SERIES X GEAR TYPE

SERIES X

DAVID BROWN
RADICON

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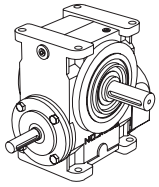
ALL PRODUCTS IN THE RADICON RANGE

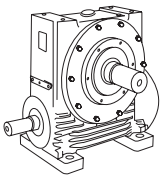
9712

SERIES A - JUNIOR



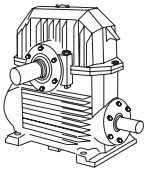
Power capacity to 11 kW
Output torque capacity to 1,000 Nm
Sizes 280, 410, 510, 610, 730 and 860
Foot, flange and shaft mounting

SERIES A - MID RANGE



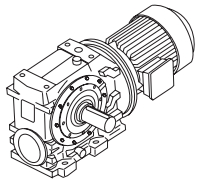
Power capacity to 140 kW
Output torque capacity to 10,000 Nm
Sizes 1002, 1252, 1602 and 2002
Foot, flange and shaft mounting

SERIES A - HEAVY DUTY



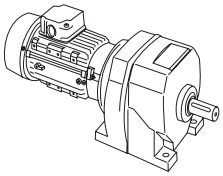
Power capacity to 835 kW
Output torque capacity to 100,000 Nm
Sizes 10, 12, 14, 17, 20 and 24
Foot, flange and shaft mounting

SERIES C



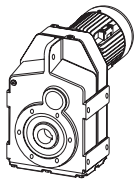
Power capacity to 45 kW
Output torque capacity to 10,000 Nm
Sizes 03, 04, 05, 06, 07, 08, 09 and 10
Foot, flange and shaft mounting

SERIES M



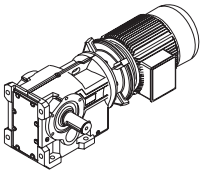
Power capacity to 90 kW
Output torque capacity to 11,000 Nm
Sizes 03, 04, 06, 07, 08, 09, 10, 13 and 14
Foot and flange mounting

SERIES F



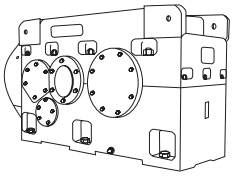
Power capacity to 45 kW
Output torque capacity to 7,200 Nm
Sizes 04, 06, 07, 08, 09 and 10
Foot, flange and shaft mounting

SERIES K



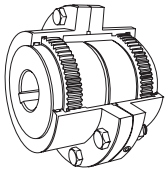
Power capacity to 90 kW
Output torque capacity to 12,300 Nm
Sizes 08, 09, 10 and 12
Foot, flange and shaft mounting

SERIES H



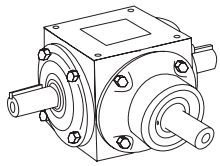
Power capacity to 8300 kW
Output torque capacity to 128,000 Nm
Sizes 140, 160, 180, 200, 225, 250, 280, 315, 355, 400 and 450
Single, double and triple parallel and right angle shaft
Foot and shaft mounting

SERIES X



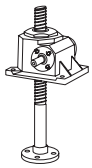
Nylicon low cost couplings to 55 mm dia. bore
610 Series Cone-Ring type to 355 mm dia. bore
620 Series Gear type to 540 mm dia. bore
Sadiguard Torque limiters for overload protection, to 115 mm dia. bore

SERIES R



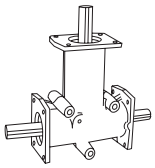
Power capacity to 265 kW
Output torque capacity to 1,265 Nm
Sizes 120, 160, 200, 260 and 350
Output shaft and shaft mounting

SERIES S



Load capacity to 100 tonnes
Sizes 0.5, 1, 2.5, 5, 10, 25, 50 and 100

SERIES T



Power capacity to 15 kW
Output torque capacity to 132 Nm
Sizes 1, 2, 3, 4 and 5

CONTENTS

SERIES X RADICON

GENERAL DESCRIPTION & UNIT DESIGNATIONS

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GENERAL DESCRIPTION

Flexible Gear couplings, types 621, 622, 623 meet the demands of all normal powers and speeds required in medium and heavy duty industrial drives, they are available with bore sizes up to 540 mm diameter and a basic rated torque up to 1590 KNm. They will compensate for normal angular and parallel misalignment of shafts and permit axial movement without imposing axial loads on adjacent bearings. All bolts are fitted with self locking nuts, and puller holes can be provided if required. Couplings suitable for vertical shafts can also be supplied.

The heart of any flexible gear coupling is in the hub teeth, where compensation is made for any misalignment. It is here that the superior gear mesh provided by flexible gear couplings offer the very best coupling design and manufacture. Engagement is with precision generated internal teeth in either flanged or continuous sleeves, which in common with the hubs, are of high quality carbon steel.

Type 621, flanged double engagement, has a split sleeve design to allow access for shaft alignment with minimum distance between adjacent housings. Spacers or tubular cardan shafts can be supplied between the two coupling halves.

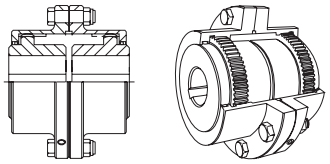
Type 622, continuous double engagement, is more compact and lighter than type 621, allowing higher maximum speeds with reduced inertia WR^2.

Type 623, flanged single engagement, comprises of one standard flexible half coupling and one rigid half coupling, and compensates for normal angular misalignment only. It is therefore often used in tandem pairs connected by an intermediate floating shaft (cardan shaft) or as a single unit in conjunction with a driving or driven shaft supported in a self aligning bearing.

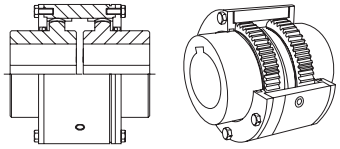
Type 629, full rigid couplings, are also available, with bore sizes up to 225mm diameter. This type of coupling meets the requirement of rigid drives where no compensation for misalignment is required. Rigid couplings are usually subjected to a combination of both torsional and bending loads, hence the selection of the coupling size should be made by David Brown Radicon.

For couplings subjected to torsional loads only, type 629 couplings will transmit at least as much as type 623 couplings. However, their limiting capacities are such that they will transmit the maximum torque to which the shaft, if made in mild steel, may safely be subjected. Therefore, in practice these couplings are sized according to their bore capacity rather than their torque capacity.

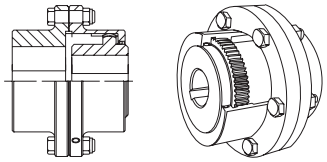
621 Double Engagement, Flanged



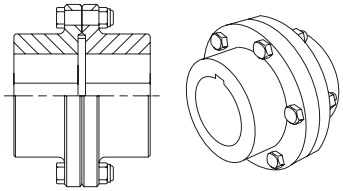
622 Double Engagement, Continuous



623 Single Engagement, Flanged



629 Full Rigid Type



UNIT DESIGNATIONS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
*															
EXAMPLE	X	6	2	1	0	2	M	0	2	5	M	0	2	8	-

1 - SERIES X

RANGE [X]

2, 3, 4 - TYPE OF COUPLING

- [6][2][1] - FLEXIBLE GEAR TYPE COUPLING DOUBLE ENGAGEMENT, FLANGED
- [6][2][2] - FLEXIBLE GEAR TYPE COUPLING DOUBLE ENGAGEMENT, CONTINUOUS
- [6][2][3] - FLEXIBLE GEAR TYPE COUPLING SINGLE ENGAGEMENT, FLANGED
- [6][2][9] - FULL RIGID TYPE COUPLING

5, 6 - SIZE OF COUPLING

eg [0][5] / [1][1] See Pages 17 to 21

7 - DRIVING HUB BORE AND KEYWAY

- [M] - METRIC BORE PARALLEL KEYWAY
- [T] - METRIC BORE TAPER KEYWAY
- [I] - IMPERIAL BORE PARALLEL KEYWAY
- [B] - IMPERIAL BORE TAPER KEYWAY
- [P] - PILOT BORE

8, 9, 10 - DRIVING HUB BORE DIAMETER REFERENCE

eg [-][-][-] / [0][2][5] See Pages 13 to 16

11 - DRIVEN HUB BORE AND KEYWAY

- [M] - METRIC BORE PARALLEL KEYWAY
- [T] - METRIC BORE TAPER KEYWAY
- [I] - IMPERIAL BORE PARALLEL KEYWAY
- [B] - IMPERIAL BORE TAPER KEYWAY
- [P] - PILOT BORE

12, 13, 14 - DRIVEN HUB BORE DIAMETER REFERENCE

eg [-][-][-] / [0][2][8] See Pages 13 to 16

15 - ADDITIONAL REQUIREMENTS

- [-] - NON REQUIRED
- [F] - FLAME PROOF
- [V] - VERTICAL MOUNTING

* THIS PAGE MAY BE PHOTOCOPIED ALLOWING THE CUSTOMER TO ENTER THEIR ORDER

The size of coupling required is determined by using the selection procedure in which the actual loads are compared with the catalogue rating.

Fm **Mechanical Service Factor** (table 2, page 7)

Catalogue ratings are based on a standard set of loading conditions, whereas in an actual application in order to provide for the dynamic torque which must be transmitted, it may be necessary to increase the power to be transmitted by a load classification/service factor. The factor (Fm) allows for momentary increases in torque due to the loading characteristics of the drive.

Fs **Start/stop Factor** (table 7, page 12)

The coupling basic rating allows for up to one start, braking cycle or momentarily overload per hour. If the application requires more, the factor (Fs) is applied.

Fr **Rating Factor** (table 8, page 12)

To allow the adjustment of the coupling basic rating for speed of rotation and misalignment the factor (Fr) is applied. To obtain this factor the following is required:

(i) Maximum angular misalignment, or the equivalent angle due to the parallel offset (this can be obtained by reference to the summary table (table 4, page 9) where for the allowable parallel offset quoted, an equivalent angular misalignment is given). The angular misalignment specified is per gear mesh ie for double engagement couplings the angle between the shafts should be divided by two

(ii) The size of the coupling

(iii) The coupling operating speed (rev/min) expressed as a percentage of the maximum operating speed of the unbalanced 622 continuous type coupling.

Coupling Basic Ratings (tables 5 and 6, pages 10 and 11)

The coupling basic rating (kW per 100 rev/min) and those at coupling speeds of 960 rev/min and 1450 rev/min are given based on:

(i) The coupling operating up to 10 hours per day

(ii) Up to one start or stop cycle per hour

(iii) Total misalignment equivalent to an angular misalignment of 1^{o} per mesh

(iv) 100% momentary overload during the start or stop cycle.

Ambient Temperature

A X620 gear type coupling is capable of operating in the ambient range of -30ºC to 80ºC.
A X629 rigid coupling is capable of operating in the ambient range of -30ºC to 120ºC.

SELECTION EXAMPLE BY POWER AND SPEED

9711

EXAMPLE APPLICATION DETAILS

Connection = motor driven gear unit to a conveyor drive with a 160mm dia. headshaft, the absorbed power is 210 kW at a speed of 73 rev/min
Gear unit = 155mm dia. output shaft
Angular misalignment of shafts = 1.0 with a parallel offset of 1.0mm
Application = Subject to moderate shock
Duration of service (hours per day) = 10
Starts/stops per hour = 2
Does the application reverse ? = No

A double engagement gear coupling (X622) will be most suitable for the misalignment conditions

1. DETERMINE MECHANICAL SERVICE FACTOR (Fm)

Refer to Mechanical Service Factors *Page 7 Table 2*
Application details state that:
Prime mover = Electric motor
Duration of service (hours/day) = 10

Prime mover	Duration of service-hrs per day	Load classification-driven machine	
		Uniform	Moderate Shock
Electric motor, steam turbine or hydraulic motor	Under 3	0.80	1.25
	3 to 10	1.00	1.50
	Over 10	1.25	1.75

Therefore: Mechanical Service Factor (Fm) = **1.5**

2. DETERMINE START/STOP FACTOR (Fs)

Refer to Start/stop Factors *Page 12 Table 7*
Application details state that:
Start/stops per hour = 2
Unidirectional

START /STOPS PER HOUR	UP TO 1	3	5	10
UNIDIRECTIONAL	1.0	0.90	0.85	0.77
REVERSING	0.71	0.65	0.61	0.55

Therefore: Start/stop factor (Fs) = **0.95** (obtained from table by linear interpolation)

3. DETERMINE POWER REQUIRED (Pr)

$$\frac{\text{Absorbed power (kW)} \times 100 \times Fm}{\text{Coupling speed (rev/min)} \times Fs} = Pr$$

$$\frac{210 \times 100 \times 1.5}{73 \times 0.95} = 454$$

Therefore:
Power Required (Pr) = **454** kW per 100 rev/min

4. DETERMINE COUPLING SIZE

Refer to Summary Table *Page 9 Table 4*
Largest shaft diameter required = 160mm

ITEM	COUPLING SIZE			
	07	08	09	10
MAX BORE (mm)	130	140	155	175
PILOT BORE (mm)	70	70	90	100
HUB LENGTH (mm)	120	135	153	168
BASIC RATED POWER kW Per 100 Rev/Min.	250	330	470	640

Therefore:
Coupling Size = **10**
The size 10 coupling has adequate bore capacity for the application and the Max Rated Power is in excess of the required 454 kW per 100 rev/min required for the application, so coupling is acceptable

Go to point 5 page 4

5. DETERMINE EQUIVALENT ANGULAR MISALIGNMENT OF THE PARALLEL OFFSET (θ_E)

Refer to Summary Table *Page 9 Table 4*
Application details state that:
Parallel offset = 1.0 mm

ITEM			COUPLING SIZE			
			07	08	09	10
ALLOWABLE MISALIGN-MENT	PARALLEL OFFSET (mm)	TYPE 621	± 2.93	± 3.37	± 3.95	± 4.33
		TYPE 622	± 1.50	± 1.62	± 1.68	± 1.82
		TYPE 623	± 0	± 0	± 0	± 0
	EQUIVALENT ANGULAR MISALIGNMENT		1^0	1^0	1^0	1^0

$$\frac{\text{Parallel offset of application}}{\text{Parallel offset of Summary Table}} \times \text{Equivalent angular misalignment of the parallel offset per mesh} = \theta_E$$

$$\frac{1.0}{1.82} \times 1.0 = 0.5$$

Therefore: Equivalent angular misalignment of the parallel offset (θ_E) = **0.5**

6. DETERMINE TOTAL ANGULAR MISALIGNMENT

$$\theta_E + \frac{\text{Angular Misalignment of Shafts}}{2}$$

$$0.5 + \frac{1.0}{2} = 1.0$$

Therefore:
Total Angular Misalignment = **1.0**

7. DETERMINE RATING FACTOR (Fr)

Determine % Coupling Speed
Refer to Coupling Maximum Speeds *Page 12 Table 9*

COUPLING SIZE	MAXIMUM ALLOWABLE SPEED (REV/MIN)	
	TYPE 622	
	UNBALANCED	BALANCED
10	2100	3700

$$\frac{\text{Coupling Speed (rev/min)}}{\text{Coupling Max Speed(rev/min)}} \times 100$$

$$\frac{73}{2100} \times 100 = 3.5\ \%$$

Therefore: % Coupling Speed = **3.5**%

Refer to Rating Factors *Page 12 Table 8*
Total Angular Misalignment = 1.0

COUPLING SPEED AS A PERCENTAGE OF THE TYPE 622 MAXIMUM ALLOWABLE UNBALANCED SPEED	COUPLING RATING FACTOR			
	MISALIGNMENT PER MESH (DEGREES)			
	0.25^O	0.5^O	0.75^O	1^O
0 TO 60%	1.85	1.56	1.24	1.0

Therefore:
Rating Factor (Fr) = **1.0**

8. DETERMINE EFFECTIVE COUPLING RATING (Pe)

Basic rated power (kW per 100 rev/min) x Fr = Pe

640 x 1.0 = 640

Therefore:
Effective Coupling Rating (Pe) = **640** kW per 100 rev/min
The Effective Coupling Rating is in excess of the required 454 kW per 100 rev/min required for the application, so coupling is acceptable

9. DETERMINE SPACE REQUIRED

Refer to Dimensions *Page 18 Table 15*
Check space limitations

SELECTION EXAMPLE BY SHAFT SIZE

9711

EXAMPLE APPLICATION DETAILS

Connection = Two 50mm diameter shafts transmitting 100 kW at 800 rev/min from a diesel engine
Angular misalignment of shafts = 2.0 (which is equivalent to 1.0 per mesh)
Application = Subject to moderate shock
Duration of service (hours per day) = 8
Starts/stops per hour = 4
Does the application reverse ? = No

A double engagement gear coupling (X622) will be most suitable for the misalignment conditions

1. DETERMINE COUPLING SIZE

Refer to Bore Availability *Page 13 Table 10*
Application details state that:
Connection = Two 50mm dia. shafts

Column Entry 7,8,9,10 (dg) or 11,12,13,14 (dn)	Nominal Bore Diameter	X621, X622, X623 Flexible Gear Couplings & Halves								
		02	03	04	05	06	07	08	09	10
M 045	45	■	■	■	■					
M 048	48	■	■	■	■					
M 050	50	■	■	■	■					
M 055	55		■	■	■					
M 056	56		■	■	■					
M 060	60		■	■	■	■				

Therefore:
Smallest coupling size available = **02**

2. DETERMINE MECHANICAL SERVICE FACTOR (Fm)

Refer to Mechanical Service Factors *Page 7 Table 2*
Application details state that:
Subject to moderate shock
Prime mover = Diesel engine
Duration of service (hours/day) = 8

Prime mover	Duration of service-hrs per day	Load classification-driven machine	
		Uniform	Moderate Shock
Multi-cylinder internal combustion engine	Under 3	1.00	1.50
	3 to 10	1.25	1.75
	Over 10	1.50	2.00

Therefore: Mechanical Service Factor (Fm) = **1.75**

3. DETERMINE START/STOP FACTOR (Fs)

Refer to Start/stop Factors *Page 12 Table 7*
Application details state that:
Start/stops per hour = 4
Unidirectional

START /STOPS PER HOUR	UP TO 1	3	5	10
UNIDIRECTIONAL	1.0	0.90	0.85	0.77
REVERSING	0.71	0.65	0.61	0.55

Therefore: Start/stop factor (Fs) = **0.875** (obtained from table by linear interpolation)

Go to point 4 page 6

4. DETERMINE POWER REQUIRED (Pr)

$$\frac{\text{Absorbed power (kW)} \times 100 \times Fm}{\text{Coupling speed (rev/min)} \times Fs} = Pr$$

$$\frac{100 \times 100 \times 1.75}{0.875 \times 800} = 25$$

Therefore:
Power Required (Pr) = **25** kW per 100 rev/min
Refer to Summary Table

ITEM	COUPLING SIZE			
	02	03	04	05
BASIC RATED POWER kW Per 100 Rev/Min.	20	43.1	66.7	112

Therefore:
The 02 does not have the Basic Power Rating required, therefore the example will be continued using a 03 which has a Basic Power Rating of 43.1 kW, which is in excess of the 25 kW per 100 rev/min required for the application

5. DETERMINE RATING FACTOR (Fr)

Determine % Coupling Speed
Refer to Coupling Maximum Speeds *Page 12 Table 9*

COUPLING SIZE	MAXIMUM ALLOWABLE SPEED (REV/MIN)	
	TYPE 622	
	UNBALANCED	BALANCED
03	5050	9300

$$\frac{\text{Coupling Speed (rev/min)}}{\text{Coupling Max Speed(rev/min)}} \times 100$$

$$\frac{800}{5050} \times 100 = 15.8\ \%$$

Therefore: % Coupling Speed = **15.8**%

Application details state that:
Angular Misalignment = 1.0 per mesh
Refer to Rating Factors *Page 12 Table 8*

COUPLING SPEED AS A PERCENTAGE OF THE TYPE 622 MAXIMUM ALLOWABLE UNBALANCED SPEED	COUPLING RATING FACTOR			
	MISALIGNMENT PER MESH (DEGREES)			
	0.25°	0.5°	0.75°	1°
0 TO 60%	1.85	1.56	1.24	1.0

Therefore:
Rating Factor (Fr) = **1.0**

6. DETERMINE EFFECTIVE COUPLING RATING (Pe)

Basic rated power (kW per 100 rev/min) x Fr = Pe

43.1 x 1.0 = 43.1

Therefore:
Effective Coupling Rating (Pe) = **43.1** kW per 100 rev/min
The Effective Coupling Rating is in excess of the required 25 kW per 100 rev/min required for the application, so coupling is acceptable

7. DETERMINE SPACE REQUIRED

Refer to Dimensions *Page 18 Table 15*
Check space limitations

MOTOR DETAILS

Table 1 - Motor Details for David Brown Motors

kW	NUMBER OF MOTOR POLES	MOTOR FRAME SIZE	FULL LOAD SPEED	SHAFT DIAMETER
0.12	4	63	1360	11
	6	63	835	11
	8	71	600	14
0.18	2	63	2680	11
	4	63	1360	11
	6	71	840	14
	8	80	650	19
0.25	2	63	2730	11
	4	71	1370	14
	6	71	845	14
	8	80	650	19
0.37	2	71	2730	14
	4	71	1380	14
	6	80	925	19
	8	90	680	24
0.55	2	71	2720	14
	4	80	1370	19
	6	80	925	19
	8	90	690	24
0.75	2	80	2800	19
	4	80	1385	19
	6	90	910	24
	8	100	700	28
1.1	2	80	2840	19
	4	90	1380	24
	6	90	920	24
	8	100	700	28
1.5	2	90	2820	24
	4	90	1390	24
	6	100	950	28
	8	112	700	28
2.2	2	90	2850	24
	4	100	1410	28
	6	112	945	28
	8	132	705	38
3	2	100	2900	28
	4	100	1420	28
	6	132	950	38
	8	132	710	38
4	2	112	2900	28
	4	112	1425	28
	6	132	955	38
	8	160	720	42
5.5	2	132	2900	38
	4	132	1450	38
	6	132	960	38
	8	160	720	42
7.5	2	132	2900	38
	4	132	1450	38
	6	160	965	42
	8	160	720	42
9.2	2	132	2910	38
	4	132	1460	38
11	2	132	2920	38
	4	160	1460	42
	6	160	970	42
	8	180	720	48
15	2	160	2930	42
	4	160	1460	42
	6	180	970	48
	8	200	725	55
18.5	2	160	2940	42
	4	180	1460	48
	6	200	970	55
	8	225	725	60
22	2	180	2940	48
	4	180	1465	48
	6	200	970	55
	8	225	725	60
30	2	200	2940	55
	4	200	1465	55
	6	225	975	60
	8	250	730	65
37	2	200	2950	55
	4	225	1470	60
	6	250	975	65
	8	280	730	75
45	2	225	2960	60
	4	225	1470	60
	6	280	980	75
	8	280	735	75
55	2	250	2960	65
	4	250	1475	65
	6	280	980	75
75	2	280	2965	75
	4	280	1480	75
90	2	280	2965	75
	4	280	1480	75

EXPLANATION OF THE RATINGS

The load classification/service factor given in *Tables 2 & 3* provide a basis for estimating the allowance for specific combinations of connected equipment and are sufficiently accurate for normal applications. For equipment not listed in *Table 3* or for drives where high inertia loads are to be absorbed the determination of a suitable service factor should be calculated in consultation with David Brown Radicon application engineers.

Where a motor is fitted with a brake whose rating exceeds that of the motor the coupling selected is decided by the rating of the brake.

Catalogue ratings allow 100% overload on starting, braking or momentarily occurring once per hour, the effect of more frequent occurrences on the coupling rating is given together with the ratings for that type of coupling. The coupling selected must therefore have a catalogue rating at least equal to half the maximum overload.

If overloads can be calculated, or accurately assessed, actual loads should be used instead of Fm.

Table 2 - Mechanical Service Factor (Fm)

Prime mover	Duration of service-hrs. per day	Load classification-driven machine		
		Uniform	Moderate Shock	Heavy Shock
Electric motor, steam turbine or hydraulic motor	Under 3	0.80	1.25	2.25
	3 to 10	1.00	1.50	2.50
	Over 10	1.25	1.75	2.75
Multi-cylinder internal combustion engine	Under 3	1.00	1.50	2.50
	3 to 10	1.25	1.75	2.75
	Over 10	1.50	2.00	3.00
Single cylinder internal combustion engine	Under 3	1.25	1.75	2.75
	3 to 10	1.50	2.00	3.00
	Over 10	1.75	2.25	3.25

Table 3
Load Classification by Application

U = Uniform load

M = Moderate shock load

H = Heavy shock load

† = Refer to David Brown

Driven Machine	type of load
Agitators	
pure liquids	U
liquids and solids	M
liquids-variable density	M
Blowers	
centrifugal	U
lobe	M
vane	U
Brewing and distilling	
bottling machinery	U
brew kettles-continuous duty	U
cookers-continuous duty	U
mash tubs-continuous duty	U
scale hopper-frequent starts	M
Can filling machines	U
Cane knifes	M
Car dumpers	H
Car pullers	M
Clarifiers	U
Classifiers	M
Clay working machinery	
brick press	H
briquette machine	H
clay working machinery	M
pug mill	M
Compressors	
centrifugal	U
lobe	M
reciprocating	
multi-cylinder	M
single cylinder	H
Conveyors-uniformly loaded or fed	
apron	U
assembly	U
belt	U
bucket	U
chain	U
flight	U
oven	U
screw	U
Conveyors-heavy duty not uniformly fed	
apron	M
assembly	M
belt	M
bucket	M
chain	M
flight	M
live roll	†
oven	M
reciprocating	H
screw	M
shaker	H

Driven Machine	type of load
Cranes	
main hoists	U
bridge travel	†
trolley travel	†
Crusher	
ore	H
stone	H
sugar	H
Dredges	
cable reels	M
conveyors	M
cutter head drives	H
jig drives	H
manoeuvring winches	M
pumps	M
screen drive	H
stackers	M
utility winches	M
Dry dock cranes	
main hoist	†
auxiliary hoist	†
boom, luffing	†
rotating, swing or slew	†
tracking, drive wheels	†
Elevators	
bucket-uniform load	U
bucket-heavy load	M
bucket-continuous	U
centrifugal discharge	U
escalators	U
freight	M
gravity discharge	U
man lifts	†
passenger	†
Fans	
centrifugal	U
cooling towers	
induced draft	†
forced draft	†
induced draft	M
large, mine, etc	M
large, industrial	M
light, small diameter	U
Feeders	
apron	M
belt	M
disc	U
reciprocating	H
screw	M
Food industry	
beef slicer	M
cereal cooker	U
dough mixer	M
meat grinders	M
Generators-not welding	U
Hammer mills	H
Hoists	
heavy duty	H
medium duty	M
skip hoist	M
Laundry washers	
reversing	M
Laundry tumblers	M
Line shafts	
driving processing equipment	M
light	U
other line shafts	U
Lumber industry	
barkers-hydraulic-mechanical	M
burner conveyor	M
chain saw and drag saw	H
chain transfer	H
craneway transfer	H
de-barking drum	H
edger feed	M
gang feed	M
green chain	M
live rolls	H
log deck	H

Driven Machine	type of load
log haul-incline	H
log haul-well type	H
log turning device	H
main log conveyor	H
off bearing rolls	M
planer feed chains	M
planer floor chains	M
planer tilting hoist	M
re-saw merry-go-round conveyor	M
roll cases	H
slab conveyor	H
small waste conveyor-belt	U
small waste conveyor-chain	M
sorting table	M
tipple hoist conveyor	M
tipple hoist drive	M
transfer conveyors	M
transfer rolls	M
tray drive	M
trimmer feed	M
waste conveyor	M
Machine tools	
bending roll	M
punch press-gear driven	H
notching press- belt driven	†
plate planers	H
tapping machine	H
other machine tools	
main drives	M
auxiliary drives	U
Metal mills	
draw bench carriage and main drive	M
pinch, dryer and scrubber rolls-reversing	†
slitters	M
table conveyors	
non-reversing	
group drives	M
individual drives	H
reversing	
wire drawing and flattening machine	M
wire winding machine	M
Mill-rotary type	
ball	H
cement kilns	H
dryers and coolers	H
kilns, other than cement	H
pebble	H
rod	
plain	H
wedge bar	H
tumbling barrels	H
Mixers	
concrete mixers -continuous	M
concrete mixers -intermittent	M
constant density	U
variable density	M
Oil industry	
chillers	M
oil well pumping	†
paraffin filter press	M
rotary kilns	M
Paper mills	
agitators, (mixers)	M
barker-auxiliaries-hydraulic	M
barker-mechanical	H
barking drum	H
beater and pulper	M
bleacher	U
calenders	M
calenders-super	H
converting machine, except cutters, platers	M
conveyors	U
couch	M
cutters-plates	H
cylinders	M
dryers	M
felt stretcher	M
felt whipper	H
jordans	M

Driven Machine	type of load
log haul	H
presses	M
pulp machine reel	M
stock chest	M
suction roll	M
washers and thickeners	M
winders	M
Printing presses	†
Pullers	
barge haul	H
Pumps	
centrifugal	U
proportioning	M
reciprocating	
single acting; 3 or more cylinders	M
double acting; 2 or more cylinders	M
single acting; 1 or 2 cylinders	†
double acting; single cylinder	†
rotary	
gear type	U
lobe, vane	U
Rubber and plastics industries	
crackers	H
laboratory equipment	M
mixed mills	H
refiners	M
rubber calenders	M
rubber mill-2 on line	M
rubber mill-3 on line	M
sheeter	M
tire building machines	†
tire and tube press openers	†
tubers and strainers	M
warming mills	M
Sand muller	M
Sewage disposal equipment	
bar screens	U
chemical feeders	U
collectors	U
dewatering screws	M
scum breakers	M
slow or rapid mixers	M
thickeners	M
vacuum filters	M
Screens	
air washing	U
rotary-stone or gravel	M
travelling water intake	U
Slab pushers	M
Steering gear	†
Stokers	U
Sugar industry	
cane knives	M
crushers	M
mills	M
Textile industry	
batchers	M
calenders	M
cards	M
dry cans	M
dryers	M
dyeing machinery	M
knitting machines	†
looms	M
mangles	M
nappers	M
pads	M
range drives	†
slashers	M
soapers	M
spinners	M
tenter frames	M
washers	M
winders	M
Windlass	†

Table 4 - Summary

ITEM				COUPLING SIZE								
				02	03	04	05	06	07	08	09	10
MAX BORE (mm)				50	65	80	95	110	130	140	155	175
PILOT BORE (mm)				18	30	32	42	60	70	70	90	100
HUB LENGTH (mm)				49	62	77	91	106	120	135	153	168
INERTIA WR^2 ($kg\ m^2$) (SOLID HUBS)	TYPE 621			0.015	0.038	0.092	0.172	0.378	0.679	0.930	1.74	2.81
	TYPE 622			0.008	0.022	0.053	0.119	0.257	0.451	0.627	1.10	1.92
	TYPE 623			0.016	0.040	0.098	0.185	0.393	0.729	1.07	1.96	2.97
WEIGHT (kg) (SOLID HUBS)	TYPE 621			7.1	13.7	23.4	35.5	51.1	79.2	103	147	190
	TYPE 622			5.8	11.2	19.4	31.1	52.0	68.2	91.4	124	162
	TYPE 623			7.4	14.3	24.8	37.8	59.1	84.0	112	159	201
RATED TORQUE (KNm)				1.91	4.12	6.37	10.7	15.8	23.9	31.5	44.9	61.1
BASIC RATED POWER kW Per 100 Rev/Min.				20	43.1	66.7	112	165	250	330	470	640
MAX SPEED (rev/min)	TYPES 621 and 623 UNBALANCED			4400	3700	3100	2600	2300	2050	1850	1700	1500
	TYPE 622 UNBALANCED			6000	5050	4150	3650	3200	2800	2600	2350	2100
ALLOWABLE MISALIGN-MENT	ANGULAR			1^0	1^0	1^0	1^0	1^0	1^0	1^0	1^0	1^0
	PARALLEL OFFSET (mm)	TYPE 621		± 1.10	± 1.45	± 1.92	± 2.18	± 2.64	± 2.93	± 3.37	± 3.95	± 4.33
		TYPE 622		± 0.70	± 0.82	± 0.91	± 1.17	± 1.27	± 1.50	± 1.62	± 1.68	± 1.82
		TYPE 623		± 0	± 0	± 0	± 0	± 0	± 0	± 0	± 0	± 0
	EQUIVALENT ANGULAR MISALIGNMENT			1^0	1^0	1^0	1^0	1^0	1^0	1^0	1^0	1^0
STANDARD DISTANCE BETWEEN HUBS (mm)	TYPES 621 & 622			3	3	4	5	6	7	8	8	8
	TYPE 623			5	5	5	6	6	7	8	8	8
MAX END FLOAT (mm)	TYPES 621 and 623 (1)			8.0	9.0	11.0	14.0	15.0	15.0	19.0	19.0	20.5
	TYPE 622 (2)			9.5	10.5	11.0	15.5	15.0	18.5	20.0	20.5	22.0
BACKLASH AT THE PITCH LINE DIAMETER PER MESH	(mm)	FROM		.152	.229	.229	.279	.279	.356	.356	.432	.432
		TO		.305	.432	.432	.508	.508	.584	.584	.660	.660
	(radians)	FROM		.0037	.0044	.0036	.0037	.0032	.0035	.0031	.0034	.0031
		TO		.0074	.0082	.0068	.0067	.0060	.0057	.0051	.0052	.0047
COUPLING STIFFNESS PER MESH (KN/RADIAN)	1^0 ANGULAR MISALIGNMENT	TORQUE	50%	254	443	680	1220	1490	2420	3030	4410	6380
			75%	285	516	802	1320	1860	2760	3590	5340	6760
			100%	303	621	940	1580	1940	3300	3800	5820	6760
	ZERO MISALIGNMENT			407	699	1010	1720	2030	3300	3850	5820	6760

NOTES: (1) **For types 621 and 623** maximum axial travel is achieved by reversing the hub(s). Where axial travel required is less than standard distance between hub inner faces, then hub(s) should not be reversed ie. standard coupling arrangement is suitable.

(2) **For types 622** maximum axial travel is achieved by removal of amount stated in table from inner face of hub(s) ie. short boss end.

Table 5 - Basic Ratings

X621 Double Engagement, Flanged

Coupling size	Torque (kNm)	kW 100 rev/min	kW 960 rev/min	kW 1450 rev/min	Maximum rev/min un-balanced	Parallel offset capacity (mm)	Weight (kg) solid hubs (1)	Inertia WR^2 (kgm^2) solid hubs (1)
02	1.91	20	192	290	4400	1.10	7.1	0.015
03	4.12	43.1	414	625	3700	1.45	13.7	0.038
04	6.39	66.7	642	970	3100	1.92	23.4	0.092
05	10.69	112	1075	1625	2600	2.18	35.5	0.172
06	15.77	165	1585	2390	2300	2.64	51.1	0.378
07	23.88	250	2400	3625	2050	2.93	79.2	0.679
08	31.53	330	3170	4785	1850	3.37	103	0.930
09	44.87	470	4510	6815	1700	3.95	147	1.74
10	61.13	640	6145	9280	1500	4.33	190	2.81
11	81.1	850	8160	-	1430	3.6	300	5.97
12	103	1080	10360	-	1340	3.9	405	7.72
13	126	1320	12670	-	1210	4.2	495	13.2
14	196	2050	19700	-	1120	4.4	645	19.4
15	223	2340	22420	-	1080	4.7	741	23.8
16	293	3070	29460	-	980	5.0	896	37.1
17	504	5280	-	-	917	5.2	1130	54.6
18	598	6270	-	-	882	5.5	1290	66.6
19	683	7160	-	-	818	5.8	1470	92.7
20	768	8050	-	-	790	6.0	1660	111
21	1210	12700	-	-	742	6.4	2100	148
22	1390	14600	-	-	693	6.7	2500	211
23	1590	16700	-	-	665	6.9	2920	258

X622 Double Engagement, Continuous

Coupling size	Torque (kNm)	kW 100 rev/min	kW 960 rev/min	kW 1450 rev/min	Maximum rev/min un-balanced	Parallel offset capacity (mm)	Weight (kg) solid hubs (1)	Inertia WR^2 (kgm^2) solid hubs (1)
02	1.91	20	192	290	6000	0.70	5.8	0.008
03	4.12	43.1	414	625	5050	0.82	11.2	0.022
04	6.39	66.7	642	970	4150	0.91	19.4	0.053
05	10.69	112	1075	1625	3650	1.17	31.1	0.119
06	15.77	165	1585	2390	3200	1.27	52.0	0.257
07	23.88	250	2400	3625	2800	1.50	68.2	0.451
08	31.53	330	3170	4785	2600	1.62	91.4	0.627
09	44.87	470	4510	6815	2350	1.68	124	1.10
10	61.13	640	6145	9280	2100	1.82	162	1.92
11	81.1	850	8160	12320	1860	1.8	228	3.64
12	103	1080	10360	15640	1720	2.1	319	5.71
13	126	1320	12670	19140	1600	2.3	418	8.24
14	196	2050	19700	29760	1450	2.6	555	13.6
15	223	2340	22420	-	1370	2.8	645	16.9
16	293	3070	29460	-	1280	3.0	800	24.3
17	504	5280	50670	-	1170	3.3	1020	38.1
18	598	6270	60120	-	1110	3.5	1150	49.0
19	683	7160	68660	-	1050	3.8	1340	60.7
20	768	8050	77210	-	1010	4.1	1530	76.2
21	1210	12700	-	-	930	4.3	1930	109
22	1390	14600	-	-	882	4.6	2280	144
23	1590	16700	-	-	838	4.8	2660	184

Note:

(1) Weights and WR^2 are given for couplings with solid hubs ie fitted on steel shafts

Notes (for sizes 11 to 23 only):

The above rating information is for guidance only
For applications below -30°C or above 80°C contact David Brown Radicon

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Table 6 - Basic Ratings

X623 Single Engagement, Flanged

Coupling size	Torque (kNm)	kW 100 rev/min	kW 960 rev/min	kW 1450 rev/min	Maximum rev/min un-balanced	Parallel offset capacity (mm)	Weight (kg) solid hubs (1)	Inertia WR^2 (kgm^2) solid hubs (1)
02	1.91	20	192	290	4400	-	7.4	0.016
03	4.12	43.1	414	625	3700	-	14.3	0.040
04	6.39	66.7	642	970	3100	-	24.8	0.098
05	10.69	112	1075	1625	2600	-	37.8	0.185
06	15.77	165	1585	2390	2300	-	59.1	0.393
07	23.88	250	2400	3625	2050	-	84.0	0.729
08	31.53	330	3170	4785	1850	-	112	1.07
09	44.87	470	4510	6815	1700	-	159	1.96
10	61.13	640	6145	9280	1500	-	201	2.97
11	81.1	850	8160	-	1430	-	343	6.47
12	103	1080	10360	-	1340	-	450	8.65
13	126	1320	12670	-	1210	-	538	14.8
14	196	2050	19700	-	1120	-	705	23.3
15	223	2340	22420	-	1080	-	832	28.6
16	293	3070	29460	-	980	-	1040	44.9
17	504	5280	-	-	917	-	1310	66.1
18	598	6270	-	-	882	-	1470	82.0
19	683	7160	-	-	818	-	1700	118
20	768	8050	-	-	790	-	1930	138
21	1210	12700	-	-	742	-	2450	183
22	1390	14600	-	-	693	-	2900	260
23	1590	16700	-	-	665	-	3380	318

X629 Full Rigid Type

Coupling size	Torque (kNm)	kW 100 rev/min	kW 960 rev/min	kW 1450 rev/min	Maximum rev/min un-balanced	Parallel offset capacity (mm)	Weight (kg) solid hubs (1)	Inertia WR^2 (kgm^2) solid hubs (1)
02	-	-	-	-	6000	-	7.6	0.016
03	-	-	-	-	5050	-	14.9	0.042
04	-	-	-	-	4150	-	26.5	0.103
05	-	-	-	-	3650	-	40.1	0.197
06	-	-	-	-	3200	-	59.2	0.408
07	-	-	-	-	2800	-	89.0	0.779
08	-	-	-	-	2600	-	121	1.22
09	-	-	-	-	2350	-	171	2.17
10	-	-	-	-	2100	-	211	3.14
11	-	-	-	-	1430	-	391	6.97
12	-	-	-	-	1340	-	500	9.58
13	-	-	-	-	1210	-	595	16.4
14	-	-	-	-	1120	-	786	27.2
15	-	-	-	-	1080	-	936	33.4
16	-	-	-	-	980	-	1170	52.7
17	-	-	-	-	917	-	1470	77.6
18	-	-	-	-	882	-	1660	97.4
19	-	-	-	-	818	-	1930	143
20	-	-	-	-	790	-	2190	165
21	-	-	-	-	742	-	2800	218
22	-	-	-	-	693	-	3320	309
23	-	-	-	-	665	-	3820	378

Note:

(1) Weights and WR^2 are given for couplings with solid hubs ie fitted on steel shafts

Notes (for sizes 11 to 23 only):

The above rating information is for guidance only
For applications below -30°C or above 80°C (above 120°C for X629 rigid couplings) contact David Brown Radicon

Table 7 - Start / Stop Factor (Fs)

START /STOPS PER HOUR	UP TO 1	3	5	10	20	40	60	100
UNIDIRECTIONAL	1.0	0.90	0.85	0.77	0.70	0.64	0.59	0.55
REVERSING	0.71	0.65	0.61	0.55	0.50	0.46	0.42	0.39

Table 8 - Rating Factor (Fr)

COUPLING SPEED AS A PERCENTAGE OF THE TYPE 622 MAXIMUM ALLOWABLE UNBALANCED SPEED (1)	COUPLING RATING FACTOR						
	MISALIGNMENT PER MESH (DEGREES) (1)						
	0^{O}	0.25^{O}	0.5^{O}	0.75^{O}	1^{O}	1.25^{O}	1.5^{O}
0 TO 60%	2.0	1.85	1.56	1.24	1.0	0.64	0.38
70%	1.95	1.80	1.52	1.24	1.0	0.64	0.38
80%	1.83	1.70	1.42	1.12	0.95	0.64	0.38
90%	1.69	1.56	1.31	1.03	0.90	0.60	0.38
100%	1.50	1.38	1.28	0.95	0.80	0.55	0.36

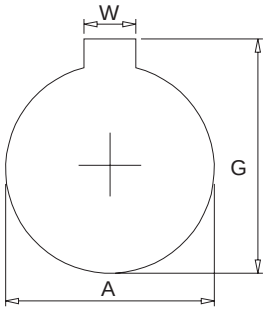
NOTE

(1) Intermediate values are obtained by linear interpolation

Table 9 - Coupling Maximum Speed (Rev/min)

COUPLING SIZE	MAXIMUM ALLOWABLE SPEED (REV/MIN)			
	TYPES 621 AND 623		TYPE 622	
	UNBALANCED	BALANCED	UNBALANCED	BALANCED
02	4400	8000	6000	11000
03	3700	6600	5050	9300
04	3100	5500	4150	7500
05	2600	4600	3650	6500
06	2300	4100	3200	5700
07	2050	3600	2800	5000
08	1850	3400	2600	4600
09	1700	3000	2350	4200
10	1500	2700	2100	3700

Table 10 - Metric Bore with Parallel Keyway Availability and Bore Dimensions (mm)



Column Entry 7,8,9,10 (dg) or 11,12,13,14 (dn)	Nominal Bore Diameter	X621, X622, X623 Flexible Gear Couplings & Halves									X623, X629 Rigid Type Couplings & Halves									Bore A	Parallel Square Keyway	
		02	03	04	05	06	07	08	09	10	02	03	04	05	06	07	08	09	10		Keyway Width W	Keyway Depth G
P - - -	Pilot	18	30	32	42	60	70	70	90	100	18	30	32	42	60	70	70	90	100	-	-	-
M 018	18	■									■									18.000/17.979	6.015/5.985	20.9/20.8
M 019	19	■									■									19.000/18.979	6.015/5.985	21.9/21.8
M 020	20	■									■									20.000/19.979	6.015/5.985	22.9/22.8
M 022	22	■									■									22.000/21.979	6.015/5.985	24.9/24.8

Column Entry 7,8,9,10 (dg) or 11,12,13,14 (dn)	Nominal Bore Diameter	X621, X622, X623 Flexible Gear Couplings & Halves									X623, X629 Rigid Type Couplings & Halves									Bore A	Parallel Rectangular Keyway	
		02	03	04	05	06	07	08	09	10	02	03	04	05	06	07	08	09	10		Keyway Width W	Keyway Depth G
M 024	24	■									■									24.000/23.979	8.018/7.982	27.5/27.3
M 025	25	■									■									25.000/24.979	8.018/7.982	28.5/28.3
M 028	28	■									■									28.000/27.979	8.018/7.982	31.5/31.3
M 030	30	■	■								■	■								30.000/29.979	8.018/7.982	33.5/33.3
M 032	32	■	■	■							■	■	■							32.000/31.975	10.018/9.982	35.5/35.3
M 035	35	■	■	■							■	■	■							35.000/34.975	10.018/9.982	38.5/38.3
M 038	38	■	■	■							■	■	■							38.000/37.975	10.018/9.982	41.5/41.3
M 040	40	■	■	■							■	■	■							40.000/39.975	12.021/11.979	43.5/43.3
M 042	42	■	■	■	■						■	■	■	■						42.000/41.975	12.021/11.979	45.5/45.3
M 045	45	■	■	■	■						■	■	■	■						45.000/44.975	14.021/13.979	49.0/48.8
M 048	48	■	■	■	■						■	■	■	■						48.000/47.975	14.021/13.979	52.0/51.8
M 050	50	■	■	■	■						■	■	■	■						50.000/49.975	14.021/13.979	54.0/53.8
M 055	55		■	■	■						■	■	■	■						55.009/54.979	16.021/15.979	59.5/59.3
M 056	56		■	■	■						■	■	■	■						56.009/55.979	16.021/15.979	60.5/60.3
M 060	60		■	■	■	■					■	■	■	■	■					60.009/59.979	18.021/17.979	64.6/64.4
M 063	63		■	■	■	■					■	■	■	■	■					63.009/62.979	18.021/17.979	67.5/67.4
M 065	65		■	■	■	■					■	■	■	■	■					65.009/64.979	18.021/17.979	69.5/69.4
M 070	70			■	■	■	■	■				■	■	■	■	■	■			70.009/69.979	20.026/19.974	75.1/74.9
M 071	71			■	■	■	■	■				■	■	■	■	■	■			71.009/70.979	20.026/19.974	76.1/75.9
M 075	75			■	■	■	■	■				■	■	■	■	■	■			75.009/74.979	20.026/19.974	80.1/79.9
M 080	80			■	■	■	■	■				■	■	■	■	■	■			80.009/79.979	22.026/21.974	85.6/85.4
M 085	85				■	■	■	■				■	■	■	■	■	■			85.010/84.975	22.026/21.974	90.6/90.4
M 090	90				■	■	■	■	■			■	■	■	■	■	■	■		90.010/89.975	25.026/24.974	95.6/95.4
M 095	95				■	■	■	■	■				■	■	■	■	■	■		95.010/94.975	25.026/24.974	100.6/100.4
M 100	100					■	■	■	■	■			■	■	■	■	■	■	■	100.010/99.975	28.026/27.974	106.6/106.4
M 105	105					■	■	■	■	■				■	■	■	■	■	■	105.010/104.975	28.026/27.974	111.6/111.4
M 110	110					■	■	■	■	■				■	■	■	■	■	■	110.010/109.975	28.026/27.974	116.6/116.4
M 115	115						■	■	■	■				■	■	■	■	■	■	115.010/114.975	32.031/31.969	122.6/122.4
M 120	120						■	■	■	■				■	■	■	■	■	■	120.010/119.975	32.031/31.969	127.6/127.4
M 125	125						■	■	■	■				■	■	■	■	■	■	125.012/124.972	32.031/31.969	132.6/132.4
M 130	130						■	■	■	■					■	■	■	■	■	130.012/129.972	32.031/31.969	137.6/137.4
M 135	135							■	■	■					■	■	■	■	■	135.012/134.972	36.031/35.969	143.7/143.4
M 140	140							■	■	■					■	■	■	■	■	140.012/139.972	36.031/35.969	148.7/148.4
M 145	145								■	■					■	■	■	■	■	145.012/144.972	36.031/35.969	153.7/153.4
M 150	150								■	■						■	■	■	■	150.012/149.972	36.031/35.969	158.7/158.4
M 155	155								■	■						■	■	■	■	155.012/154.972	40.031/39.969	164.7/164.4
M 160	160									■						■	■	■	■	160.012/159.972	40.031/39.969	169.7/169.4
M 165	165									■							■	■	■	165.012/164.972	40.031/39.969	174.7/174.4
M 170	170									■							■	■	■	170.012/169.972	40.031/39.969	179.7/179.4
M 175	175									▒								▒	▒	175.012/174.972	45.031/44.969	185.7/185.4
M 180	180																	▒	▒	180.012/179.972	45.031/44.969	190.7/190.4
M 185	185																		▒	185.013/184.967	45.031/44.969	195.7/195.4
M 190	190																		▒	190.013/189.967	45.031/44.969	200.7/200.4
M 195	195																		▒	195.013/194.967	45.031/44.969	205.7/205.4
M 200	200																		▒	200.013/199.967	45.031/44.969	210.7/210.4
M 205	205																		▒	205.013/204.967	50.031/49.969	216.7/216.4
M 210	210																		▒	210.013/209.967	50.031/49.969	221.7/221.4
M 215	215																		▒	215.013/214.967	50.031/49.969	226.7/226.4
M 220	220																		▒	220.013/219.967	50.031/49.969	231.7/231.4
M 225	225																		▒	225.013/224.967	50.031/49.969	236.7/236.4

dg - Driving half

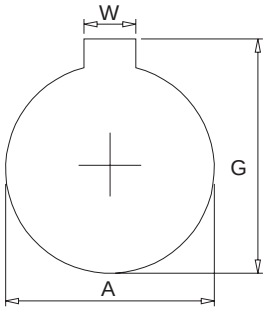
dn - Driven half

■ - Available Ex Stock

▒ - Non Preferred

Metric Standard Bores are to ISO 286 - 2 - 1988 (E)
M7 up to and including 50 mm
K7 over 50 mm
Metric Standard keyways are to BS 4235 : Part 1 : 1972 and DIN 6885

Table 11 - Inch Bore with Parallel Keyway Availability and Bore Dimensions



Column Entry 7,8,9,10 (dg) or 11,12,13,14 (dn)	Nominal Bore Diameter	X621, X622, X623 Flexible Gear Couplings & Halves									X623, X629 Rigid Type Couplings & Halves									Bore A	Parallel Square Keyway	
		02	03	04	05	06	07	08	09	10	02	03	04	05	06	07	08	09	10		Keyway Width W	Keyway Depth G
P - - -	Pilot (mm)	18	30	32	42	60	70	70	90	100	18	30	32	42	60	70	70	90	100	-	-	-
I 019	0.75	■									■									.7498/.7493	.189/188	.844/.838
I 021	0.8125	▒									▒									.8123/.8118	.251/.250	.934/.928
I 022	0.875	■									■									.8748/.8743	.251/.250	.996/.990
I 024	0.9375	▒									▒									.9373/.9368	.251/.250	1.059/1.053
I 025	1.0	■									■									.9998/.9993	.251/.250	1.121/1.115

Column Entry 7,8,9,10 (dg) or 11,12,13,14 (dn)	Nominal Bore Diameter	X621, X622, X623 Flexible Gear Couplings & Halves									X623, X629 Rigid Type Couplings & Halves									Bore A	Parallel Rectangular Keyway	
		02	03	04	05	06	07	08	09	10	02	03	04	05	06	07	08	09	10		Keyway Width W	Keyway Depth G
I 027	1.0625	▒									▒									1.0623/1.0618	.313/.312	1.181/1.175
I 029	1.125	■									■									1.1248/1.1243	.313/.312	1.243/1.237
I 030	1.1875	▒	▒								▒	▒								1.1873/1.1868	.313/.312	1.306/1.300
I 032	1.25	■	■	■							■	■	■							1.2498/1.2492	.313/.312	1.368/1.362
I 033	1.3125	▒	▒	▒							▒	▒	▒							1.3123/1.3117	.376/.375	1.427/1.421
I 035	1.375	■	■	■							■	■	■							1.3748/1.3742	.376/.375	1.489/1.483
I 037	1.4375	▒	▒	▒							▒	▒	▒							1.4373/1.4367	.376/.375	1.552/1.546
I 038	1.5	■	■	■							■	■	■							1.4998/1.4992	.376/.375	1.614/1.608
I 041	1.625	■	■	■	■						■	■	■	■						1.6248/1.6242	.439/.438	1.766/1.760
I 044	1.75	■	■	■	■						■	■	■	■						1.7498/1.7492	.439/.438	1.891/1.885
I 048	1.875	■	■	■	■						■	■	■	■						1.8748/1.8742	.501/.500	2.012/2.006
I 051	2.0		■	■	■						■	■	■	■						2.0001/1.9994	.501/.500	2.137/2.131
I 054	2.125		■	■	■						■	■	■	■						2.1251/2.1244	.626/.625	2.316/2.310
I 057	2.25		■	■	■						■	■	■	■						2.2501/2.2494	.626/.625	2.441/2.435
I 060	2.375		■	■	■	■					■	■	■	■	■					2.3751/2.3744	.626/.625	2.566/2.560
I 064	2.5		■	■	■	■					■	■	■	■	■					2.5001/2.4994	.626/.625	2.691/2.685
I 067	2.625			■	■	■						■	■	■	■					2.6251/2.6244	.751/.750	2.840/2.834
I 070	2.75			■	■	■	■	■				■	■	■	■	■	■			2.7501/2.7494	.751/.750	2.965/2.959
I 073	2.875			■	■	■	■	■				■	■	■	■	■	■			2.8751/2.8744	.751/.750	3.090/3.084
I 076	3.0			■	■	■	■	■				■	■	■	■	■	■			3.0001/2.9994	.751/.750	3.215/3.209
I 079	3.125				■	■	■	■				■	■	■	■	■	■			3.1251/3.1244	.876/.875	3.395/3.389
I 083	3.25				■	■	■	■				■	■	■	■	■	■			3.2502/3.2493	.876/.875	3.520/3.489
I 086	3.375				■	■	■	■				■	■	■	■	■	■			3.3752/3.3743	.876/.875	3.645/3.639
I 089	3.5				■	■	■	■	■			■	■	■	■	■	■	■		3.5002/3.4993	.876/.875	3.770/3.764
I 092	3.625					■	■	■	■				■	■	■	■	■	■		3.6252/3.6243	1.001/1.000	3.949/3.943
I 095	3.75					■	■	■	■				■	■	■	■	■	■		3.7502/3.7493	1.001/1.000	4.074/4.068
I 098	3.875					■	■	■	■				■	■	■	■	■	■		3.8752/3.8743	1.001/1.000	4.199/4.193
I 102	4.0					■	■	■	■	■				■	■	■	■	■	■	4.0002/3.9993	1.001/1.000	4.324/4.318
I 105	4.125					■	■	■	■	■				■	■	■	■	■	■	4.1252/4.1243	1.252/1.250	4.497/4.491
I 108	4.25					■	■	■	■	■				■	■	■	■	■	■	4.2502/4.2493	1.252/1.250	4.622/4.616
I 111	4.375					■	■	■	■	■				■	■	■	■	■	■	4.3752/4.3743	1.252/1.250	4.747/4.741
I 114	4.5						■	■	■	■				■	■	■	■	■	■	4.5002/4.4993	1.252/1.250	4.972/4.866
I 117	4.625						▒	▒	▒	▒				▒	▒	▒	▒	▒	▒	4.6252/4.6243	1.252/1.250	4.997/4.991
I 121	4.75						■	■	■	■				■	■	■	■	■	■	4.7502/4.7492	1.252/1.250	5.122/5.116
I 124	4.875						▒	▒	▒	▒				▒	▒	▒	▒	▒	▒	4.8752/4.8742	1.252/1.250	5.247/5.241
I 127	5.0						■	■	■	■					■	■	■	■	■	5.0002/4.9992	1.252/1.250	5.372/5.366
I 130	5.125							▒	▒	▒					▒	▒	▒	▒	▒	5.1252/5.1242	1.502/1.500	5.543/5.537
I 133	5.25							■	■	■					■	■	■	■	■	5.2502/5.2492	1.502/1.500	5.668/5.662
I 137	5.375							▒	▒	▒					▒	▒	▒	▒	▒	5.3752/5.3742	1.502/1.500	5.793/5.787
I 140	5.5							■	■	■					■	■	■	■	■	5.5002/5.4992	1.502/1.500	5.918/5.912
I 143	5.625								▒	▒					▒	▒	▒	▒	▒	5.6252/5.6242	1.502/1.500	6.043/6.037
I 146	5.75								■	■						■	■	■	■	5.7502/5.7492	1.502/1.500	6.168/6.162
I 149	5.875								▒	▒						▒	▒	▒	▒	5.8752/5.8742	1.502/1.500	6.293/6.287
I 152	6.0								■	■						■	■	■	■	6.0002/5.9992	1.502/1.500	6.418/6.412
I 156	6.125									▒						▒	▒	▒	▒	6.1252/6.1242	1.752/1.750	6.657/6.651
I 159	6.25									■						■	■	■	■	6.2502/6.2492	1.752/1.750	6.782/6.776
I 162	6.375									▒							▒	▒	▒	6.3752/6.3742	1.752/1.750	6.907/6.901
I 165	6.5									■							■	■	■	6.5002/6.4992	1.752/1.750	7.032/7.026
I 178	7.0																▒	▒	▒	7.0002/6.9992	1.752/1.750	7.532/7.526
I 191	7.5																	▒	▒	7.5002/7.4990	2.002/2.000	8.079/8.073
I 203	8.0																		▒	8.0002/7.9990	2.002/2.000	8.579/8.573
I 216	8.5																		▒	8.5002/8.4990	2.252/2.250	9.127/9.119

dg - Driving half

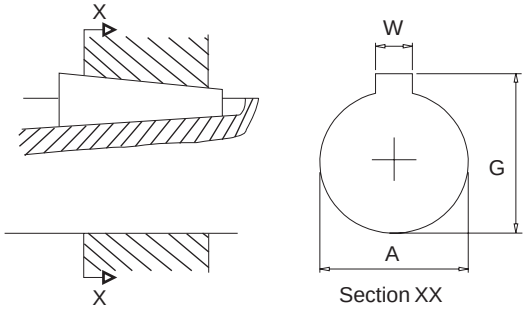
dn - Driven half

■ - Available Ex Stock

▒ - Non Preferred

Imperial Standard Bores are to BS 1916
M6 up to and including 1.97 inches
K6 over 1.97 inches
Imperial Standard keyways are to BS 46 : Part 1 : 1958

Table 12 - Metric Bore with Taper Keyway Availability and Bore Dimensions (mm)



Column Entry 7,8,9,10 (dg) or 11,12,13,14 (dn)	Nominal Bore Diameter	X621, X622, X623 Flexible Gear Couplings & Halves									X623, X629 Rigid Type Couplings & Halves									Bore A	Taper Square Keyway	
		02	03	04	05	06	07	08	09	10	02	03	04	05	06	07	08	09	10		Keyway Width W	Keyway Depth G
P - - -	Pilot	18	30	32	42	60	70	70	90	100	18	30	32	42	60	70	70	90	100	-	-	-
T 018	18	■									■									18.000/17.979	6.015/5.985	20.4/20.2
T 019	19	■									■									19.000/18.979	6.015/5.985	21.4/21.2
T 020	20	■									■									20.000/19.979	6.015/5.985	22.4/22.2
T 022	22	■									■									22.000/21.979	6.015/5.985	24.4/24.2

Column Entry 7,8,9,10 (dg) or 11,12,13,14 (dn)	Nominal Bore Diameter	X621, X622, X623 Flexible Gear Couplings & Halves									X623, X629 Rigid Type Couplings & Halves									Bore A	Taper Rectangular Keyway	
		02	03	04	05	06	07	08	09	10	02	03	04	05	06	07	08	09	10		Keyway Width W	Keyway Depth G
T 024	24	■									■									24.000/23.979	8.018/7.982	26.6/26.4
T 025	25	■									■									25.000/24.979	8.018/7.982	27.6/27.4
T 028	28	■									■									28.000/27.979	8.018/7.982	30.6/30.4
T 030	30	■	■								■	■								30.000/29.979	8.018/7.982	32.6/32.4
T 032	32	■	■	■							■	■	■							32.000/31.975	10.018/9.982	34.6/34.4
T 035	35	■	■	■							■	■	■							35.000/34.975	10.018/9.982	37.6/37.4
T 038	38	■	■	■							■	■	■							38.000/37.975	10.018/9.982	40.6/40.4
T 040	40	■	■	■							■	■	■							40.000/39.975	12.021/11.979	42.6/42.4
T 042	42	■	■	■	■						■	■	■	■						42.000/41.975	12.021/11.979	44.6/44.4
T 045	45	■	■	■	■						■	■	■	■						45.000/44.975	14.021/13.979	48.1/47.9
T 048	48	■	■	■	■						■	■	■	■						48.000/47.975	14.021/13.979	51.1/50.9
T 050	50	■	■	■	■						■	■	■	■						50.000/49.975	14.021/13.979	53.1/52.9
T 055	55		■	■	■						■	■	■	■						55.009/54.979	16.021/15.979	58.6/58.4
T 056	56		■	■	■						■	■	■	■						56.009/55.979	16.021/15.979	59.6/59.4
T 060	60		■	■	■	■					■	■	■	■	■					60.009/59.979	18.021/17.979	63.6/63.4
T 063	63		■	■	■	■					■	■	■	■	■					63.009/62.979	18.021/17.979	66.6/66.4
T 065	65		■	■	■	■					■	■	■	■	■					65.009/64.979	18.021/17.979	68.6/68.4
T 070	70			■	■	■	■	■				■	■	■	■	■	■			70.009/69.979	20.026/19.974	74.1/73.9
T 071	71			■	■	■	■	■				■	■	■	■	■	■			71.009/70.979	20.026/19.974	75.1/74.9
T 075	75			■	■	■	■	■				■	■	■	■	■	■			75.009/74.979	20.026/19.974	79.1/78.9
T 080	80			■	■	■	■	■				■	■	■	■	■	■			80.009/79.979	22.026/21.974	84.6/84.4
T 085	85				■	■	■	■				■	■	■	■	■	■			85.010/84.975	22.026/21.974	89.6/89.4
T 090	90				■	■	■	■	■			■	■	■	■	■	■	■		90.010/89.975	25.026/24.974	94.6/94.4
T 095	95				■	■	■	■	■				■	■	■	■	■	■		95.010/94.975	25.026/24.974	96.6/94.4
T 100	100					■	■	■	■	■			■	■	■	■	■	■	■	100.010/99.975	28.026/27.974	106.6/106.4
T 105	105					■	■	■	■	■				■	■	■	■	■	■	105.010/104.975	28.026/27.974	110.6/110.4
T 110	110					■	■	■	■	■				■	■	■	■	■	■	110.010/109.975	28.026/27.974	115.6/115.4
T 115	115						■	■	■	■				■	■	■	■	■	■	115.010/114.975	32.031/31.969	121.7/121.4
T 120	120						■	■	■	■				■	■	■	■	■	■	120.010/119.975	32.031/31.969	126.7/126.4
T 125	125						■	■	■	■				■	■	■	■	■	■	125.012/124.972	32.031/31.969	131.7/131.4
T 130	130						■	■	■	■					■	■	■	■	■	130.012/129.972	32.031/31.969	136.7/136.4
T 135	135							■	■	■					■	■	■	■	■	135.012/134.972	36.031/35.969	142.4/142.1
T 140	140							■	■	■					■	■	■	■	■	140.012/139.972	36.031/35.969	147.4/147.1
T 145	145								■	■					■	■	■	■	■	145.012/144.972	36.031/35.969	152.4/152.1
T 150	150								■	■						■	■	■	■	150.012/149.972	36.031/35.969	157.4/157.1
T 155	155								■	■						■	■	■	■	155.012/154.972	40.031/39.969	163.4/164.4
T 160	160									■						■	■	■	■	160.012/159.972	40.031/39.969	168.4/168.1
T 165	165									■							■	■	■	165.012/164.972	40.031/39.969	173.4/173.1
T 170	170									■							■	■	■	170.012/169.972	40.031/39.969	178.4/178.1
T 175	175									▒								▒	▒	175.012/174.972	45.031/44.969	184.4/184.1
T 180	180																▒	▒	▒	180.012/179.972	45.031/44.969	189.4/189.1
T 185	185																	▒	▒	185.013/184.967	45.031/44.969	194.4/194.1
T 190	190																	▒	▒	190.013/189.967	45.031/44.969	199.4/199.1
T 195	195																	▒	▒	195.013/194.967	45.031/44.969	204.4/204.1
T 200	200																		▒	200.013/199.967	45.031/44.969	209.4/209.1
T 205	205																		▒	205.013/204.967	50.031/49.969	215.4/215.1
T 210	210																		▒	210.013/209.967	50.031/49.969	220.4/220.1
T 215	215																		▒	215.013/214.967	50.031/49.969	225.4/225.1
T 220	220																		▒	220.013/219.967	50.031/49.969	230.4/230.1
T 225	225																		▒	225.013/224.967	50.031/49.969	235.4/235.1

dg - Driving half

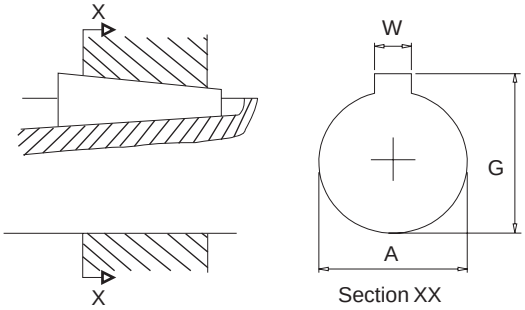
dn - Driven half

■ - Available Ex Stock

▒ - Non Preferred

Metric Standard Bores are to ISO 286 - 2 - 1988 (E)
M7 up to and including 50 mm
K7 over 50 mm
Metric Standard keyways are to BS 4235 : Part 1 : 1972 and DIN 6885

Table 13 - Inch Bore with Taper Keyway Availability and Bore Dimensions



Column Entry 7,8,9,10 (dg) or 11,12,13,14 (dn)	Nominal Bore Diameter	X621, X622, X623 Flexible Gear Couplings & Halves									X623, X629 Rigid Type Couplings & Halves									Bore A	Taper Square Keyway	
		02	03	04	05	06	07	08	09	10	02	03	04	05	06	07	08	09	10		Keyway Width W	Keyway Depth G
P - - -	Pilot (mm)	18	30	32	42	60	70	70	90	100	18	30	32	42	60	70	70	90	100	-	-	-
B 019	0.75	■									■									.7498/.7493	.189/188	.823/.817
B 021	0.8125	□									□									.8123/.8118	.251/.250	.913/.907
B 022	0.875	■									■									.8748/.8743	.251/.250	.975/.969
B 024	0.9375	□									□									.9373/.9368	.251/.250	1.038/1.032
B 025	1.0	■									■									.9998/.9993	.251/.250	1.100/1.094

Column Entry 7,8,9,10 (dg) or 11,12,13,14 (dn)	Nominal Bore Diameter	X621, X622, X623 Flexible Gear Couplings & Halves									X623, X629 Rigid Type Couplings & Halves									Bore A	Taper Rectangular Keyway	
		02	03	04	05	06	07	08	09	10	02	03	04	05	06	07	08	09	10		Keyway Width W	Keyway Depth G
B 027	1.0625	□									□									1.0623/1.0618	.313/.312	1.159/1.153
B 029	1.125	■									■									1.1248/1.1243	.313/.312	1.221/1.215
B 030	1.1875	□	□								□	□								1.1873/1.1868	.313/.312	1.284/1.278
B 032	1.25	■	■	■							■	■	■							1.2498/1.2492	.313/.312	1.346/1.340
B 033	1.3125	□	□	□							□	□	□							1.3123/1.3117	.376/.375	1.405/1.399
B 035	1.375	■	■	■							■	■	■							1.3748/1.3742	.376/.375	1.467/1.461
B 037	1.4375	□	□	□							□	□	□							1.4373/1.4367	.376/.375	1.530/1.524
B 038	1.5	■	■	■							■	■	■							1.4998/1.4992	.376/.375	1.592/1.586
B 041	1.625	■	■	■	■						■	■	■	■						1.6248/1.6242	.439/.438	1.743/1.737
B 044	1.75	■	■	■	■						■	■	■	■						1.7498/1.7492	.439/.438	1.868/1.862
B 048	1.875	■	■	■	■						■	■	■	■						1.8748/1.8742	.501/.500	1.989/1.983
B 051	2.0		■	■	■						■	■	■	■						2.0001/1.9994	.501/.500	2.114/2.108
B 054	2.125		■	■	■						■	■	■	■						2.1251/2.1244	.626/.625	2.293/2.287
B 057	2.25		■	■	■						■	■	■	■						2.2501/2.2494	.626/.625	2.418/2.412
B 060	2.375		■	■	■	■					■	■	■	■	■					2.3751/2.3744	.626/.625	2.543/2.537
B 064	2.5		■	■	■	■					■	■	■	■	■					2.5001/2.4994	.626/.625	2.668/2.662
B 067	2.625			■	■	■						■	■	■	■					2.6251/2.6244	.751/.750	2.816/2.810
B 070	2.75			■	■	■	■	■				■	■	■	■	■	■			2.7501/2.7494	.751/.750	2.941/2.935
B 073	2.875			■	■	■	■	■				■	■	■	■	■	■			2.8751/2.8744	.751/.750	3.066/3.060
B 076	3.0			■	■	■	■	■				■	■	■	■	■	■			3.0001/2.9994	.751/.750	3.191/3.185
B 079	3.125			■	■	■	■	■				■	■	■	■	■	■			3.1251/3.1244	.876/.875	3.370/3.364
B 083	3.25				■	■	■	■				■	■	■	■	■	■			3.2502/3.2493	.876/.875	3.495/3.489
B 086	3.375				■	■	■	■				■	■	■	■	■	■			3.3752/3.3743	.876/.875	3.620/3.614
B 089	3.5				■	■	■	■	■			■	■	■	■	■	■	■		3.5002/3.4993	.876/.875	3.745/3.739
B 092	3.625					■	■	■	■				■	■	■	■	■	■		3.6252/3.6243	1.001/1.000	3.924/3.918
B 095	3.75					■	■	■	■				■	■	■	■	■	■		3.7502/3.7493	1.001/1.000	4.049/4.043
B 098	3.875					■	■	■	■				■	■	■	■	■	■		3.8752/3.8743	1.001/1.000	4.174/4.168
B 102	4.0					■	■	■	■	■				■	■	■	■	■	■	4.0002/3.9993	1.001/1.000	4.299/4.293
B 105	4.125					■	■	■	■	■				■	■	■	■	■	■	4.1252/4.1243	1.252/1.250	4.471/4.465
B 108	4.25					■	■	■	■	■				■	■	■	■	■	■	4.2502/4.2493	1.252/1.250	4.596/4.590
B 111	4.375					■	■	■	■	■				■	■	■	■	■	■	4.3752/4.3743	1.252/1.250	4.721/4.715
B 114	4.5						■	■	■	■				■	■	■	■	■	■	4.5002/4.4993	1.252/1.250	4.846/4.840
B 117	4.625						□	□	□	□				□	□	□	□	□	□	4.6252/4.6243	1.252/1.250	4.971/4.965
B 121	4.75						■	■	■	■				■	■	■	■	■	■	4.7502/4.7492	1.252/1.250	5.096/5.090
B 124	4.875						□	□	□	□				□	□	□	□	□	□	4.8752/4.8742	1.252/1.250	5.221/5.215
B 127	5.0						■	■	■	■					■	■	■	■	■	5.0002/4.9992	1.252/1.250	5.346/5.340
B 130	5.125							□	□	□					□	□	□	□	□	5.1252/5.1242	1.502/1.500	5.524/5.518
B 133	5.25							■	■	■					■	■	■	■	■	5.2502/5.2492	1.502/1.500	5.640/5.634
B 137	5.375							□	□	□					□	□	□	□	□	5.3752/5.3742	1.502/1.500	5.774/5.768
B 140	5.5							■	■	■					■	■	■	■	■	5.5002/5.4992	1.502/1.500	5.890/5.884
B 143	5.625								□	□					□	□	□	□	□	5.6252/5.6242	1.502/1.500	6.024/6.018
B 146	5.75								■	■						■	■	■	■	5.7502/5.7492	1.502/1.500	6.140/6.134
B 149	5.875								□	□						□	□	□	□	5.8752/5.8742	1.502/1.500	6.274/6.268
B 152	6.0								■	■						■	■	■	■	6.0002/5.9992	1.502/1.500	6.390/6.384
B 156	6.125									□						□	□	□	□	6.1252/6.1242	1.752/1.750	6.624/6.618
B 169	6.25									■						■	■	■	■	6.2502/6.2492	1.752/1.750	6.749/6.743
B 162	6.375									□							□	□	□	6.3752/6.3742	1.752/1.750	6.874/6.868
B 165	6.5									■							■	■	■	6.5002/6.4992	1.752/1.750	6.999/6.993
B 178	7.0																□	□	□	7.0002/6.9992	1.752/1.750	7.499/7.493
B 191	7.5																	□	□	7.5002/7.4990	2.002/2.000	8.045/8.039
B 203	8.0																		□	8.0002/7.9990	2.002/2.000	8.545/8.539
B 216	8.5																		□	8.5002/8.4990	2.252/2.250	9.089/9.081

dg - Driving half

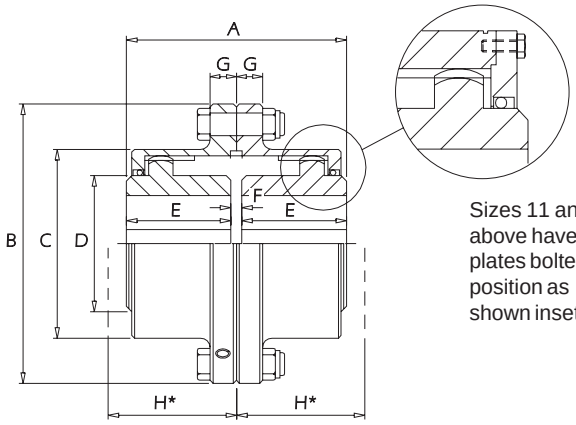
dn - Driven half

■ - Available Ex Stock

□ - Non Preferred

Imperial Standard Bores are to BS 1916
M6 up to and including 1.97 inches
K6 over 1.97 inches
Imperial Standard keyways are to BS 46 : Part 1 : 1958

Table 14 - Coupling Dimensions & Lubrication Quantities
X621 Flexible Double Engagement Flanged



Sizes 11 and above have end plates bolted in position as shown inset.

Coupling Size Column Entry 5 & 6	Max. bore	Min. bore	Hub length E	A	B	C	D	F	G	H*	Grease Weight (kg)	Oil Volume (litres)
02	50	18	49	101	152	95	73	3	15	61	0.082	0.096
03	65	30	62	127	178	121	92	3	19	77	0.154	0.176
04	80	32	77	158	213	143	108	4	22	92	0.209	0.240
05	95	42	91	187	240	172	130	5	22	108	0.363	0.410
06	110	60	106	218	279	194	152	6	27	127	0.453	0.530
07	130	70	120	247	318	227	178	7	27	140	0.770	0.910
08	140	70	135	278	346	252	190	8	27	156	0.950	1.080
09	155	90	153	314	389	286	216	8	27	175	1.680	1.870
10	175	100	168	344	421	311	241	8	27	194	2.260	2.610
11	200	100	200	408	475	365	270	8	26	-	-	2.8
12	220	100	220	450	505	395	300	10	26	-	-	3.4
13	240	As Required	240	490	560	425	330	10	33	-	-	3.9
14	260		260	530	605	470	360	10	33	-	-	5.8
15	280		275	562	630	495	390	12	33	-	-	6.4
16	300		295	602	690	530	420	12	39	-	-	7.4
17	320		315	642	740	580	450	12	39	-	-	10.8
18	340		335	682	770	610	480	12	39	-	-	12.2
19	360		355	722	830	645	510	12	46	-	-	13.9
20	380		375	762	860	675	540	12	46	-	-	15.7
21	400		390	800	915	730	580	20	46	-	-	22.2
22	420		410	840	980	770	620	20	52	-	-	24.5
23	440		430	880	1020	810	660	20	52	-	-	27.6

Note:

* Clearance for aligning

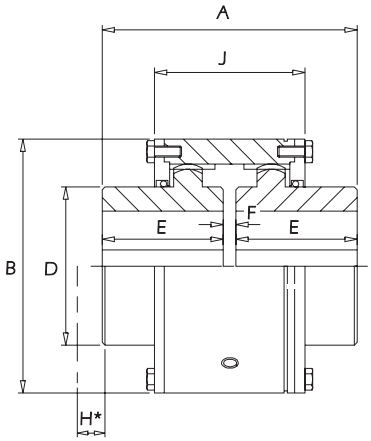
Please refer to the Installation and Maintenance Manual for oils and greases approved for use in this coupling

Notes (for sizes 11 to 23 only):

The above bore dimensions are for guidance only

Consult David Brown Radicon when an imperial bore and keyway to BS 46 is required in a coupling with near maximum bore. Generally the depth of the keyway is greater that of the metric keyways, hence the maximum bores given must be marginally reduced

Table 15 - Coupling Dimensions & Lubrication Quantities
X622 Flexible Double Engagement Continuous



Coupling Size Column Entry 5 & 6	Max. bore	Min. bore	Hub length E	A	B	D	F	H*	J	Grease Weight (kg)	Oil Volume (litres)
02	50	18	49	101	111	73	3	34	76	0.041	0.045
03	65	30	62	127	137	92	3	31	85	0.086	0.096
04	80	32	77	158	162	108	4	29	99	0.140	0.160
05	95	42	91	187	190	130	5	38	124	0.210	0.240
06	110	60	106	218	219	152	6	34	134	0.260	0.290
07	130	70	120	247	248	178	7	38	153	0.500	0.570
08	140	70	135	278	273	190	8	35	166	0.540	0.620
09	155	90	153	314	302	216	8	26	173	0.860	0.960
10	175	100	168	344	327	241	8	23	185	1.040	1.190
11	200	100	200	408	365	270	8	24	228	-	1.3
12	220	100	220	450	395	300	10	28	252	-	1.7
13	240	As Required	240	490	425	330	10	30	274	-	2.2
14	260		260	530	470	360	10	38	308	-	3.2
15	280		275	562	495	390	12	37	322	-	3.6
16	300		295	602	530	420	12	39	344	-	4.4
17	320		315	642	580	450	12	47	372	-	6.4
18	340		335	682	610	480	12	51	396	-	7.5
19	360		355	722	645	510	12	57	428	-	8.8
20	380		375	762	675	540	12	61	452	-	10.1
21	400		390	800	730	580	20	72	478	-	14.6
22	420		410	840	770	620	20	78	504	-	16.2
23	440		430	880	810	660	20	84	530	-	18.1

Note:

* Clearance for aligning

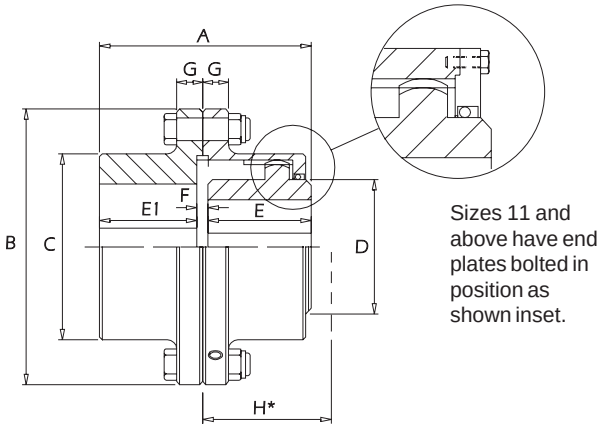
Please refer to the Installation and Maintenance Manual for oils and greases approved for use in this coupling

Notes (for sizes 11 to 23 only):

The above bore dimensions are for guidance only

Consult David Brown Radicon when an imperial bore and keyway to BS 46 is required in a coupling with near maximum bore. Generally the depth of the keyway is greater that of the metric keyways, hence the maximum bores given must be marginally reduced

Table 16 - Coupling Dimensions & Lubrication Quantities
X623 Flexible Single Engagement Flanged



Coupling Size Column Entry 5 & 6	Flexible Half Max. bore	Flexible Half Min. bore	Hub length E	Rigid Half Max. bore	Rigid Half Min. bore	Hub length E1	A	B	C	D	F	G	H*	Grease Weight (kg)	Oil Volume (litres)
02	50	18	49	65	18	44	98	152	95	73	5	15	61	0.041	0.048
03	65	30	62	90	30	56	123	178	121	92	5	19	77	0.077	0.088
04	80	32	77	100	32	73	155	213	143	108	5	22	92	0.105	0.120
05	95	42	91	125	42	85	182	240	172	130	6	22	108	0.182	0.205
06	110	60	106	145	60	100	212	279	194	152	6	27	127	0.228	0.265
07	130	70	120	160	70	114	241	318	227	178	7	27	140	0.385	0.455
08	140	70	135	180	70	127	270	346	252	190	8	27	156	0.475	0.540
09	155	90	153	200	90	147	308	389	286	216	8	27	175	0.840	0.935
10	175	100	168	225	100	156	332	421	311	241	8	27	194	1.130	1.305
11	200	100	200	260	100	198	408	475	365	270	10	26	-	-	1.7
12	220	100	220	280	100	217	450	505	395	300	13	26	-	-	2.0
13	240	As Required	240	300	As Required	237	490	560	425	330	13	33	-	-	2.4
14	260		260	330		257	530	605	470	460	13	33	-	-	3.3
15	280		275	350		273	562	630	495	390	14	33	-	-	3.7
16	300		295	370		293	602	690	530	420	14	39	-	-	4.4
17	320		315	400		311	642	740	580	450	16	39	-	-	6.3
18	340		335	415		331	682	770	610	480	16	39	-	-	7.1
19	360		355	430		351	722	830	645	510	16	46	-	-	8.0
20	380		375	450		371	762	860	675	540	16	46	-	-	9.1
21	400		390	480		390	800	915	730	580	20	46	-	-	12.3
22	420		410	510		410	840	980	770	620	20	52	-	-	13.6
23	440		430	540		430	880	1020	810	660	20	52	-	-	15.0

Note:

* Clearance for aligning

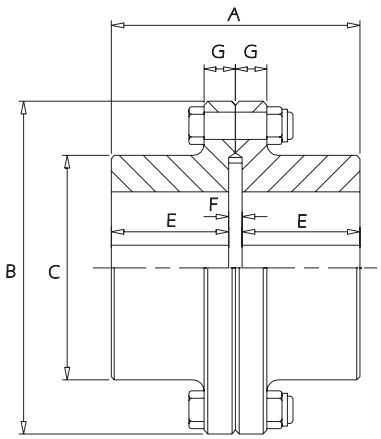
Please refer to the Installation and Maintenance Manual for oils and greases approved for use in this coupling

Notes (for sizes 11 to 23 only):

The above bore dimensions are for guidance only

Consult David Brown Radicon when an imperial bore and keyway to BS 46 is required in a coupling with near maximum bore. Generally the depth of the keyway is greater that of the metric keyways, hence the maximum bores given must be marginally reduced

Table 17 - Coupling Dimensions X629 Full Rigid



Coupling Size Column Entry 5 & 6	Max. bore	Min. bore	Hub length E	A	B	C	F	G
02	65	18	44	95	152	95	7	15
03	90	30	56	119	178	121	7	19
04	100	32	73	153	213	143	7	22
05	125	42	85	177	240	172	7	22
06	145	60	100	206	279	194	6	27
07	160	70	114	235	318	227	7	27
08	180	70	127	262	346	252	8	27
09	200	90	147	302	389	286	8	27
10	225	100	156	320	421	311	8	27
11	260	As Required	198	408	475	365	12	26
12	280		217	450	505	395	16	26
13	300		237	490	560	425	16	33
14	330		257	530	605	470	16	33
15	350		273	562	630	495	16	33
16	370		293	602	690	530	16	39
17	400		311	642	740	580	20	39
18	415		331	682	770	610	20	39
19	430		351	722	830	645	20	46
20	450		371	762	860	675	20	46
21	480		390	800	915	730	20	46
22	510		410	840	980	770	20	52
23	540		430	880	1020	810	20	52

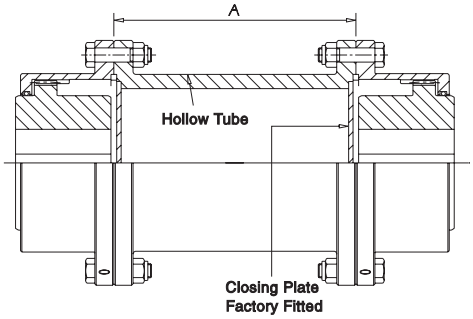
Notes (for sizes 11 to 23 only):

The above bore dimensions are for guidance only

Consult David Brown Radicon when an imperial bore and keyway to BS 46 is required in a coupling with near maximum bore. Generally the depth of the keyway is greater that of the metric keyways, hence the maximum bores given must be marginally reduced

Table 18 - Coupling Dimensions

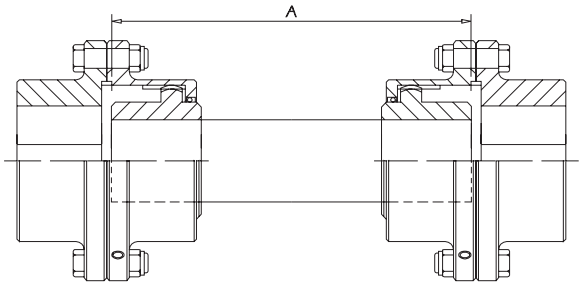
Type X621 Spacer Coupling



Dimension A

Type X621 double engagement flanged couplings can be fitted with a spacer coupling to suit customers requirements, please contact David Brown Radicon with details of application.

Type X623, X629 Cardan Shaft



Dimension A

Type X623 single engagement flanged couplings and X629 rigid couplings can be fitted with a cardan shaft to suit customers requirements, please contact David Brown Radicon with details of application.

Table 19 - Bolt and Screw Details

Coupling Size Column Entry 5 & 6	Flange Bolts Types X621, X623 and X629					Sleeve Housing Screws Types X621, X622 and X623				
	Quantity	Size	Pitch	Length	Tightening Torque (Nm)	Quantity Per Half	Size	Pitch	Length	Tightening Torque (Nm)
02	8	M10	1.5	45	56	4	M6	1.0	12	12.5
03	6	M12	1.75	55	90	6	M6	1.0	12	12.5
04	6	M16	2.0	65	226	6	M8	1.25	16	25.5
05	8	M16	2.0	65	226	8	M8	1.25	16	25.5
06	8	M20	2.5	80	450	6	M10	1.5	20	56
07	8	M20	2.5	80	450	8	M10	1.5	20	56
08	10	M20	2.5	80	450	8	M10	1.5	20	56
09	8	M24	3.0	80	790	10	M10	1.5	20	56
10	14	M24	3.0	80	790	10	M10	1.5	20	56
11	14	M24	3.0	80	790	10	M10	1.5	30	56
12	16	M24	3.0	80	790	10	M10	1.5	30	56
13	16	M30	3.5	100	1070	12	M10	1.5	30	56
14	16	M30	3.5	100	1070	10	M12	1.75	35	67
15	18	M30	3.5	100	1070	12	M12	1.75	35	67
16	18	M36	4.0	120	1860	12	M12	1.75	35	67
17	18	M36	4.0	120	1860	16	M12	1.75	35	67
18	20	M36	4.0	120	1860	16	M12	1.75	35	67
19	18	M42	4.5	140	2960	18	M12	1.75	40	67
20	18	M42	4.5	140	2960	18	M12	1.75	40	67
21	18	M42	4.5	140	2960	18	M12	1.75	40	67
22	18	M48	5.0	160	4440	20	M12	1.75	40	67
23	20	M48	5.0	160	4440	20	M12	1.75	40	67

IMPORTANT

Product Safety Information

General - The following information is important in ensuring safety. It **must** be brought to the attention of personnel involved in the selection of David Brown Radicon Limited power transmission equipment, those responsible for the design of the machinery in which it is to be incorporated and those involved in its installation, use and maintenance.

David Brown power transmission equipment will operate safely provided it is selected, installed, used and maintained properly. As with any power transmission equipment **proper precautions must** be taken as indicated in the following paragraphs, to ensure safety.

Potential Hazards - these are **not** necessarily listed in any order of severity as the degree of danger varies in individual circumstances. It is important therefore that the list is studied in its entirety:-

1) Fire/Explosion
   (a) Oil mists and vapour are generated within gear units. It is therefore dangerous to use naked lights in the proximity of gearbox openings, due to the risk of fire or explosion.

   (b) In the event of fire or serious overheating (over 300 °C), certain materials (rubber, plastics, etc.) may decompose and produce fumes. Care should be taken to avoid exposure to the fumes, and the remains of burned or overheated plastic/rubber materials should be handled with rubber gloves.

2) Guards - Rotating shafts and couplings must be guarded to eliminate the possibility of physical contact or entanglement of clothing. It should be of rigid construction and firmly secured.

3) Noise - High speed gearboxes and gearbox driven machinery may produce noise levels which are damaging to the hearing with prolonged exposure. Ear defenders should be provided for personnel in these circumstances. Reference should be made to the Department of Employment Code of Practice for reducing exposure of employed persons to noise.

4) Lifting - Where provided (on larger units) only the lifting points or eyebolts must be used for lifting operations (see maintenance manual or general arrangement drawing for lifting point positions). Failure to use the lifting points provided may result in personal injury and/or damage to the product or surrounding equipment. Keep clear of raised equipment.

5) Lubricants and Lubrication
   (a) Prolonged contact with lubricants can be detrimental to the skin. The manufactures instruction must be followed when handling lubricants.

   (b) The lubrication status of the equipment must be checked before commissioning. Read and carry out all instructions on the lubricant plate and in the installation and maintenance literature. Heed all warning tags. Failure to do so could result in mechanical damage and in extreme cases risk of injury to personnel.

6) Electrical Equipment - Observe hazard warnings on electrical equipment and isolate power before working on the gearbox or associated equipment, in order to prevent the machinery being started.

7) Installation, Maintenance and Storage
   (a) In the event that equipment is to be held in storage, for a period exceeding 6 months, prior to installation or commissioning, David Brown Radicon Limited must be consulted regarding special preservation requirements. Unless otherwise agreed, equipment must be stored in a building protected from extremes of temperature and humidity to prevent deterioration.

   The rotating components (gears and shafts) must be turned a few revolutions once a month (to prevent bearings brinelling).

   (b) External gearbox components may be supplied with preservative materials applied, in the form of a "waxed" tape overwrap or wax film preservative. Gloves should be worn when removing these materials. The former can be removed manually, the latter using white spirit as a solvent.

   Preservatives applied to the internal parts of the gear units do not require removal prior to operation.

   (c) Installation must be performed in accordance with the manufacturer's instructions and be undertaken by suitably qualified personnel.

   (d) Before working on a gearbox or associated equipment, ensure that the load has been removed from the system to eliminate the possibility of any movement of the machinery and isolate power supply. Where necessary, provide mechanical means to ensure the machinery cannot move or rotate. Ensure removal of such devices after work is complete.

   (e) Ensure the proper maintenance of gearboxes in operation. Use only the correct tools and David Brown Radicon Limited approved spare parts for repair and maintenance. Consult the Maintenance Manual before dismantling or performing maintenance work.

8) Hot Surfaces and Lubricants
   (a) During operation, gear units may become sufficiently hot to cause skin burns. Care must be taken to avoid accidental contact.

   (b) After extended running the lubricant in gear units and lubrication systems may reach temperatures sufficient to cause burns. Allow equipment to cool before servicing or performing adjustments.

9) Selection and Design
   (a) Where gear units provide a holdback facility, ensure that back-up systems are provided if failure of the holdback device would endanger personnel or result in damage.

   (b) The driving and driven equipment must be correctly selected to ensure that the complete machinery installation will perform satisfactorily, avoiding system critical speeds, system torsional vibration, etc.

   (c) The equipment must not be operated in an environment or at speeds, powers, torques or with external loads beyond those for which it was designed.

   (d) As improvements in design are being made continually the contents of this catalogue are not to be regarded as binding in detail, and drawings and capacities are subject to alterations without notice.

The above guidance is based on the current state of knowledge and our best assessment of the potential hazards in the operation of the gear units.

Any further information or clarification required may be obtained by telephoning or writing to: