

Ferri precision universal joints achieve consistent performance and longer life due to design features. Particular attention is paid to matching the hardness of wearing parts and lubrication.

Low speed models feature plain bearings. Gaiters are essential for types G, GB, H & HB, optional for types S & A. High speed models are fitted with special needle roller bearings and are sealed for life.

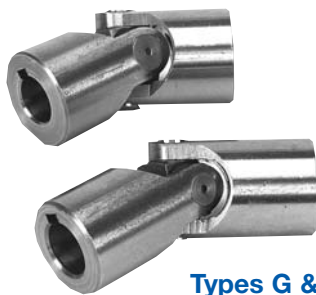
The European dimension standard is DIN808 met by most of these joints. In addition models GB, HB, GBD & HBD meet DIN7551 which is also common in the UK.

Single joints – for angles up to 45° type G are to DIN808. Type G is lower in cost. Above 1000 r/min select Types H.

Double joints – for angles up to 90° and giving constant velocity output. Types GD and GBD suit up to 1000 r/min, use HD & HBD for higher speeds.

Telescopic joints – Type HA is stocked in standard lengths for speeds to 1000 r/min. Other lengths and higher speeds on request.

Stainless steel – Type G joints are now available in stainless steel, please ask for details.



Types G & GB

- **Type G** precision single joint with sliding plain bushes. Suits angles up to 45° and speeds to 1000 r/min. Shaft sizes 6 to 50 mm, dimensions to DIN 808.
- **Type GB** precision single joint with the specification of Type G, except smaller OD/ID ratio allows joints to have smaller body diameters. Shaft sizes 10 – 40 mm, dimensions to DIN 7551.

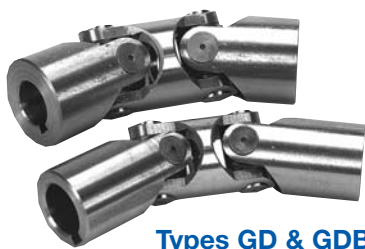


Types H & HB

- **Type H** precision high speed single joint with needle roller bearings. Suits angles up to 45° and speeds to 4000 r/min. Shaft sizes 10 to 50mm. Maintenance-free, dimensions to DIN 808.
- **Type HB** to the specification of Type H, except smaller OD/ID ratio allows the joint to have a smaller body diameter. Shaft sizes 12 to 50mm, dimensions to DIN 7551.

Single joints

Double joints

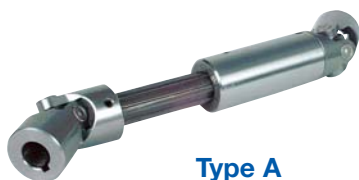


Types GD & GBD

- **Type GD** precision double joint with the specification of Type G.
- **Type GBD** precision double joint with the specification of Type GB.

- **Type HD** precision high speed double joint with the specification of Type H.
- **Type HBD** precision high speed double joint with the specification of Type HB.

Telescopic joints



Type A

- **Type GA** telescopic universal joint with plain bearings either to standard lengths or customised to your requirements. Angles up to 45° per joint and speeds to 1000 r/min. Shaft sizes 10 to 50mm, dimensions to DIN 808.
- **Type HA** high speed telescopic universal joints with needle roller bearings. Details are available on request.

Extras



Gaiters

- **Quick release hubs** can be provided for all types of joints with keyways, square or hexagon boxes.
- **Gaiters** in synthetic rubber are available for all types of joints, recommended for models G, GB, GD and GBD. For models H, HB, HD, HBD, A and HA they are not usually necessary except in severe environments.

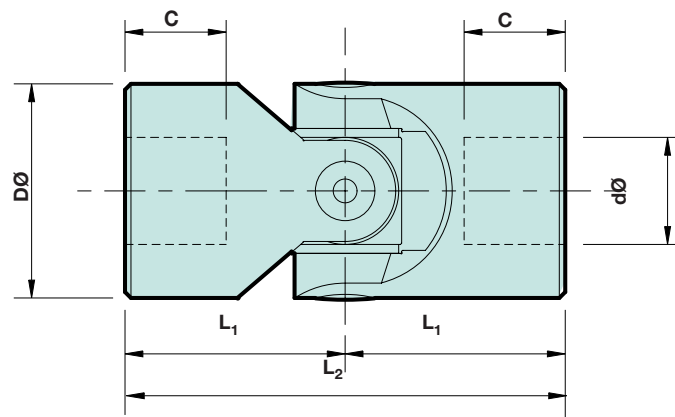
FERRI precision universal joints

Type G to DIN 808
Type GB to DIN 7551

Suitable for up to 1000 r/min and up to 45°
Constructed with wear resistant sliding bushes
Precision ground surfaces
Gaiters are recommended for most applications
Available with round bores to H7 for pinning or with Js9 keyways to BS4235
Square and hexagonal bores on request



Selection – size selection depends on torque, speed and running angle. Contact us with your application.



Type G to DIN 808

Type GB to DIN 7551

Bores d(H7)	Size	Nominal* torque (Nm) at 200 r/min max 10°	Stockline numbers		D	Dimensions (mm)			Weight kg
			Plain bores	Keyways to BS4235		C	L1	L2	
6	01G*	10	U5-77 184	–	16	8	17	34	0.05
8	02G*	10	U5-77 342	–	16	11	20	40	0.05
10	03G*	26	U5-77 421	U5-519 203	22	12	24	48	0.10
12	04G*	35	U5-78 086	U5-519 211	25	13	28	56	0.16
14	05G	48	U5-78 733	U5-519 246	28	13	30	60	0.20
16	1G*	70	U5-80 267	U5-519 254	32	16	34	68	0.30
18	2G	95	U5-94 461	U5-519 262	36	17	37	74	0.45
20	3G*	130	U5-94 508	U5-519 270	42	18	41	82	0.60
22	4G	160	U5-95 241	U5-519 289	45	22	47.5	95	0.95
25	5G*	200	U5-96 222	U5-519 309	50	26	54	108	1.20
30	6G*	240	U5-96 98X	U5-519 317	58	29	61	122	1.85
32	6G1	240	U5-97 700	U5-519 325	58	33	65	130	2.00
35	7G	360	U5-97 727	U5-519 333	70	35	70	140	3.15
40	8G	450	U5-519 175	U5-519 341	80	40	80	160	4.60
50	9G	580	U5-519 191	U5-519 35X	95	50	95	190	7.60
10	03GB	10	U5-264 968	U5-519 455	16	14	26	52	0.05
12	04GB	26	U5-519 376	U5-519 471	22	18	31	62	0.12
16	1GB	35	U5-519 404	U5-519 48X	25	21	37	74	0.20
20	3GB	70	U5-519 412	U5-519 498	32	24	43	86	0.35
25	5GB	130	U5-519 420	U5-519 50X	42	31	54	108	0.80
30	6GB	200	U5-519 439	U5-519 518	50	38	66	132	1.20
40	8GB	360	U5-519 447	U5-519 526	70	48	83	166	2.90

Stockline nos in black — delivery times on request

**These sizes also available in stainless steel, details on request.*

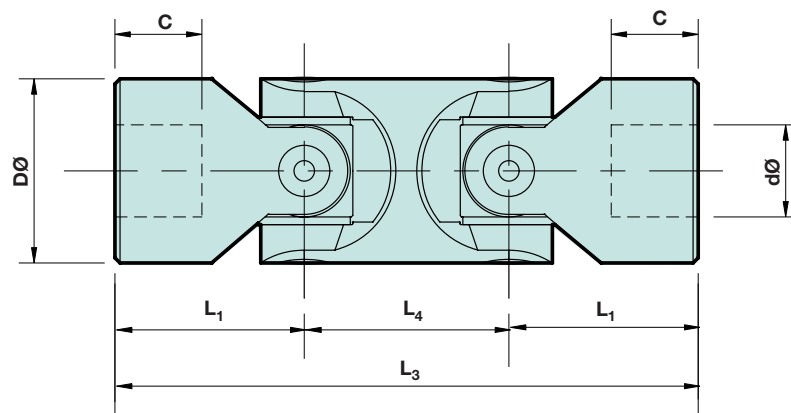
FERRI precision universal joints

Type GD to DIN 808
Type GBD to DIN 7551

- Suitable for up to 1000 r/min and up to 45° per joint
- Up to 90° total drive angle possible
- Constructed with wear resistant sliding bushes
- Gaiters recommended for most applications
- Available with round bores for pinning or with keyways. Square and hexagonal bores on request
- Quick release hubs available, see page 473



Selection – size selection depends on torque, speed and running angle Contact us with your application.



Type GD to DIN 808 Type GBD to DIN 7551

Bores d(H7)	Size	Nominal* torque (Nm) at 200 r/min max 10°	Stockline numbers		D	Dimensions (mm)				Weight kg
			Plain bores	Keyways to BS4235		C	L1	L3	L4	
6	01GD*	10	U5-418 87X	–	16	8	17	56	22	0.08
8	02GD*	10	U5-434 652	–	16	11	20	62	22	0.08
10	03GD*	26	U5-437 287	U5-55 523	22	12	24	74	26	0.15
12	04GD*	35	U5-437 295	U5-120 215	25	13	28	86	30	0.25
14	05GD	48	U5-439 963	U5-120 353	28	13	30	96	36	0.4
16	1GD*	70	U5-439 971	U5-120 964	32	16	34	104	36	0.45
18	2GD	95	U5-441 462	U5-12 13X	36	17	37	114	40	0.7
20	3GD*	130	U5-441 470	U5-121 535	42	18	41	128	46	1
22	4GD	160	U5-441 489	U5-135 705	45	22	47.5	145	50	1.55
25	5GD*	200	U5-442 364	U5-165 689	50	26	54	163	55	2
30	6GD*	240	U5-442 443	U5-179 77X	58	29	61	190	68	2.9
32	6GD1	240	U5-442 451	U5-179 867	58	33	65	198	68	3
35	7GD	360	U5-442 486	U5-179 911	70	35	70	212	72	5
40	8GD	450	U5-442 506	U5-198 913	80	40	80	245	85	7
50	9GD	580	U5-442 530	U5-233 269	95	50	95	290	100	12
10	3GBD	10	U5-442 549	U5-252 88X	16	14	26	74	22	0.08
12	04GBD	26	U5-442 557	U5-74 70X	22	18	31	88	26	0.2
16	1GBD	35	U5-442 565	U5-74 734	25	21	37	104	30	0.3
20	3GBD	70	U5-444 543	U5-74 793	32	24	43	124	38	0.5
25	5GBD	130	U5-447 632	U5-74 805	42	31	54	156	48	1.2
30	6GBD	200	U5-55 113	U5-74 83X	50	38	66	188	56	1.7
40	8GBD	350	U5-55 306	U5-74 848	70	48	83	238	72	4.3

Stockline nos in black — delivery times on request

**These sizes also available in stainless steel, details on request.*

FERRI precision universal joints with needle roller bearings

Type H to DIN 808
Type HB to DIN 7551

Constructed with special needle roller bearings, lubricated for life

Allows speeds up to 4000 r/min and running angles up to 45°

Backlash low

Precision ground surfaces

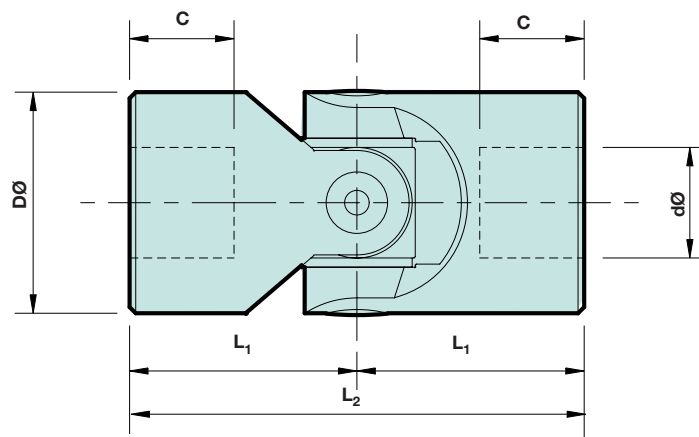
Gaiters unnecessary for most applications

Available with round bores to H7 for pinning or with Js9 keyways to BS4235

Square and hexagonal bores on request



Selection – size selection depends on torque, speed and running angle. Contact us with your application



Type H to DIN 808

Type HB to DIN 7551

Bores d(H7)	Size	Nominal* torque (Nm) at 200 r/min max 10°	Stockline numbers		D	Dimensions (mm)			Weight kg
			Plain bores	Keyways to BS4235		C	L ₁	L ₂	
10	03H	22	U5-13 161	U5-175 013	22	12	24	48	0.10
12	04H	36	U5-133 140	U5-175 194	25	13	28	56	0.16
14	05H	55	U5-138 494	U5-180 176	28	13	30	60	0.20
16	1H	80	U5-138 514	U5-180 405	32	16	34	68	0.3
18	2H	110	U5-139 834	U5-180 448	36	17	37	74	0.45
20	3H	140	U5-139 964	U5-180 519	42	18	41	82	0.60
22	4H	160	U5-140 379	U5-180 578	45	22	47.5	95	0.95
25	5H	220	U5-140 825	U5-180 665	50	26	54	108	1.20
30	6H	260	U5-141 124	U5-180 890	58	29	61	122	1.85
32	6H1	260	U5-142 460	U5-181 374	58	33	65	130	2.00
35	7H	350	U5-142 732	U5-183 186	70	35	70	140	3.15
40	8H	420	U5-14 378	U5-183 379	80	40	80	160	4.60
50	9H	550	U5-144 134	U5-183 955	95	50	95	190	7.60
12	04HB	22	U5-31 052	U5-31 237	22	18	31	62	0.12
16	1HB	36	U5-31 095	U5-31 253	25	21	37	74	0.20
20	3HB	80	U5-31 107	U5-343 803	32	24	43	86	0.35
25	5HB	140	U5-31 115	U5-344 894	42	31	54	108	0.80
30	6HB	220	U5-31 123	U5-344 906	50	38	66	132	1.20
40	8HB	350	U5-31 131	U5-344 914	70	48	83	166	2.90

Stockline nos in black — delivery times on request

Stockline numbers in blue are normally held in stock

FERRI precision universal joints with needle roller bearings

Type HD to DIN 808
Type HBD to DIN 7551

Suitable for 4000 r/min and up to 45° per joint

All contact surfaces hardened and ground

Up to 90° total drive angle possible

Lubricated for life, no maintenance required

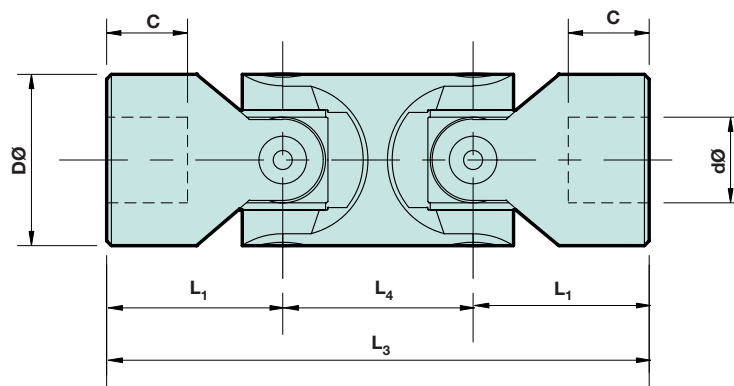
Gaiters unnecessary for most applications

Available with round bores for pinning or with keyways. Square and hexagonal bores on request

Quick release hubs available see page 473



Selection – size selection depends on torque, speed and running angle.
Contact us with your application.



Type HD to DIN 808 Type HBD to DIN 7551

Bores d(H7)	Size	Nominal* torque (Nm) at 200 r/min max 10°	Stockline numbers		Dimensions (mm)					Weight kg
			Plain bores	Keyways to BS4235	D	C	L1	L3	L4	
10	03HD	22	U5-352 137	U5-69 665	22	12	24	74	26	0.15
12	04HD	36	U5-352 161	U5-70 526	25	13	28	86	30	0.25
14	05HD	55	U5-352 17X	U5-71 077	28	13	30	96	36	0.4
16	1HD	80	U5-354 174	U5-72 433	32	16	34	104	36	0.45
18	2HD	110	U5-354 296	U5-72 965	36	17	37	114	40	0.7
20	3HD	140	U5-354 308	U5-73 327	42	18	41	128	46	1
22	4HD	160	U5-354 316	U5-73 729	45	22	47.5	145	50	1.55
25	5HD	220	U5-355 991	U5-516 516	50	26	54	163	55	2
30	6HD	260	U5-356 006	U5-73 796	58	29	61	190	68	2.9
32	6HD1	260	U5-356 073	U5-74 525	58	33	65	198	68	3
35	7HD	350	U5-361 280	U5-74 994	70	35	70	212	72	5
40	8HD	420	U5-69 456	U5-76 52X	80	40	80	245	85	7
50	9HD	550	U5-69 527	U5-77 701	95	50	95	290	100	12
12	04HBD	22	U5-77 815	U5-92 057	22	18	31	88	26	0.2
16	1HBD	36	U5-86 62X	U5-92 302	25	21	37	104	30	0.3
20	3HBD	80	U5-90 785	U5-92 440	32	24	43	124	38	0.5
25	5HBD	140	U5-91 451	U5-92 483	42	31	54	156	48	1.2
30	6HBD	220	U5-91 908	U5-93 499	50	38	66	188	56	1.7
40	8HBD	350	U5-91 967	U5-93 543	70	48	83	238	72	4.3

Stockline nos in black — delivery times on request

FERRI telescopic universal joints

Type GA
Type HA

Available customised to any length up to 3m or as standard lengths from stock

Suitable for all types of machinery where the distance between shafts is variable

Ground nickel chrome wearing surfaces for long life

Pre-lubricated and fitted with grease valve

Standard models with H7 bore and keyways to BS4235, square or hexagonal bores on request

Up to 90° total drive angle possible

Two versions available from stock to suit varying speeds and duties



(Quick release hubs on request)

Length adjustments should be made statically without torque loadings

	Type GA	Type HA
Maximum speed r/min	1000	4000
Construction	hardened plain bearings	needle roller bearings
Maintenance	re-lubricate regularly	maintenance free

Ordering example

(2) off Ferrri telescopic universal joints type 1HA, stroke 190-220mm.

Stockline No. **U5-828 025**

To construct telescopic joints, the following criteria must be met:

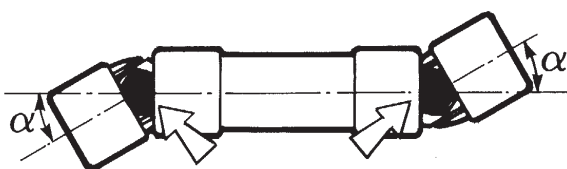
$$\text{Stroke } C_H \leq \frac{L_{\text{max}} - 2L_2 - B}{2}$$

$$L_{\text{min}} \geq \frac{L_{\text{max}} + 2L_2 + B}{2}$$

Materials

All telescopic universal joints have splines made from extruded steel grade C45 to UNI222. Precision machined female bushes are made from the same material.

Mounting



For correct running, the inner journals must be in line, and the joint angles α must be equal.

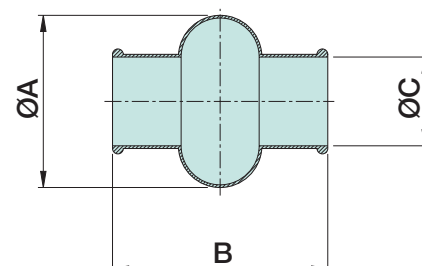
Type GA FERRI telescopic universal joints are pre-lubricated but we recommend regular re-greasing. FERRI gaiters can be fitted, see below.

Gaiters

Designed to protect the joint in severe or aggressive environments, these gaiters are made from synthetic rubber that is itself oil and acid resistant. They can be used to allow permanent lubrication of the joint.

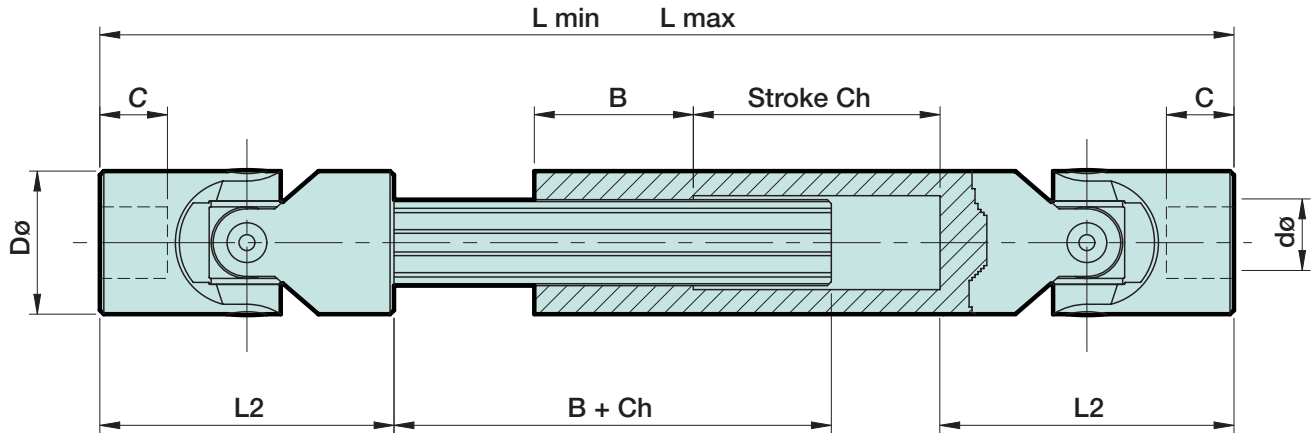
Note: 2 gaiters are required for double joints.

Type	Size	A	B	C	Stockline No.
01M	01	28	34	15	U8-223 213
02M	02	32	40	15.5	U8-223 221
03M	03	40	45	20.5	U8-223 23X
04M	04	48	50	24.5	U8-223 248
05M	05	52	56	27.5	U8-223 256
1M	1	56	65	30.5	U8-223 264
2M	2	66	72	35.5	U8-223 272
3M	3	75	82	40	U8-223 465
4M	4	84	95	45	U8-223 473
5M	5	92	108	50	U8-223 481
6M	6	100	122	56	U8-223 49X



FERRI telescopic universal joints

Type GA
Type HA

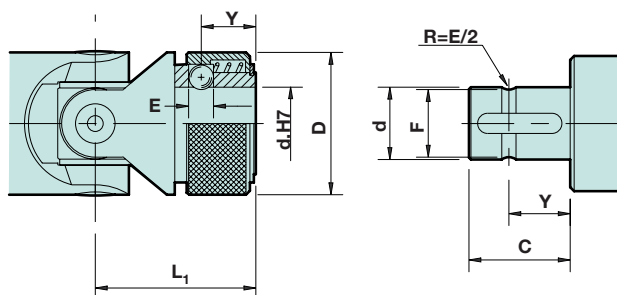


Dimensions							
Size	dø	D	L2	C	B	L min. mm	Lmax. mm
03	10	22	48	12	30	140 180	170 240
04	12	25	56	13	40	160 200	190 270
05	14	28	60	13	40	170 220	200 300
1	16	32	68	16	40	190 240	220 320
2	18	36	74	17	40	230 290	280 400
3	20	42	82	18	45	250 320	300 440
4	22	45	95	22	50	270 330	320 430
5	25	50	108	26	50	295 350	345 450
6	30	58	122	29	60	330 400	380 510
7	35	70	140	35	70	Built to order up to 3m long	
8	40	80	160	40	80		
9	50	95	190	50	90		

Type GA plain bearings			Type HA needle roller bearings		
Model	Torque (Nm) at 200 r/min & 10°/end	Stockline No.	Model	Torque (Nm) at 200 r/min & 10°/end	Stockline No.
03GA	26	U5-827 70X U5-827 785	03HA	22	U5-827 734 U5-827 978
04GA	35	U5-827 793 U5-827 813	04HA	36	U5-827 986 U5-827 994
05GA	48	U5-827 821 U5-827 848	05HA	55	U5-828 009 U5-828 017
1GA	70	U5-827 856 U5-827 864	1HA	80	U5-828 025 U5-828 033
2GA	95	U5-827 872 U5-827 880	2HA	110	U5-828 041 U5-828 05X
3GA	130	U5-827 899 U5-827 900	3HA	140	U5-828 068 U5-828 076
4GA	160	U5-827 919 U5-827 927	4HA	160	U5-828 084 U5-828 092
5GA	200	U5-827 935 U5-827 943	5HA	220	U5-828 104 U5-828 112
6GA	240	U5-827 951 U5-827 96X	6HA	260	U5-828 120 U5-828 139

Stockline numbers for sizes 7 to 9 on request

Quick release hubs



Quick release hubs are available for sizes 02-6 and can be fitted to any type of universal joint. Please send us your application requirements.

Shaft d(h7)	Size	Dimensions mm					
		C	D	E	F	L1	Y
8	02	14	16	3.5	7	26	9.5
10	03	17	22	4	8.7	31	11.5
12	04	21	25	4	11	37	13.5
14	05	21	25	4	13	37	13.5
16	1	24	32	6.35	14.8	43	14
18	2	28	36	8	16	48	19
20	3	31	42	8	18	54	19
22	4	34	45	10	20	60	20.5
25	5	38	50	10	23	66	20.5
30	6	49	58	10	28	83	25

COUPLING
TECHNOLOGY