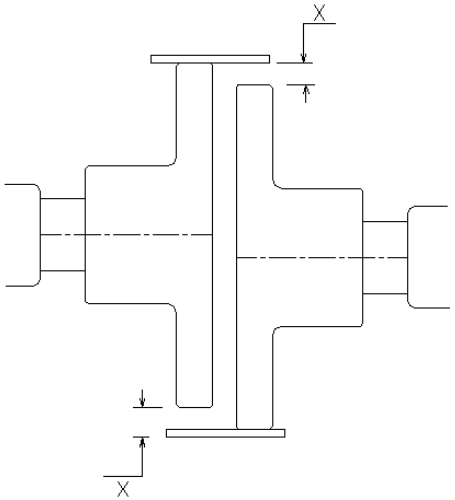
Why a Flexible Coupling ?

A flexible coupling connects two shafts, end-to-end in the same line, for two main purposes. The first is to *transmit power (torque)* from one shaft to the other, causing both to rotate in unison, at the same rpm. The second is to compensate for *minor amount of misalignment* and random movement between the two shafts. Belt, chain, gear & clutch drives also transmit power from one shaft to another , but not necessarily at the same rpm and not with the shaft in approximately the same line.

Alignment Instructions

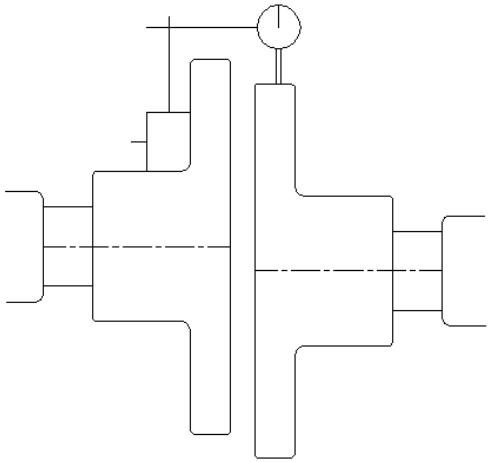
Checking Parallel Alignment

USING STRIGHT EDGE



For perfect alignment, gap ‘x’ should be zero at 4 places 90o apart

USING DIAL GAUGE



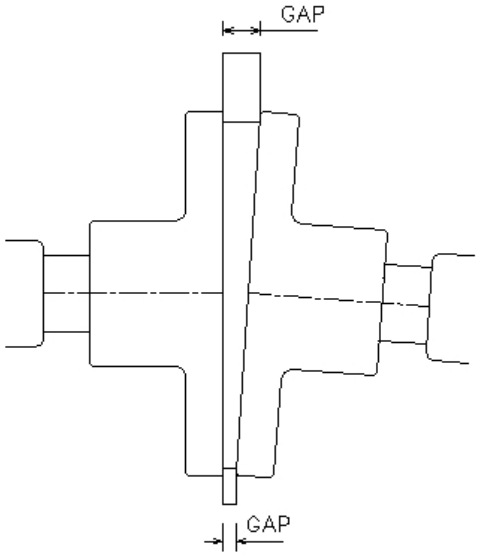
For perfect alignment, dial reading should be same at 4 places 90o apart

While aligning all the foundation bolts of machine & prime mover should be made tight at aligned position

Alignment Instructions

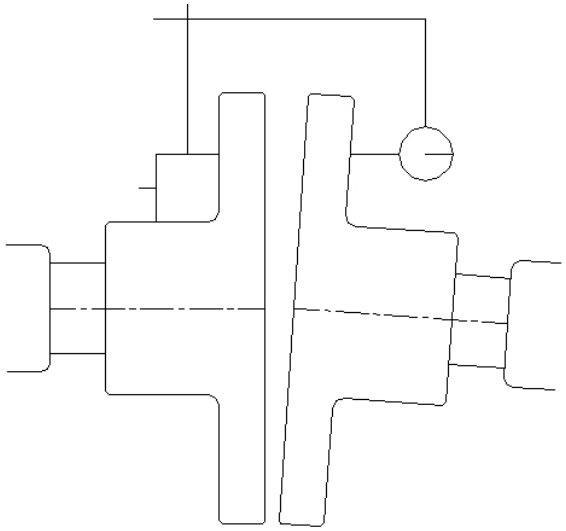
Checking Angular Alignment

USING FILLER GAUGE



For perfect alignment, gap should be equal at 4 places 90° apart

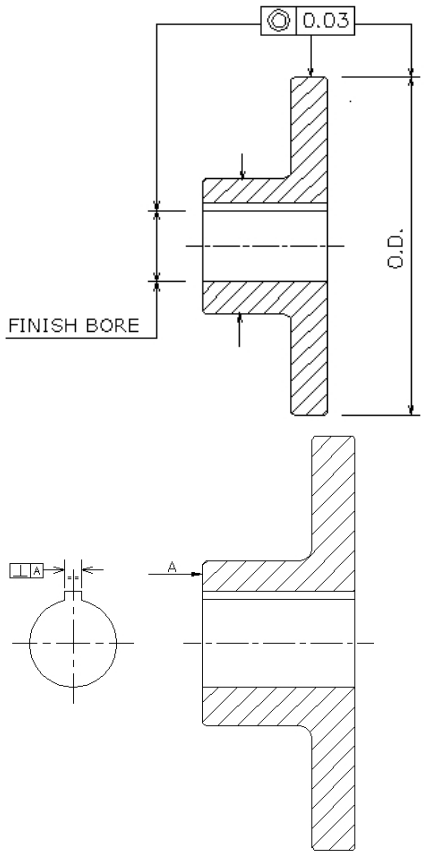
USING DIAL GAUGE



For perfect alignment, dial reading should be same at 4 places 90o apart

UTKARSH Flexible Couplings

Finish Bore & Keyway Instructions



- If coupling is supplied in pilot bore, finish bore must be done with respect to coupling outside diameter.
- Generally bores are made to h7 tolerences and keyway to js9 tolerence
- The keyway must be in between the two adjacent holes or jaws of coupling.
- While removing coupling hubs (flange) a puller should be used instead of hammer

ISO 9001
BUREAU VERITAS
Certification

Coupling selection method

PRIME MOVER	OPERATIONAL HOURS PER DAY	SERVICE FACTORS RELATED TO NATURE OF LOAD AND PRIME MOVER		
		UNIFORM	MODERATE SHOCK	HEAVY SHOCK
Electric Motor	24	1.2	1.5	2.0
	12	1.0	1.2	1.7
	8	0.9	1.1	1.6
	Less than 8	0.8	1.0	1.3
Multi-Cylinder Int. Combustion Engine	24	1.5	1.7	2.2
	12	1.2	1.5	2.0
	8	1.1	1.3	1.9
	Less than 8	0.9	1.2	1.6
Single Cylinder Int. Combustion Engine	24	1.7	2.0	2.5
	12	1.5	1.7	2.2
	8	1.3	1.6	2.1
	Less than 8	1.2	1.4	1.8

UTKARSH Flexible Couplings

Coupling selection method

APPLICATION	NATURE OF LOAD			APPLICATION	NATURE OF LOAD		
	UNIFORM	MODERATE SHOCK	HEAVY SHOCK		UNIFORM	MODERATE SHOCK	HEAVY SHOCK
AGITATORS				**HOISTS**			
Pure Liquids	●			Heavy Duty			●
Liquids And Solids		●		Medium Duty		●	
Liquid - Variable Density		●		Skip		●	
BLOWERS				**LAUNDRY MACHINES**			
Centrifugal	●			Reversing Washers		●	
Roots		●		Tumblers		●	
BREWING & DISTILLING				**MILLS**			
Bottling Machinery	●			Hammer			●
Can Filling Machines	●			Tumblers			●
CLAY WORKING MACHINERY				**PAPER MILLS**			
Brick Press			●	Bleachers	●		
Briquette Machines			●	Beater & Pulper		●	
CONVEYORS				Loghaul			●
Belt, Bucket or Chain	●			**PUMPS**			
Reciprocating		●		Centrifugal	●		
CRANES				Gear	●		
Main Hoists	●			Reciprocating (3 or more cyl.)		●	
CRUSHERS				Reciprocating (1 or 2 cyl.)			●
Ore and Stone			●	**RUBBER & PLASTICS**			
ELEVATORS				Mixing Mills			●
Escalators	●			Laboratory Equipment		●	
Freight		●		Masticator			●
FEEDERS				**SCREENS**			
Reciprocating			●	Rotary - Stone or Gravel		●	
Screw		●		Vibrating			●
FOOD INDUSTRY				**TEXTILES**			
Dough Mixer		●		Cards, Dryers, Looms		●	
Grinder		●					

NOTE : Certain applications outside those listed above may necessitate special consideration. In such cases refer to, Utkarsh.
For higher speeds, couplings are required in Cast-steel only. Any couplings with Steel construction are also available on request.

If Bore size is not matching with the selected coupling then go for one higher series level of coupling to match bore size.

USEFUL EQUATIONS

$$\text{TORQUE Nm} = \frac{30000 \times \text{KW}}{3.1416\ (\pi) \times \text{RPM}}$$

MULTIPLY	BY	TO OBTAIN
FOOT-LBS	1.3558	NEWTON-METER (Nm)
KILOGRAM-METER (Kg-m)	9.8066	NEWTON-METER (Nm)
HORSEPOWER (UK)	0.746	KILOWATTS (KW)
HORSEPOWER (METRIC)	0.7355	KILOWATTS (KW)

ISO 9001
BUREAU VERITAS Certification

Coupling construction

- All C.I. Coupling :-Machined all over & coated with rust preventive coat.
- Cast Iron :- Phosphatized.
- Al Spacers (UWS) :- Powder coated.
- Fasteners (Bolts) :- High Tensile Gr. 8.8
- Screws for (UWS) :- S.S. 304.
- Outer Rings (UWS) :- Powder coated.

UTKARSH Flexible Couplings

Coupling construction

- Elastomeric Members :- Synthetic Rubber.
- Spider / Cushions :- ASTM D 2000-820.
- Snap wrap/ T Cushion :- ASTM D 2000-720.
- Speed :- 30 Mtrs/Sec Max – Cast Iron.

>30< 45 Mtrs/Sec -- Cast Steel.

Above 45 Mtrs/Sec – Mild Steel.