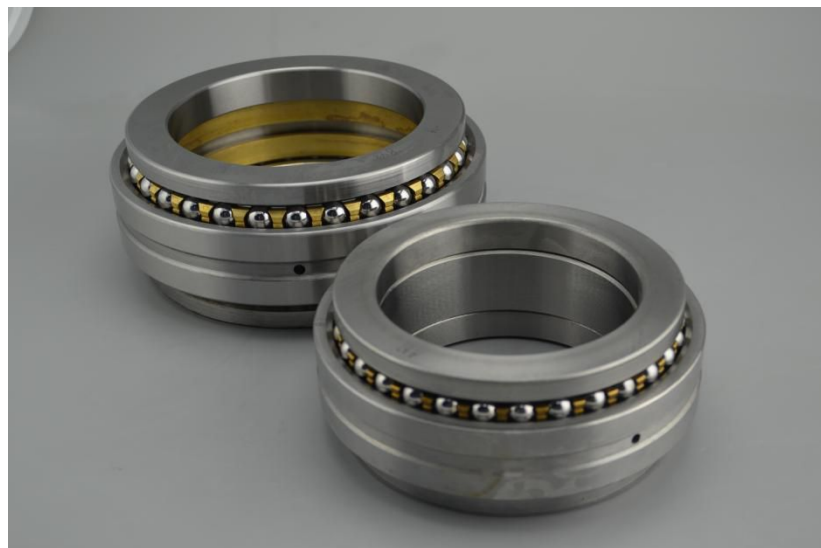


2344/2347 series Double direction angular contact thrust ball bearings



General introduction of **Double direction angular contact thrust ball bearings:**

Double-direction angular contact thrust ball bearing is a separable precision bearing, consisting of two shaft washers, a housing washer, a spacer, two rolling elements and cage components. The parts of the thrust ball bearing are matched with each other and can be installed separately, but the parts of the bearing of the same size cannot be interchanged. Grinding the thickness of spacer can adjust the clearance and preloaded of bearing.

The double-direction angular contact thrust ball bearing has a contact angle of 60° , which can withstand high bidirectional axial forces, and is especially suitable for the bearing arrangement of machine tool spindles. The double-direction thrust angular contact ball bearing and its matched double row cylindrical roller bearings are the same of nominal outside diameter, but there is gap between the outer ring and housing, thus, the double-direction angular contact thrust ball bearing does not support radial load but double direction axial load.

Applications of Double direction angular contact thrust ball bearings:

Double direction angular contact thrust ball bearings can be used in machine tool spindles, engineering machinery, mining machinery, papermaking machinery, medical devices, textile machinery, metallurgical equipment, wind power generation, motors and compressors, motorcycles, railways and other applications. The bidirectional angular contact ball bearings developed by ZYS are widely used in the spindles of grinding machines, lathes, boring

machines, milling machines, drilling machines, etc., especially suitable for the spindles of precision machine tools in combination with double row cylindrical roller bearings.

Features and benefits of Double direction angular contact thrust ball bearings:

The bidirectional angular contact ball bearings have the characteristics of high precision, good rigidity, low temperature rise, good lubrication, high load carrying capacity, and convenient fixing and removing. Bidirectional thrust angular contact ball bearings are also suitable for high-speed operation; however, the cylindrical roller bearing installed with the thrust angular contact ball bearing has a preload, which may not achieve high-speed operation.

Dimension series of Double direction angular contact thrust ball bearings:

ZYS thrust angular contact ball bearings have two dimension series, 2344 series and 2347 series. The 2344 series thrust ball bearings are suitable for installation on the small shaft end of the cone shaft, while the 2347 series thrust ball bearings are suitable for the large shaft end of the cone shaft. The outer diameter of double direction angular contact thrust ball bearings is the same as the outer diameter of cylindrical roller bearings N...-K with the same inner diameter, but the tolerance range is different. When the same housing is selected, the outer diameter of the thrust angular contact ball bearing and the

housing are loosely fitted.

Operating temperature

The operating temperature of double direction thrust angular contact ball bearings ranges from -30°C to $+150^{\circ}\text{C}$, and is limited by lubricants.

Bearing Cage

Each row of rolling elements has a solid brass cage guided by the rolling elements. The cage is indicated by the suffix M. The cage and lubrication method have a great influence on the proper working speed of the bearing. SP represents the standard accuracy grade of bidirectional thrust angular contact ball bearings.

Lubrication

Bidirectional thrust angular contact ball bearings can be lubricated with oil or grease. Bidirectional thrust angular contact ball bearings are not sealed. Oil lubrication is suitable for high-speed occasions. In order to make the lubricating oil flow through the two rows of balls, there are lubrication grooves and

lubrication holes on the bearing race. In high-speed applications, if the bidirectional thrust angular contact ball bearings and cylindrical roller bearings are separated from each other during installation, excessive lubrication of the cylindrical roller bearings can be avoided.

Technical parameters of Double direction angular contact thrust ball bearings:

ZYS Bearing Designations	Double direction angular contact thrust ball bearings													
	Principal dimensions									Basic load ratings		Limiting speed		Weight
	d	D	dlmax	T	C	B	rsmin	rlsmin	n _s	Ca	Coa	Grease	Oil	KG ≈
	mm≈									KN		r/min		
234406M	30	55	47	32	16	8	1.0	0.15	4.8	14.3	24	11000	16000	0.29
234706M	32	55	47	32	16	8	1.0	0.15	4.8	14.3	24	11000	16000	0.27
234407M	35	62	53	34	17	8.5	1.0	0.15	4.8	17.6	31.5	9500	14000	0.38
234707M	37	62	53	34	17	8.5	1.0	0.15	4.8	17.6	31.5	9500	14000	0.35



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234408M	40	68	58.5	36	18	9	1.0	0.15	4.8	20.8	38	8500	12000	0.46
234708M	42	68	58.5	36	18	9	1.0	0.15	4.8	20.8	38	8500	12000	0.42
234409M	45	75	65	38	19	9.5	1.0	0.15	4.8	23.2	45	7500	10000	0.57
234709M	47	75	65	38	19	9.5	1.0	0.15	4.8	23.2	45	7500	10000	0.53
234410M	50	80	70	38	19	9.5	1.0	0.15	4.8	24	49	7000	9500	0.62
234710M	52	80	70	38	19	9.5	1.0	0.15	4.8	24	49	7000	9500	0.58
234411M	55	90	78	44	22	11	1.1	0.3	6.5	34	67	6300	8500	0.94
234711M	57	90	78	44	22	11	1.1	0.3	6.5	34	67	6300	8500	0.88
234412M	60	95	83	44	22	11	1.1	0.3	6.5	33.5	68	6000	8000	1.01
234712M	62	95	83	44	22	11	1.1	0.3	6.5	33.5	68	6000	8000	0.94
234413M	65	100	88	44	22	11	1.1	0.3	6.5	36	76.5	5600	7500	1.08
234713M	67	100	88	44	22	11	1.1	0.3	6.5	36	76.5	5600	7500	1.01
234414M	70	110	97	48	24	12	1.1	0.3	6.5	42.5	93	7000	7000	1.49

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234714M	73	110	97	48	24	12	1.1	0.3	6.5	42.5	93	7000	7000	1.36
234415M	75	115	102	48	24	12	1.1	0.3	6.5	44	100	5000	6700	1.57
234715M	78	115	102	48	24	12	1.1	0.3	6.5	44	100	5000	6700	1.43
234416M	80	125	110	54	27	13.5	1.1	0.3	6.5	52	120	4500	6000	2.16
234716M	83	125	110	54	27	13.5	1.1	0.3	6.5+	52	120	4500	6000	1.98
234417M	85	130	115	54	27	13.5	1.1	0.3	9.5	52	125	4500	6000	2.25
234717M	88	130	115	54	27	13.5	1.1	0.3	9.5	52	125	4500	6000	2.07
234418M	90	140	123	60	30	15	1.5	0.3	9.5	61	146	4000	5300	2.92
234718M	93	140	123	60	30	15	1.5	0.3	9.5	61	146	4000	5300	2.71
234419M	95	145	128	60	30	15	1.5	0.3	9.5	61	150	4000	5300	3.04
234719M	98	145	128	60	30	15	1.5	0.3	9.5	61	150	4000	5300	2.83
234420M	100	150	133	60	30	15	1.5	0.3	9.5	62	156	3800	5000	3.17
234720M	103	150	133	60	30	15	1.5	0.3	9.5	62	156	3800	5000	2.95
234421M	105	160	142	66	33	16.5	2	0.6	9.5	69.5	176	3600	4800	4.07

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234721M	109	160	142	66	33	16.5	2	0.6	9.5	69.5	176	3600	4800	3.73
234422M	110	170	150	72	36	18	2	0.6	9.5	90	224	3400	4500	5.19
234722M	114	170	150	72	36	18	2	0.6	9.5	90	224	3400	4500	4.79
234424M	120	180	160	72	36	18	2	0.6	9.5	93	240	3200	4300	5.56
234724M	124	180	160	72	36	18	2	0.6	9.5	93	240	3200	4300	5.14
234426M	130	200	177	84	42	21	2	0.6	12.2	118	300	2800	3800	8.28
234726M	135	200	177	84	42	21	2	0.6	12.2	118	300	2800	3800	7.58
234428M	140	210	187	84	42	21	2.1	0.6	12.2	122	320	2600	3600	8.78
234728M	145	210	187	84	42	21	2.1	0.6	12.2	122	320	2600	3600	8.07
234430M	150	225	200	90	45	22.5	2.1	0.6	15	132	355	2600	3600	10.80
234730M	155	225	200	90	45	22.5	2.1	0.6	15	132	355	2600	3600	9.95
234432M	160	240	212	96	48	24	2.1	0.6	15	156	415	2400	3400	12.90
234732M	165	240	212	96	48	24	2.1	0.6	15	156	415	2400	3400	12.00
234434M	170	260	230	108	54	27	2.1	0.6	15	193	520	2200	3200	17.70
234734M	176	260	230	108	54	27	2.1	0.6	15	193	520	2200	3200	16.30
234436M	180	280	248	120	60	30	2.1	0.6	15	216	585	2000	3000	23.40

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234736M	187	280	248	120	60	30	2.1	0.6	15	216	585	2000	3000	21.50
234438M	190	290	258	120	60	30	2.1	0.6	15	224	630	1900	2800	24.70
234738M	197	290	258	120	60	30	2.1	0.6	15	224	630	1900	2800	22.60
234440M	200	310	274	132	66	33	2.1	0.6	15	265	720	1800	2600	31.50
234740M	207	310	274	132	66	33	2.1	0.6	15	265	720	1800	2600	29.20
234444M	220	340	304	144	72	36	3	1.1	15	315	900	1600	2200	41.70
234744M	228	340	304	144	72	36	3	1.1	15	315	900	1600	2200	38.50
234448M	240	360	322	144	72	36	3	1.1	15	325	965	1500	2000	43.80
234748M	248	360	322	144	72	36	3	1.1	15	325	965	1500	2000	40.40
234452M	260	400	354	164	82	41	4	1.5	17.7	380	1180	1400	1900	64.50
234752M	269	400	354	164	82	41	4	1.5	17.7	380	1180	1400	1900	59.70
234456M	280	420	374	164	82	41	4	1.5	17.7	390	1270	1300	1800	69.00
234756M	289	420	374	164	82	41	4	1.5	17.7	390	1270	1300	1800	63.80
234460M	300	460	406	190	95	47.5	4	1.5	17.7	450	1530	1200	1700	98.4
234760M	310	460	406	190	95	47.5	4	1.5	17.7	450	1530	1200	1700	91.2
234464M	320	480	426	190	95	47.5	4	1.5	17.7	455	1630	1200	1700	102

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234764M	330	480	426	190	95	47.5	4	1.5	17.7	455	1630	1200	1700	94.9
234468M	340	520	459	212	106	53	4	1.5	17.7	540	2000	1100	1600	138
234768M	350	520	459	212	106	53	4	1.5	17.7	540	2000	1100	1600	129

Company Profile



The Leader of China Bearing Technology

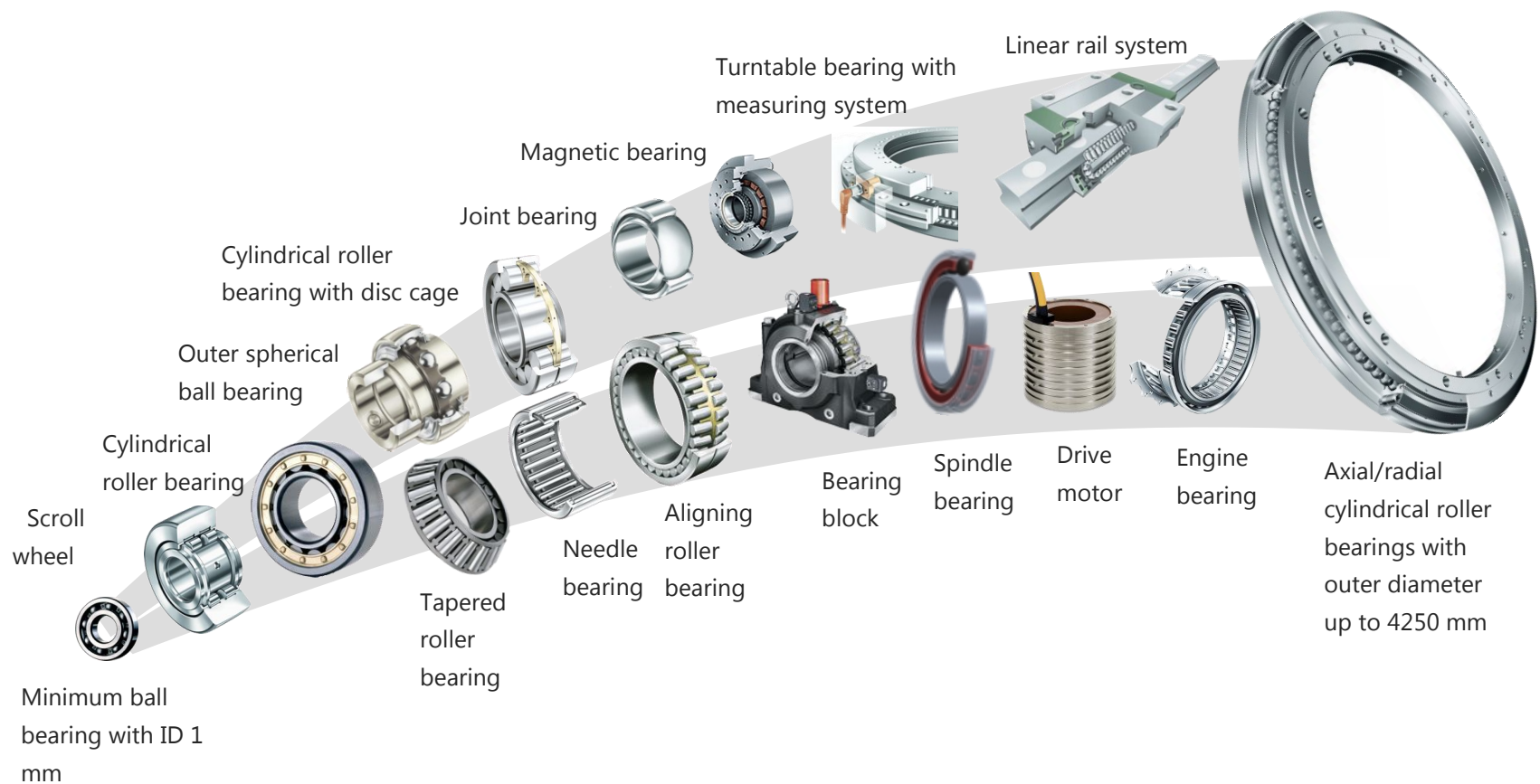
Luoyang Bearing Research Institute Co., Ltd. is a high-tech enterprise specializing in the development of "high-rank, precise, advanced, unique, non-standard" bearing products for the key units in various fields of national economic construction. It is the only state-level comprehensive research institute in China's bearing industry, which is affiliated to China National Machinery Industry Group Co., Ltd.



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■ Miniature bearing with ID 0.6mm-Large bearing with OD 6.8m





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Application field



Wind power



Aerospace



Medical device



Rail transportation



Automobile



Industrial robot



Petroleum and chemical industry



Construction machinery



Machine tool

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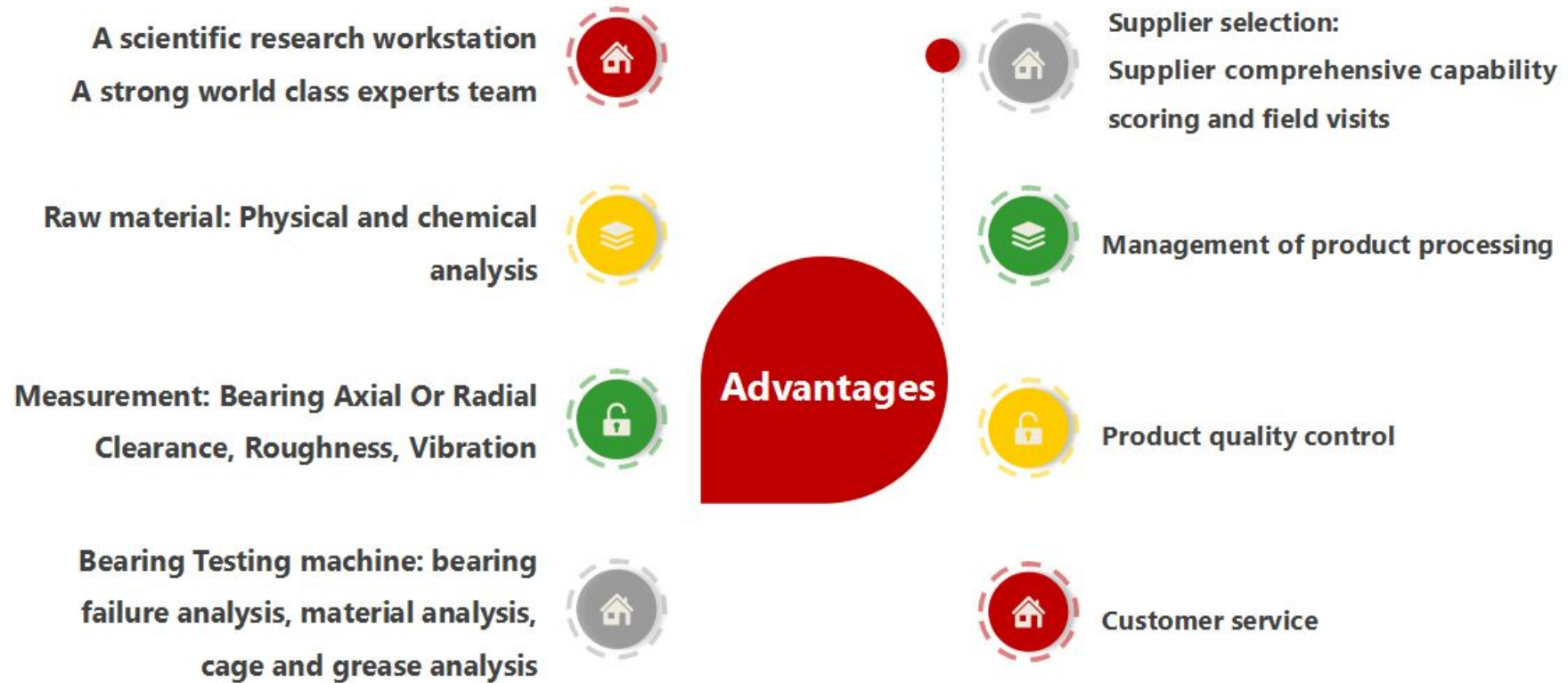
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ZYS advantages





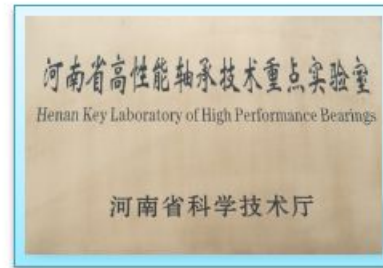
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Research and Development



**National United
Engineering Laboratory for
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**Henan Key Laboratory of
High Performance Bearings**



**China National Accreditation
Service for Conformity
Assessment**



**Academician Workstation for
Bearing Common Technology
Research of Henan Province**



**National Bearing Quality
Supervision and Inspection Center**



Rolling Bearing Innovation Center

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Luoyang Bearing Research Institute co., Ltd.

Manufacturing capacity



**Workshop for
Precision bearings**



**Workshop for
rail transportation bearing**



**Workshop for
large size bearings**



**Workshop for
special materials**

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Manufacturing capacity



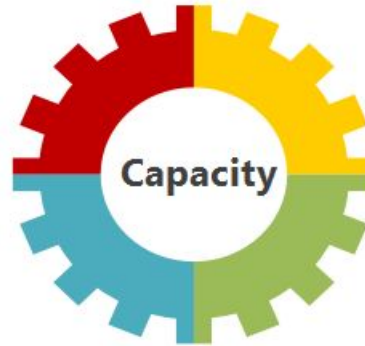
Bearing processing and processing equipment



Workshop dust remove channel



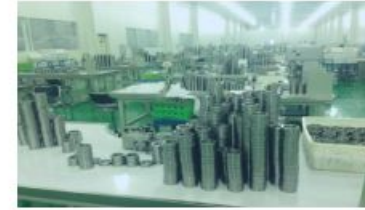
Bearing design technology



Capacity



Bearing test technology



Special-purpose material



Special anti-rust lubricating oil



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Quality Assurance

The company has established quality control systems for each kind of bearing and spindle. All products and services passed ISO9001-2008 Quality Certificate.



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BAOSTEEL



C&U



Hanwha



FUKUDA



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FAG



DAKE



CHINA SOUTH



CHMTI



MetTube



NSK



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