	106.7	95.0	26.5
	DOJ109	110.2	98.5	27.6
	DOJ117	117.2	105.5	29.7
DOJ125	124.2	112.5	31.8	
30.5°	DOJ68L	75.7	65.0	17.0
	DOJ71L	79.7	69.0	18.0
	DOJ75L	83.0	72.5	19.0
	DOJ79L	87.4	75.7	20.1
	DOJ87L	94.6	83.0	22.2
	DOJ95L	100.7	89.0	24.0
	DOJ100L	104.7	93.0	25.4
	DOJ104L	110.2	98.5	26.5
	DOJ109L	113.7	102.0	27.6
	DOJ117L	120.7	109.0	29.7
DOJ125L	127.7	116.0	31.8	
DOJ133L	135.2	123.5	33.9	

※MAX permissible working Angle 23°
※は最大角23°品



EDJ

HALF SHAFT ハーフシャフト



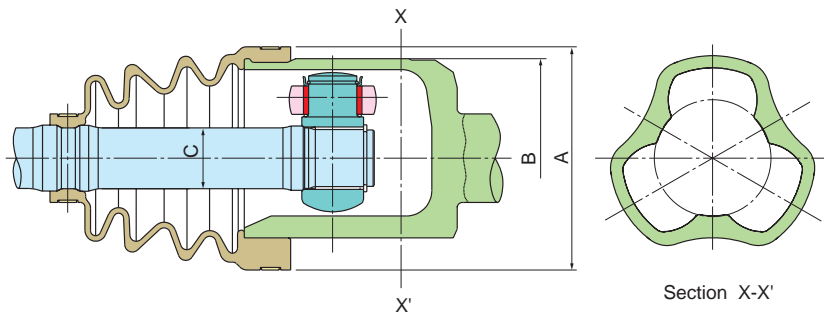
MAX Permissible working angle 最大角	part number 呼び番号	Dimension 寸法 mm		
		A	B	C
25°	EDJ82	80.2	71.5	21.2
	EDJ87	85.3	75.2	22.2
	EDJ92	87.4	79.0	23.3
	EDJ95	90.8	82.0	24.0
	EDJ100	94.1	85.5	25.4
	EDJ104	100.5	91.0	26.5
	EDJ109	105.3	95.0	27.6
	EDJ113	108.7	98.5	28.6
	EDJ117	112.2	102.0	29.7
	EDJ125	117.8	109.0	31.8

- The model EDJ is lighter and more compact than the model DOJ.(E series)
- The model EDJ features higher efficiency and a lower temperature rise than the model DOJ.
- DOJの軽量・コンパクト型 (Eシリーズ)
- 高効率, 低発熱

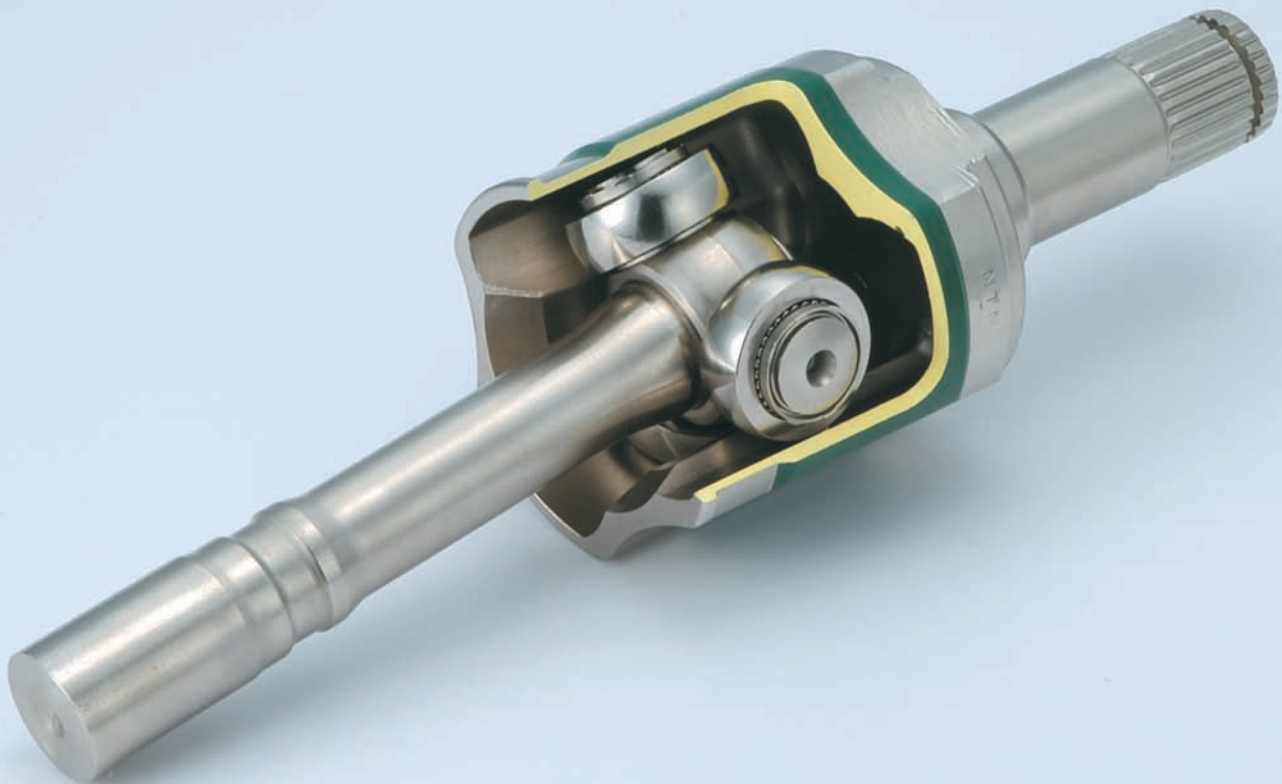


TJ

HALF SHAFT ハーフシャフト

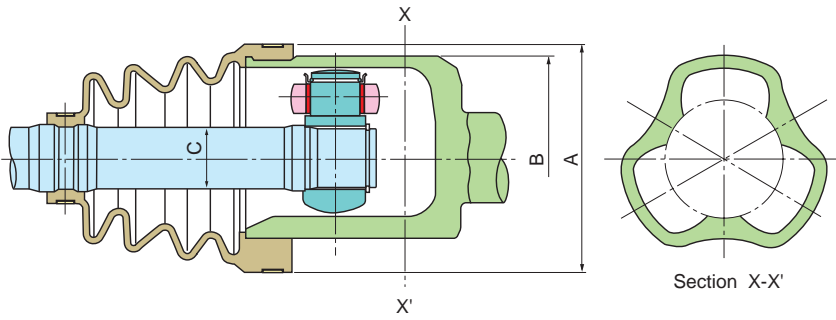


MAX Permissible working angle 最大角	part number 呼び番号	Dimension 寸法 mm		
		A	B	C
23°	TJ68	71.0	61.5	17.0
25°	TJ71	74.0	65.0	18.0
23°	TJ75	78.0	68.0	19.0
	TJ79	82.0	71.4	20.1
	TJ82	85.8	74.6	21.2
	TJ87	90.2	78.7	22.2
	TJ92	93.1	81.6	23.3
	TJ95	96.3	84.8	24.0
	TJ100	100.5	89.0	25.4
TJ104	106.7	95.0	26.5	
TJ109	110.2	98.5	27.6	



ETJ

HALF SHAFT ハーフシャフト



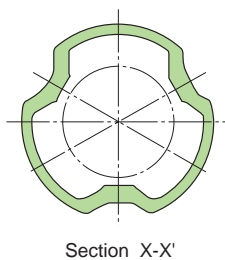
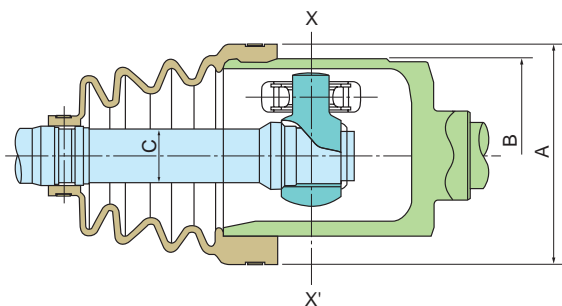
MAX Permissible working angle 最大角	part number 呼び番号	Dimension 寸法 mm		
		A	B	C
23°	ETJ71	71.2	60.9	18.0
	ETJ75	74.0	64.3	19.0
	ETJ79	76.6	67.2	20.1
	ETJ82	78.0	69.0	21.2
	ETJ87	82.0	71.4	22.2
	ETJ92	85.3	75.4	23.3
	ETJ95	87.4	76.6	24.0
25°	ETJ100	94.1	84.8	25.4

- The model ETJ is lighter and more compact than the model TJ.(E series)
- TJの軽量・コンパクト型 (Eシリーズ)



PTJ

HALF SHAFT ハーフシャフト



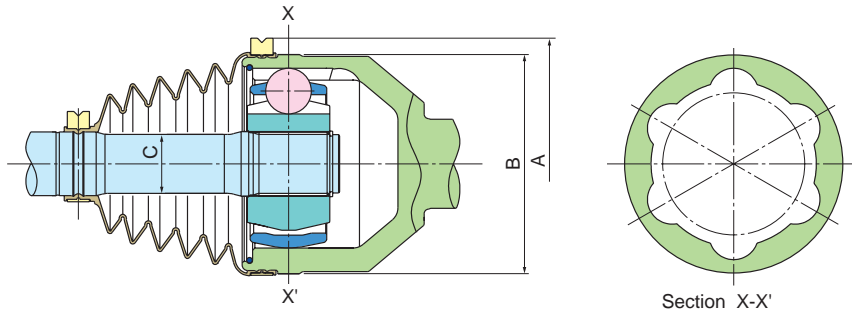
MAX Permissible working angle 最大角	part number 呼び番号	Dimension 寸法 mm		
		A	B	C
26°	PTJ75	78.0	69.0	19.0
	PTJ82	85.3	75.7	21.2
	PTJ87	87.4	79.0	22.2
	PTJ92	90.8	82.0	23.3
	PTJ95	94.1	85.5	24.0
	PTJ100	97.7	89.0	25.4
	PTJ104	105.3	95.0	26.5

- The induced cyclic axial load and the static plunging resistance are held to constant low levels and are not related to the working angle.
- 誘起スラスト，静的スライド抵抗が作動角に依存せず，常に低く安定している低振動ジョイント

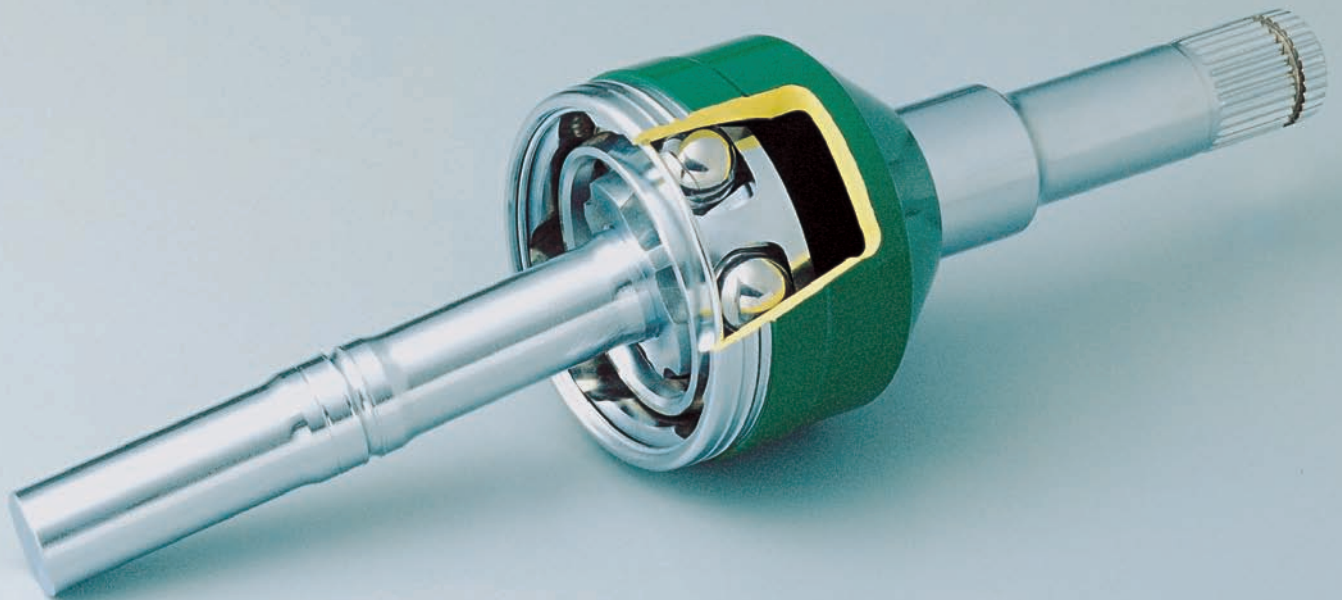


LJ

HALF SHAFT ハーフシャフト

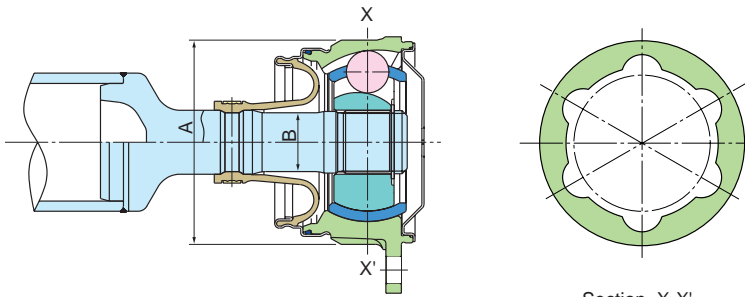


MAX Permissible working angle 最大角	part number 呼び番号	Dimension		
		寸法 mm		
		A	B	C
23°	LJ95	111.2	93.0	24.0
	LJ100	116.6	98.5	25.4
	LJ104	120.8	102.0	26.5



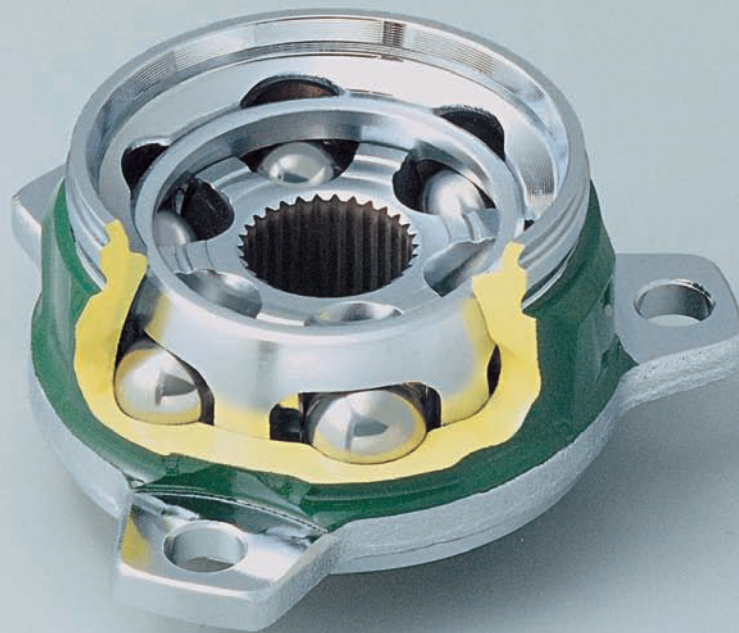
BJ

PROPELLER SHAFT
プロペラシャフト



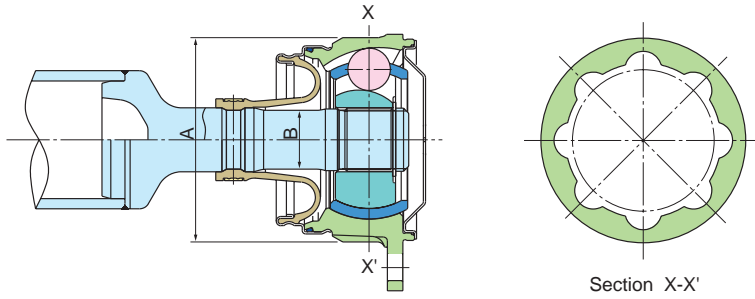
Section X-X'

MAX Permissible working angle 最大角	part number 呼び番号	Dimension 寸法 mm	
		A	B
20°	BJ75L	72.6	19.0
	BJ87L	79.9	22.2
	BJ100L	91.0	25.4



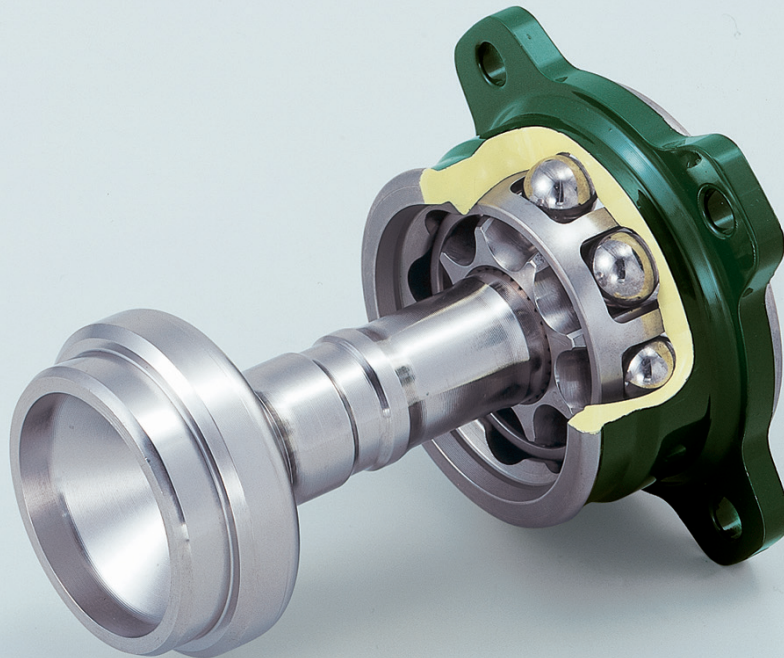
HEBJ

PROPELLER SHAFT
プロペラシャフト



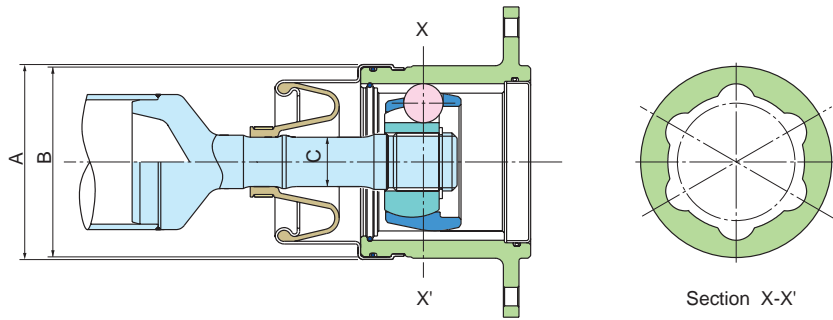
MAX Permissible working angle 最大角	part number 呼び番号	Dimension 寸法 mm	
		A	B
20°	HEB87M	72.6	22.2
	HEB100M	83.7	25.4

- The model HEBJ is lighter and more compact than the model BJ.
- BJの軽量・コンパクト型

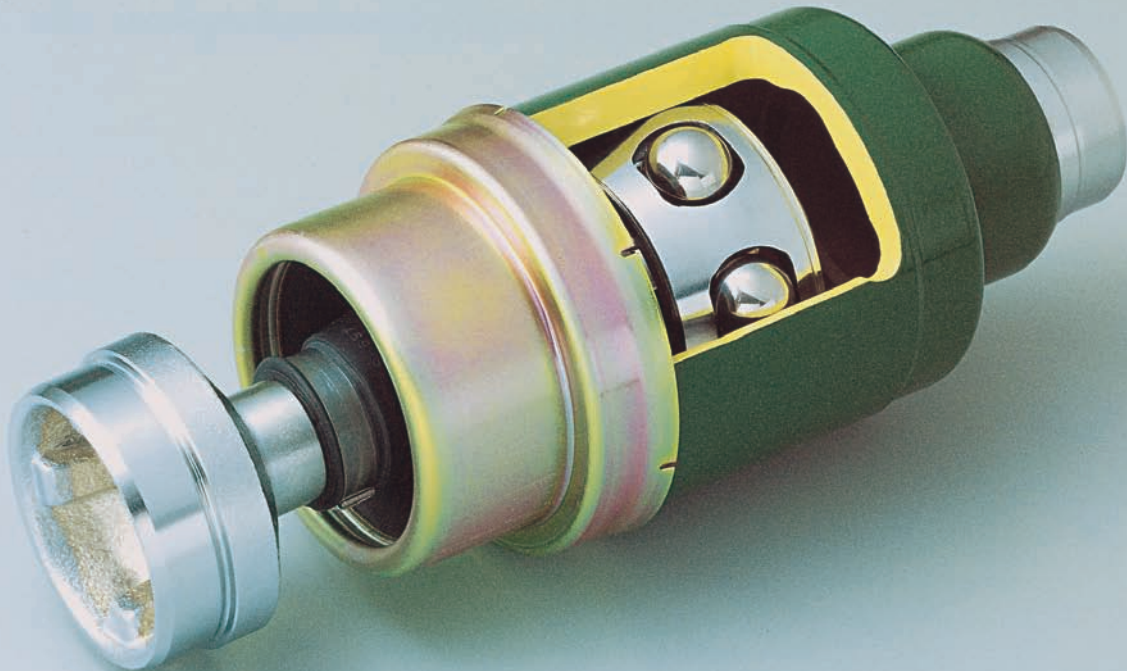


DOJ

PROPELLER SHAFT プロペラシャフト

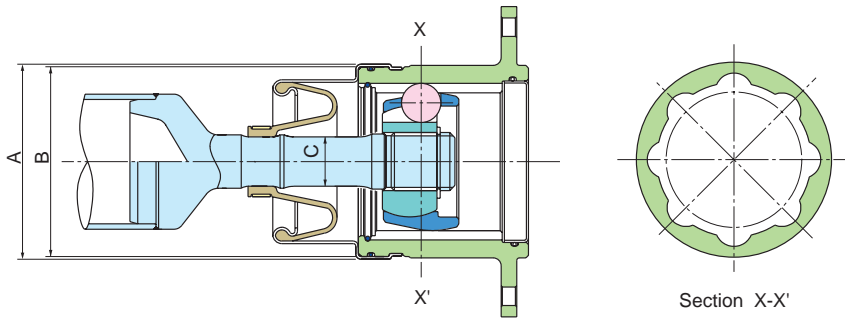


MAX Permissible working angle 最大角	part number 呼び番号	Dimension		
		寸法 mm		
		A	B	C
10°	DOJ75	75.0	73.0	19.0
	DOJ87	81.0	79.0	22.2



HEDJ

PROPELLER SHAFT
プロペラシャフト



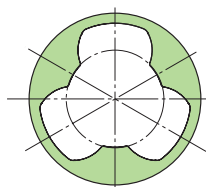
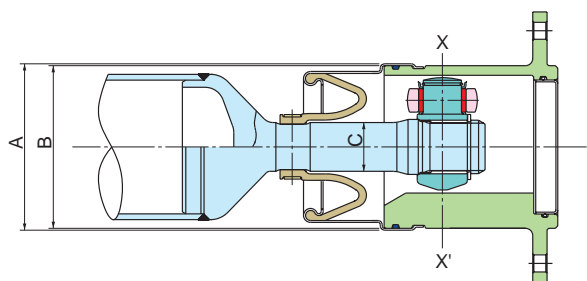
MAX Permissible working angle 最大角	part number 呼び番号	Dimension 寸法 mm		
		A	B	C
10°	HED71	65.0	63.0	19.0
	HED82	75.0	73.0	22.2
	HED92	81.0	79.0	23.3
	HED95	85.0	83.0	25.4

- The model HEDJ is lighter and more compact than the model DOJ.
- DOJの軽量・コンパクト型



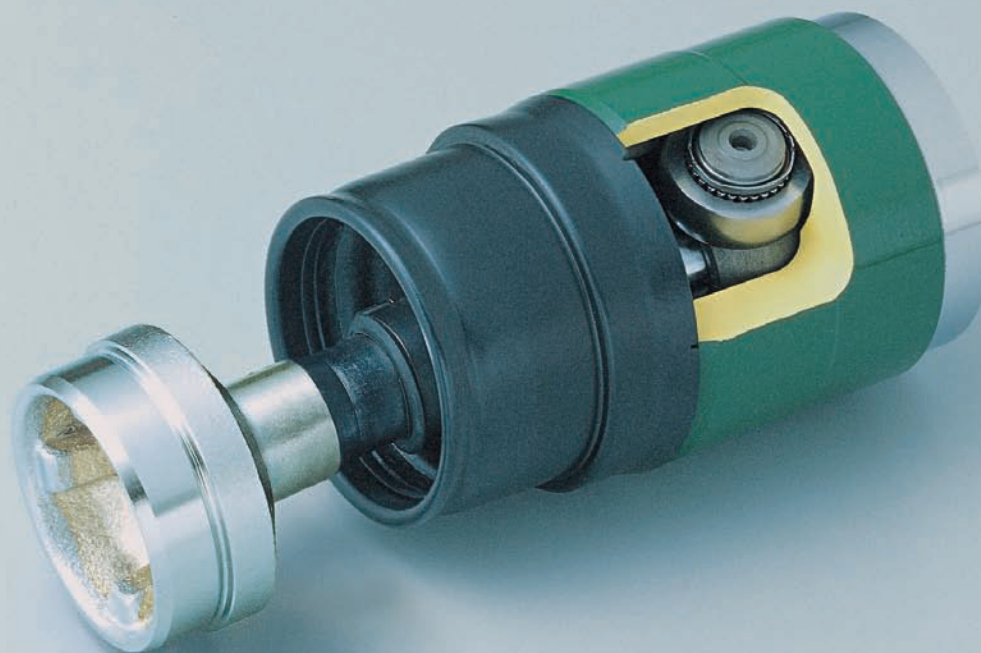
TJ

PROPELLER SHAFT
プロペラシャフト



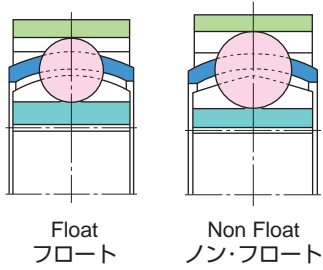
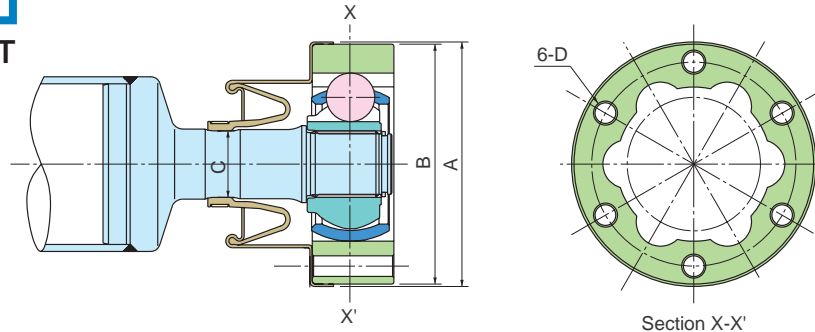
Section X-X'

MAX Permissible working angle 最大角	part number	Dimension		
	呼び番号	寸法 mm		
		A	B	C
10°	TJ75	70.0	68.0	19.0

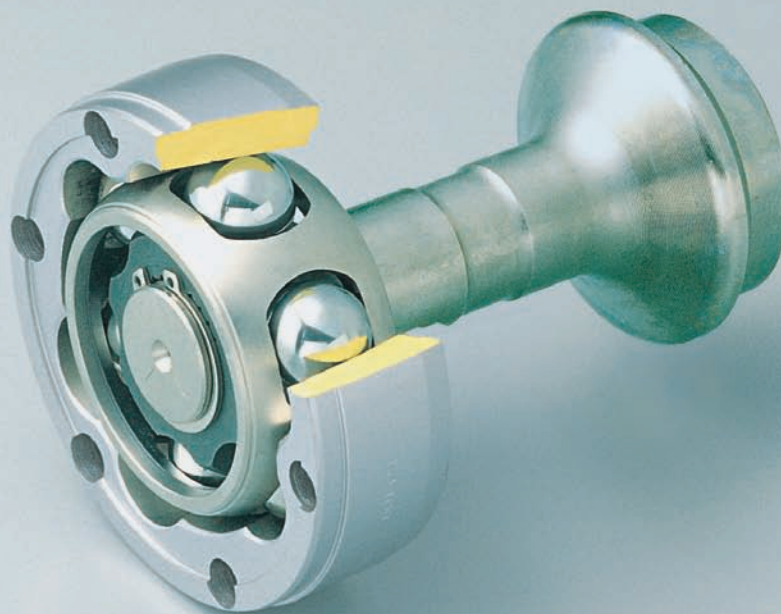


LJ

PROPELLER SHAFT プロペラシャフト

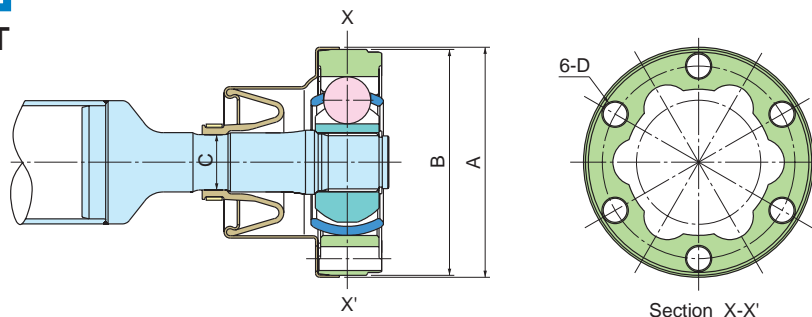


MAX Permissible working angle 最大角	part number 呼び番号	Dimension 寸法 mm			
		A	B	C	D (Diameter×P.C.D)
10°	LJ75	88.0	86.0	22.0	φ 8.1× 74.0
	LJ87	96.0	94.0	23.0	φ 8.1× 80.0
	LJ95	102.0	100.0	26.0	φ 8.1× 86.0
	LJ109	110.0	108.0	28.5	φ 10.1× 94.0
	LJ117	122.0	120.0	29.0	φ 12.1×103.0



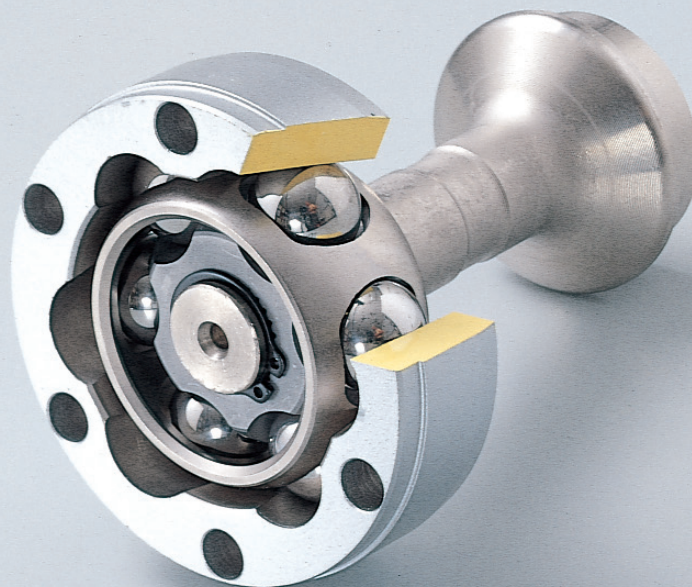
HLJ

PROPELLER SHAFT プロペラシャフト



MAX Permissible working angle 最大角	part number 呼び番号	Dimension 寸法 mm			
		A	B	C	D (Diameter×P.C.D)
10°	HLJ75	80.0	78.0	18.9	φ 8.1×66.0
	HLJ95	96.0	94.0	23.4	φ 8.1×80.0
	HLJ109	104.0	102.0	25.9	φ 10.1×88.0

- The model HLJ is lighter and more compact than the model LJ.
- LJの軽量・コンパクト型



開発・設計
部門

NTN Design Engineering and R&D to Cover design Through Product Development

Always challenging new projects to meet increasing customer demand.

等速ジョイントのパイオニアとして、これまで多くの製品を開発してきました。永年培ってきた技術と新しい技術を融合させ、さらにより良い製品の開発に取り組んでいます。



New Product Planning Dept.
新製品開発部



C.V. Joint Engineering Dept.
等速ジョイント技術部



FEM
ブーツのFEM解析



CAD System
3D CAD

Design Section

デザインセクション

Test Section

試験セクション



C.V. Joint boots durability testing machine
等速ジョイント用ブーツの耐久試験



C.V. Joint life testing machine
等速ジョイントの寿命試験



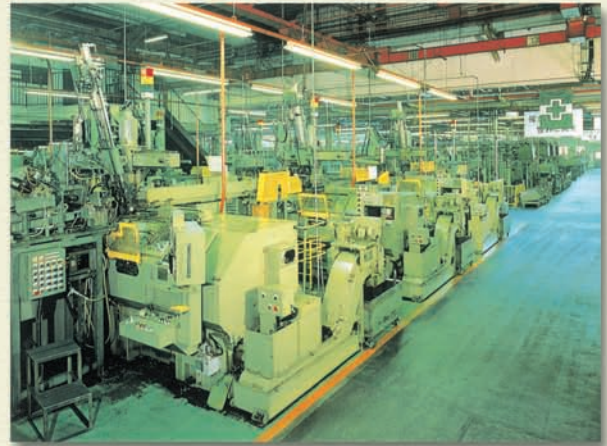
C.V. Joint high speed durability testing machine for propeller shaft
プロペラシャフト用等速ジョイント高速試験

自動化

C.V.Joint Plant with The Latest Production Engineering Technology

等速ジョイント工場では従業員の姿はほとんど見かけません。それは品質の安定をめざして90%が自動化されているためです。【品質管理】これが私たちの仕事です。

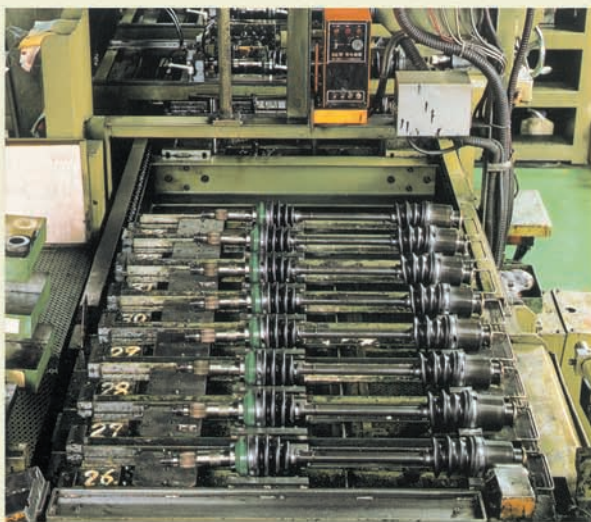
等速ジョイント専用 オートメーション工場



Turning process of outer rings
外輪旋削工程



Grinding process of outer rings
外輪研削工程



Assembling process
組立工程