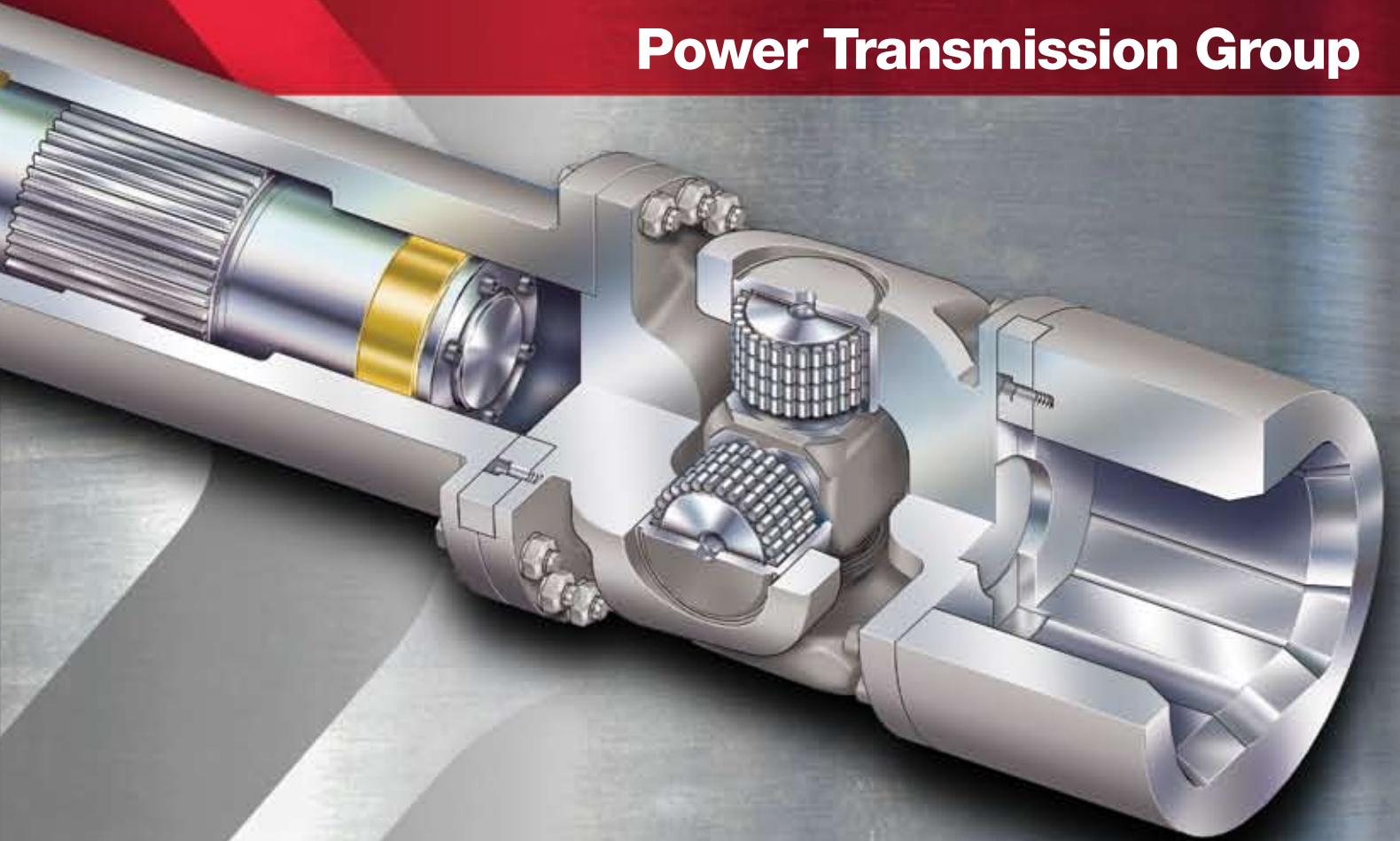


Xtitek[®]

Solutions In MotionSM

Power Transmission Group



Universal Driveshaft Technology
for Heavy Duty Industrial Applications

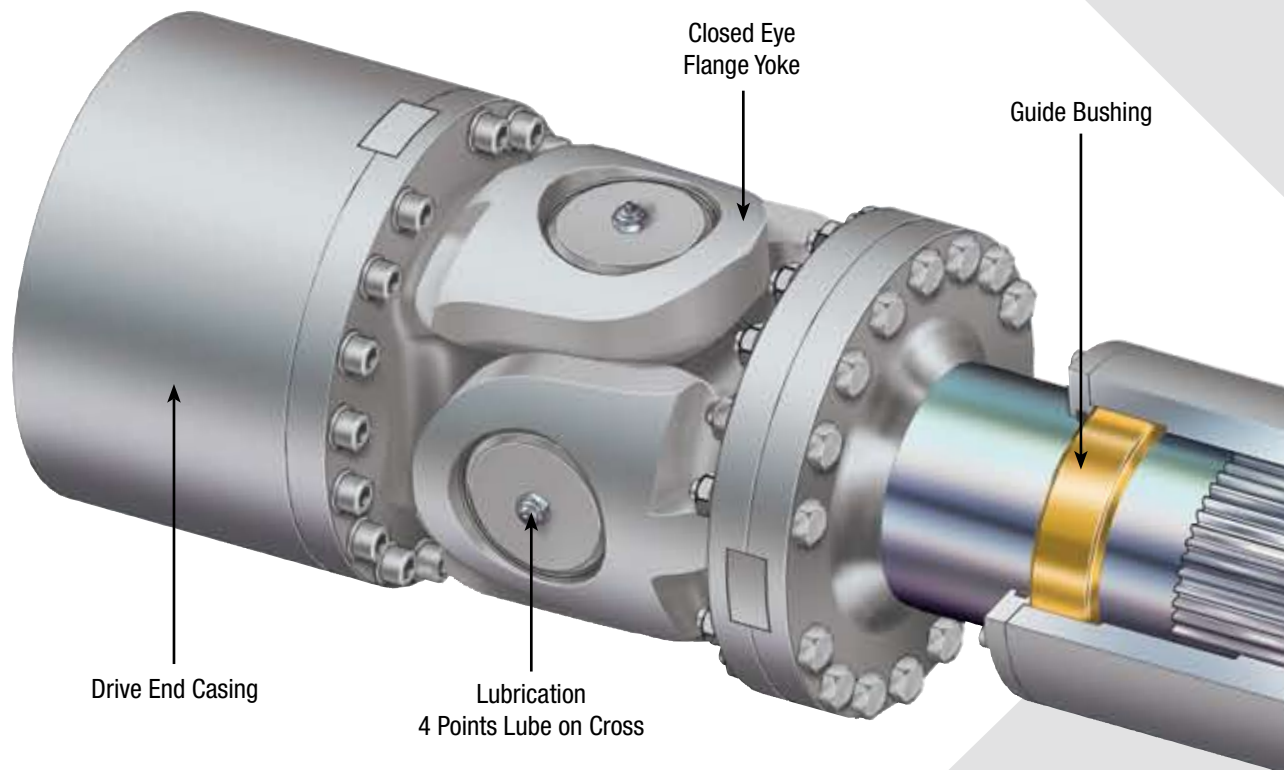
Universal Driveshaft Technology for Heavy Duty Industrial Applications

Xtek® **Our Experience**

We use lessons learned from 100+ years of experience to embrace the increasingly complex, fast-paced manufacturing world of today.

Our vision of the marketplace is that never before has full service capability been as necessary as it is today. Xtek realizes that you have choices of suppliers and levels of service and it is our conviction that Xtek's brand of full services is best aligned to serve your needs.

Xtek's deep knowledge of heavy duty industrial products means we are well positioned to rapidly respond to customer needs while seeking to identify problems in advance, offering solid solutions to improve operating performance.



Xtek Quality **Designed to Perform....Built to Last.**

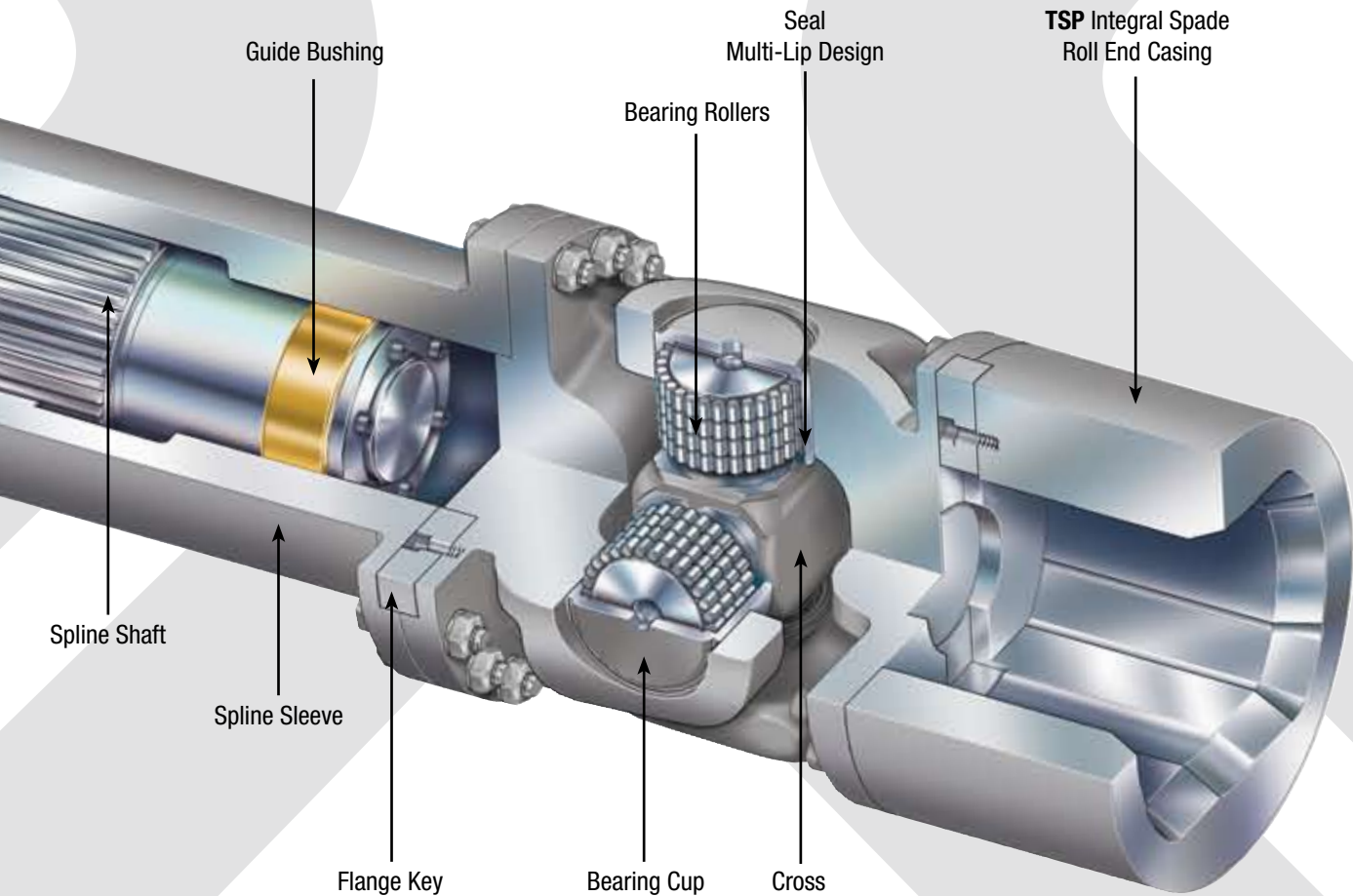
Xtek's continuing success can be attributed to their ability to execute with every application, every universal joint, every day. This is what provides value to our customers well beyond the sale. Partnering with customers and knowing their expectations are the keys to proper execution. The Xtek Power Transmission Group sales, technical and operations groups work as a team, performing to ISO-9001 standards of quality, to find solutions that exceed these expectations and build lasting relationships with their customers. This partnering has become the basis of the compelling value proposition that distinguishes Xtek from its competition.

U-Joint Features

Demanding operating conditions require the best in design, metallurgy and manufacturing. Xtek universal drive shafts and components are manufactured from the highest quality alloy steels and heat treated in our own furnaces to deliver extended wear with exceptional performance. Closed Eye, Split Eye & Block Type sizes are available from 220-800 mm. Most sizes are outfitted with our exclusive four-lip cup sealing design which provides an extra measure of protection with regard to preventing leakage and contamination.

Four-point lubrication is standard to provide adequate lube to all four bearings. A variety of flange connections; face key, integral face pad, welded and hirth serration are available. For telescoping applications, take advantage of Xtek's internal manufacturing capabilities which allow us to supply long travel (slip) requirements.

Past the sale, Xtek will support all applications with a balance of inventory and repair services dedicated to supporting a customers needs.



Universal Joint Driveshaft Design and Manufacturing Information

Yoke Design

The Xtek one piece, closed eye design is made with a reliable and robust yoke manufactured from specialty heat treated alloy steel. Our one piece yoke has the advantage of no maintenance to verify if bolted connections have loosened and the elimination of precision matching of components.



Cross & Bearing Kit Design

Xtek cross and bearing kits are designed and manufactured to handle the loads and operating conditions in a variety of heavy duty industrial applications. Our crosses are made from carburized and heat treated alloy steel while all crown rollers are made from 52100 steel and hardened to 62-65 HRC. All crosses are outfitted with four separate lube points to ensure proper lubrication to all bearing cups and rollers for smooth, trouble – free operation. Our multi-lip bearing cup sealing system eliminates the normal problems associated with leakage and contamination and most sizes are outfitted with our 4-lip configuration.



Flange Connections

Xtek offers four standard flange connections; Face Key, Integral Face Pad, Welded and Hirth Serration. We will carefully consider the operating requirements of each and every application allowing us the ability to offer the best possible flange connection designed to maximize your operating performance.

Face Key



Hirth Serration



Integral Face Pad



Welded



Roll End Casing Design

Roll end casings are a critical link in the power transmission line of heavy duty industrial applications. The durability of the casing is a function of metallurgy, geometry and application with casing wear being inversely proportional to the hardness level of the casing spade bore.

Xtek offers our integral spade **TSP** roll end casing featuring a deep, case hardened spade bore which is finished to specified tolerances, keeping roll neck clearances to a minimum. All material is carefully chosen to provide the best case and sub-surface qualities for the application. The opening of each casing spade bore has a large chamfer to aid in the roll insertion during roll change.

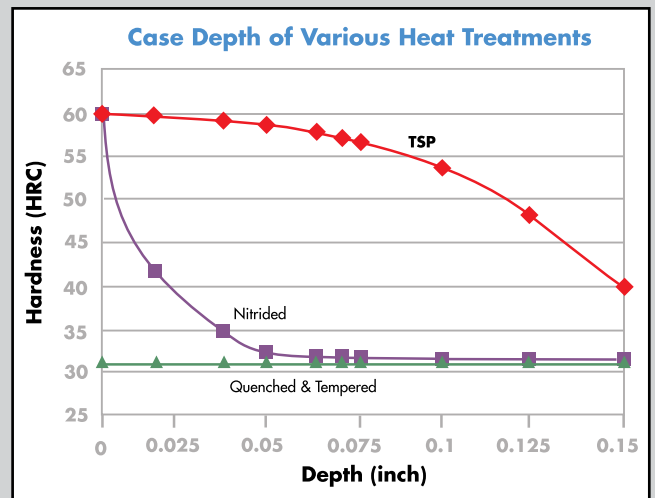
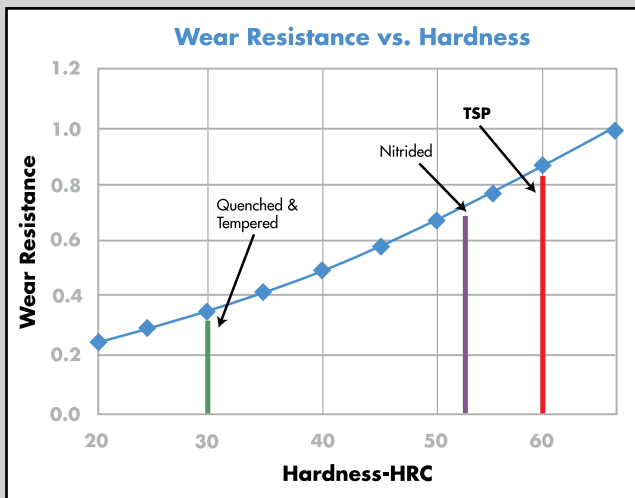
While we offer alternate designs (see opposite) our **TSP** one piece casing provides a stronger, more reliable casing than casings with wear pads. The **TSP** process equates to longer life and reduced downtime...both of which improve operating efficiency.

When giving consideration to the selection of a roll end casing, the following factors should always be considered:

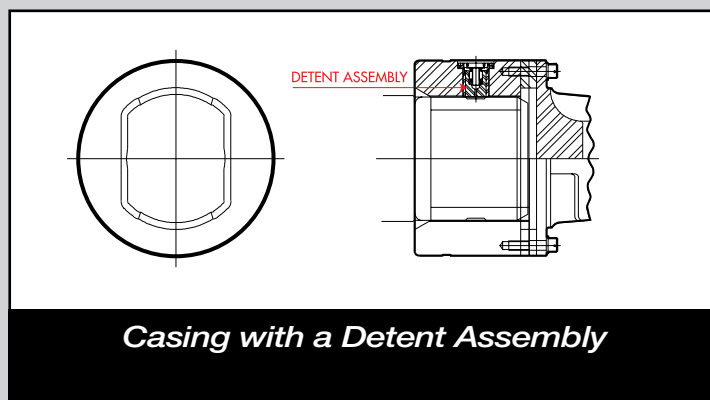
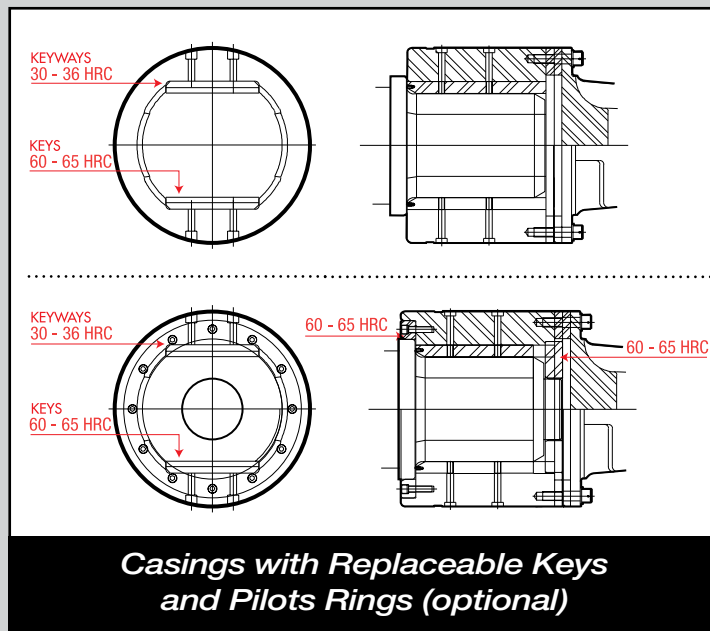
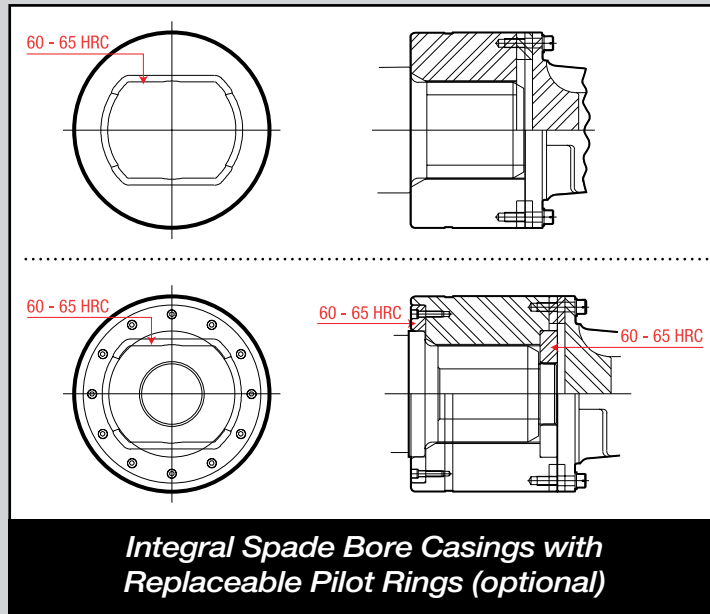
- Hardness
- Cycles
- Case Depth
- Load – Contact Stress
- Surface Finish
- Pilot Stabilizing Configuration
- Operating Environment
- Roll Neck / Casing Bore Configuration

Xtek's **TSP** process offers the best combination of surface hardness, case depth and surface finish which provide the longest life for casing bores.

Xtek's TSP Advantage



Roll End Casing Design Options



Special Designs

Xtek provides engineering solutions for specially designed unique applications. Our closed eye (one piece yoke) design includes features such as angled bolts and “pockets” under the ears of the yoke, both of which make assembly and disassembly much easier and faster to accomplish.



Reconditioning & Service

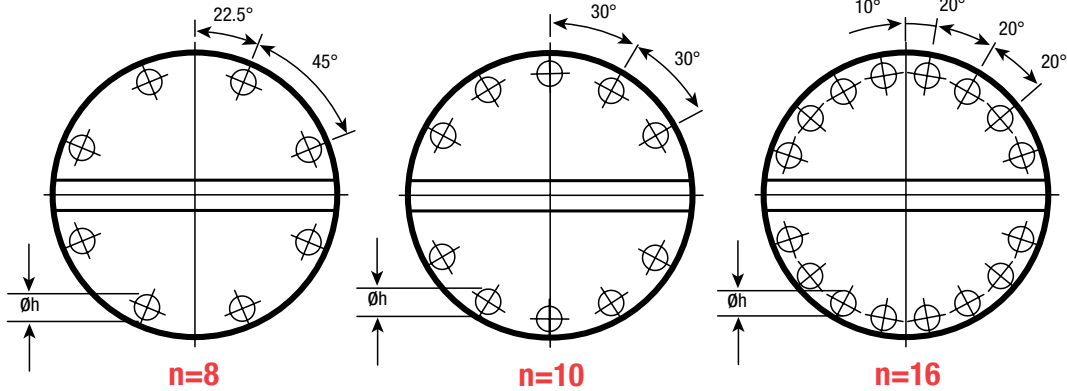
Xtek is dedicated to customer service. Our technical excellence with attention to detail on new universal joint driveshaft assemblies carries through to our reconditioning and service programs. Allow our team of experienced engineers, metallurgists, machinists, assembly technicians and inspectors to enhance the operating performance of your universal drive shaft in one of the world's largest and most modern reconditioning facilities. We invite you to take advantage of our employee's knowledge base, inventory systems and flexible manufacturing processes to find solutions that exceed your expectations.



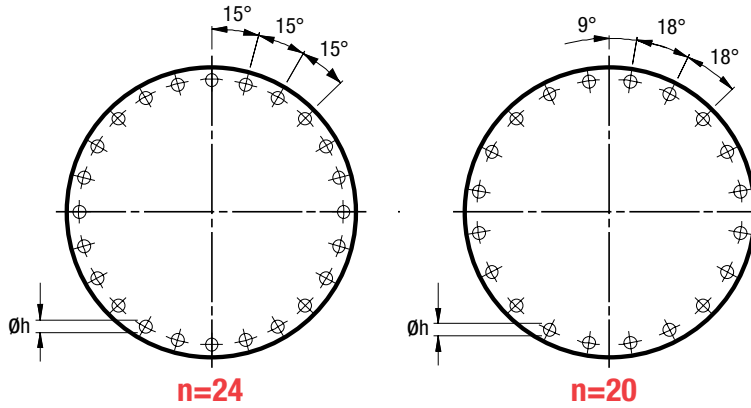
Universal Joint Driveshaft XT Series Engineering Data

Bolt Hole Configurations

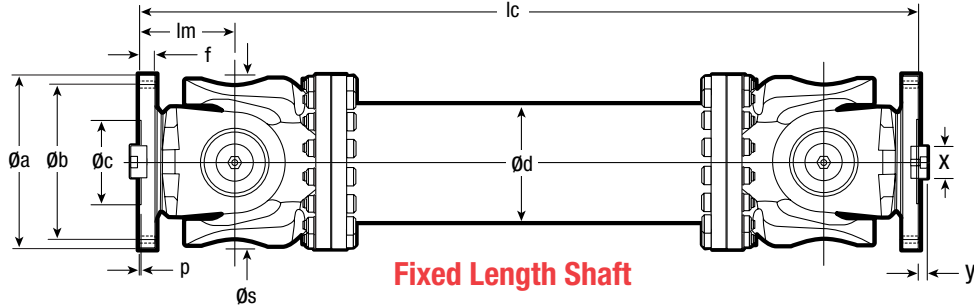
XT 22-20
to
XT 55-55



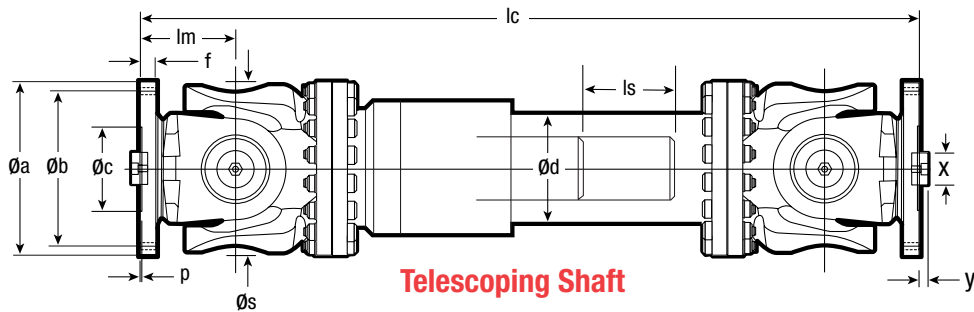
XT 60-60
to
XT 80-80



Shaft Styles



Fixed Length Shaft



Telescoping Shaft

Legend

Tp	Peak Torque	øb	Bolt Circle Diameter	ls	Slip Length	p	Pilot Depth
Tnrf	Non-rev Fatigue Torque	øc	Pilot Diameter	lm	Flange - Cross Length	x	Width of Key
Trf	Reverse Fatigue Torque	ød	Tube Outer Diameter	n	Bolt Pattern	y	Half Thickness of Key
angle	Maximum Deflection	øs	Swing Diameter	øh	Hole Diameter		
øa	Flange Diameter	lc	Compressed Length	f	Flange Thickness		

Note: Special designs are identified by the letter "X" at the end of the size number (XT 48-89 X). Examples of special designs include:

- Fixed
- Compact Double Flange Type
- Oversized Tube
- Custom Flange
- Short Coupled
- Greater Deflection Angle
- Hole Type Yoke
- Long Slip

Universal Joint Driveshaft XT Series Heavy Duty

DRIVESHAFT		SIZE	XT 22-20	XT 25-25	XT 28-28	XT 31-31	XT 35-35	XT 39-39	XT 43-44	XT 48-49	XT 55-55
Torque Ratings	Tp	in.lbs	424,836	637,254	920,477	1,309,910	1,858,656	2,566,716	4,602,387	5,664,477	9,116,267
		kNm	48	72	104	148	210	290	520	640	1030
	Tnrf	in.lbs	309,776	460,239	663,806	947,030	1,345,313	1,858,656	3,336,731	4,106,746	6,611,507
		kNm	35	52	75	107	152	210	377	464	747
	Trf	in.lbs	212,418	318,627	460,239	654,955	929,328	1,283,358	2,301,194	2,832,238	4,558,134
		kNm	24	36	52	74	105	145	260	320	515
Angle (degree)			15	15	15	15	15	15	15	15	15
Standard Dimensions	l	in	36.22	40.75	45.47	49.80	52.76	60.04	73.03	76.97	87.60
		mm	920	1035	1155	1265	1340	1525	1855	1955	2225
	Øa	in	8.86	9.84	11.22	12.40	13.78	15.35	17.13	18.90	21.65
		mm	225	250	285	315	350	390	435	480	550
	Øb	in	7.72	8.58	9.65	11.02	12.20	13.58	15.16	16.73	19.37
		mm	196	218	245	280	310	345	385	425	492
	Øc	in	4.13	4.13	4.92	5.12	6.10	6.69	74.8	8.07	9.84
		mm	105	105	125	130	155	170	190	205	250
	Ød	in	6.00	6.50	7.99	8.74	9.63	10.50	12.75	14.01	16.50
		mm	152.4	165.1	203.0	222.0	244.5	266.7	323.9	355.9	419.0
	Øs	in	8.19	9.84	11.22	12.40	13.78	15.35	17.32	19.29	21.65
		mm	208	250	285	315	350	390	440	490	550
	ls	in	5.00	5.00	5.00	5.00	5.00	5.00	5.00	6.50	7.48
		mm	127	127	127	127	127	127	127	165	190
	lm	in	4.72	5.51	6.30	7.09	7.64	8.46	10.24	10.63	12.01
		mm	120	140	160	180	194	215	260	270	305
	n		8	8	8	10	10	10	16	16	16
	Øh	in	0.67	0.75	0.83	0.91	0.91	0.98	1.10	1.22	1.22
		mm	17	19	21	23	23	25	28	31	31
	f	in	0.79	0.98	1.06	1.26	1.38	1.57	1.65	1.85	1.97
		mm	20	25	27	32	35	40	42	47	50
	p	in	0.20	0.24	0.28	0.31	0.31	0.31	0.39	0.47	0.47
		mm	5	6	7	8	8	8	10	12	12
	x	in	1.26	1.57	1.57	1.57	1.97	2.76	3.15	3.54	3.94
mm		32	40	40	40	50	70	80	90	100	
y	in	0.35	0.49	0.59	0.59	0.63	0.71	0.79	0.89	0.89	
	mm	9.0	12.5	15.0	15.0	16.0	18.0	20.0	22.5	22.5	

DRIVESHAFT		SIZE	XT 60-60	XT 62-62	XT 64-64	XT 66-66	XT 68-68	XT 70-70	XT 76-76	XT 78-78	XT 80-80
Torque Ratings	Tp	in.lbs	10,620,894	11,063,431	13,453,132	13,895,670	14,249,699	14,957,759	23,454,474	24,339,549	25,136,116
		kNm	1200	1250	1520	1570	1610	1690	2650	2750	2840
	Tnrf	in.lbs	9,558,805	9,912,834	12,125,521	12,479,550	12,833,580	13,453,132	21,064,773	21,949,848	22,569,400
		kNm	1080	1120	1370	1410	1450	1520	2380	2480	2550
Trf	in.lbs	6,195,522	6,461,044	7,788,656	8,054,178	8,319,700	8,673,730	13,630,147	14,161,192	14,603,729	
	kNm	700	730	880	910	940	980	1540	1600	1650	
Angle (degree)			15	15	15	15	15	15	15	15	15
Standard Dimensions	lc	in	107.28	108.27	112.20	118.11	120.08	122.05	135.83	137.80	139.76
		mm	2725	2750	2850	3000	3050	3100	3450	3500	3550
	Øa	in	23.62	24.41	25.20	25.98	26.77	27.56	29.92	30.71	31.50
		mm	600	620	640	660	680	700	760	780	800
	Øb	in	21.85	22.64	23.43	24.21	25.00	25.79	27.76	28.54	29.33
		mm	555	575	595	615	635	655	705	725	745
	Øc	in	18.90	19.69	20.47	20.87	21.65	22.44	24.41	25.20	25.98
		mm	480	500	520	530	550	570	620	640	660
	Ød	in	20.00	20.00	20.00	20.00	20.00	20.00	25.98	25.98	25.98
		mm	508	508	508	508	508	508	660	660	660
	Øs	in	23.62	24.41	25.20	25.98	26.77	27.56	29.92	30.71	31.50
		mm	600	620	640	660	680	700	760	780	800
	ls	in	9.84	9.84	9.84	9.84	9.84	9.84	9.84	9.84	9.84
		mm	250	250	250	250	250	250	250	250	250
	lm	in	13.39	13.39	14.17	14.57	14.57	14.57	16.54	16.54	16.54
		mm	340	340	360	370	370	370	420	420	420
	n		20	20	20	24	24	24	24	24	24
	Øh	in	1.03	1.03	1.03	1.03	1.03	1.03	1.3	1.3	1.3
		mm	26	26	26	26	26	26	33	33	33
	f	in	2.95	2.95	3.15	3.35	3.35	3.54	3.74	3.74	3.94
		mm	75	75	80	85	85	90	95	95	100

Part Number Designation: Example XT 22-20

XT = Xtek Torque Series
 22 = Flange Diameter (Øa)
 20 = Tight Joint Swing (Øs)



Xtek®

Solutions In MotionSM

Power Transmission Group

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- Main Mill Drives & Mill Pinions
- Lubrication
- DriveWatch™ - On Line Power Train Monitoring System

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