



NAHRAB GOSTAR ESHTEHARD

Manufacture of Industrial Valves & relevant equipment

Coupling

Straight , Stepped , Socket ,
Branch and Socket Stepped Coupling



Coupling

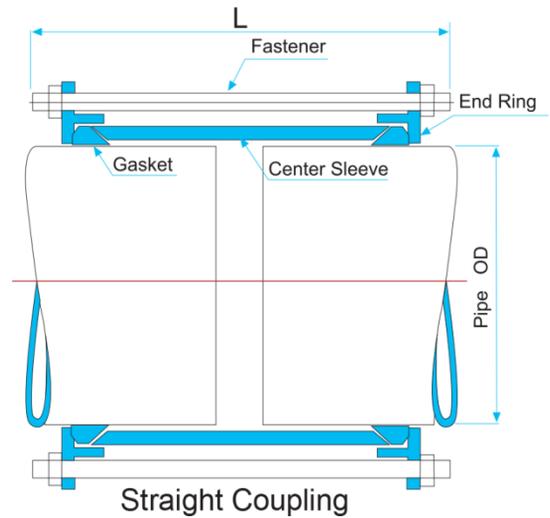
Working Pressure: Up to 25 bars

Features:

Coupling can use for pipes installation underground and over ground with following technical data, with coupling system no need to conic treading, welding and using flange on head of pipes, and we never have problems arising of pipeline contraction and expansion.

Material Specification:

End Rings	Steel/Ductile Iron
Body	Steel/Ductile Iron
Seal	EPDM or NBR
Bolts & Nuts	Galvanized / Stainless Steel



Coating:

All parts are coated with electrostatic epoxy powder with minimum 250 micron suitable for potable water.

DN	L(mm)	No of holes	Bolts Size	Test Pressure(bar)	Weight
50	300	4	M12	37.5	5
65	300	4	M12	37.5	6
80	300	4	M12	37.5	7
100	300	4	M12	37.5	9
150	300	4	M12	37.5	12
200	300	6	M12	37.5	16
250	320	6	M16	37.5	27
300	320	6	M16	37.5	31
350	320	8	M16	37.5	34
400	320	8	M16	37.5	39
450	320	8	M16	37.5	49
500	320	10	M16	37.5	65
600	320	10	M16	37.5	77
700	320	12	M16	37.5	100
800	320	12	M16	37.5	113
900	320	14	M16	37.5	127
1000	320	14	M16	37.5	150
1200	320	16	M16	37.5	239
1400	360	18	M16	37.5	278
1600	360	20	M16	37.5	348
1800	360	22	M16	37.5	390
2000	360	24	M16	37.5	512

Specification for sizes larger than 2000mm will be provided as per request.

Coupling Features

1. no need to use special tools and facilities for installation
2. Installable in any weather condition and narrow track and pit
3. no need to adhesive, welding, conic, treading
4. High speed installation and assembly
5. suitable for PVC, GRP, ductile & steel pipes
6. no need to determine the exact position for connection
7. Insert the pipes along curve path without elbow
8. neutralize the effects of temperature changes with help of liner movement
9. reduce the need of fittings
10. insulation of sound and vibration due to existing the distance between coupling and pipe and also seal
11. suitable for transferring the water, gas, oil, petrochemical, sewage & ...
12. suitable for pipe sizes from 50mm to 2200mm and up on request of customers.
13. moveable and turn able in part of pipe
14. tolerant have allowed the rate of 11mm (+5/-6mm) for pipe outside diameter
15. angular flexibility according to AWWA C219 standard

		Center Sleeve Length, in, (mm)					
Nominal Pipe Size Group		3,5	4	5	6	7	17
in.	(mm)	(89)	(102)	(127)	(152)	(178)	(254)
		Value in Degrees					
1/2 to < 2	(12.5 to < 50)	4	4	4	4	4	4
> 2 to < 12	(>50 to < 300)	*	4	4	4	4	4
> 12 to < 18	(>300 to < 450)		*	2.5	3	4	4
> 18 to < 24	(>450 to < 625)			*	3	4	4
> 24 to < 36	(>625 to < 900)				2	3	3
> 36 to < 48	(> 900 to < 1,200)				*	2	2
> 48 to < 72	(> 1,200 to < 1,800)					1.5	2
> 72 to < 120	(> 1,800 to < 3,000)					*	1
> 120	(>3,000)						*

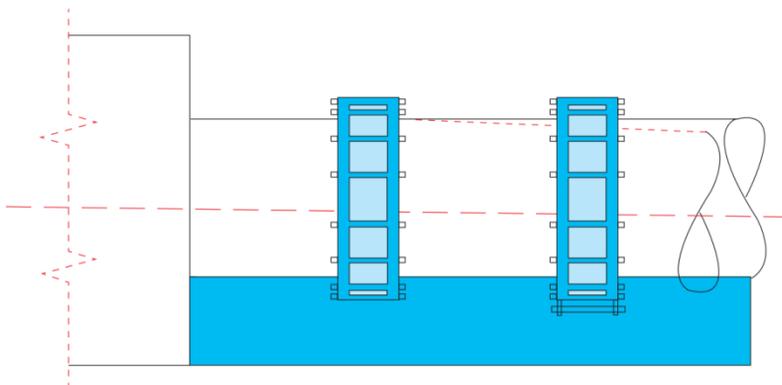
Changing the angle and height of pipe lying

To reach the height difference (vertical displacement) in pipe lying path we can use coupling:

1- to providing the more height difference (vertical displacement) we can use two couplings and one part short pipe that can use angular between two couplings, see following figure.

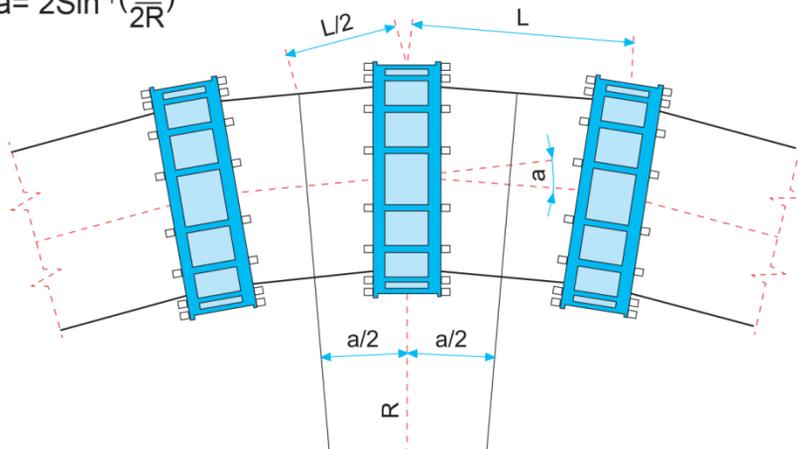


2- where the pipe is removing from building that has the height difference with ground, shall use two couplings or if crossover the pipe meets the ground, shall use 2 couplings, according to following figure.



3- using the coupling system allow us to making the large arcs, each pipe in connection with coupling has a few deviation angle and using of this procedure is very easy and low-cost, calculation of arc radius is as following:

$$R = \frac{L}{2\sin\left(\frac{a}{2}\right)} \Rightarrow a = 2\sin^{-1}\left(\frac{L}{2R}\right)$$



Effect of temperature on the Coupling

Thermal performance of Coupling depends on used rubber washer (seal) and uses till 100 C. Coupling acts with relatively constant temperature with maximum performance, if there comes a thermal disturbance is required to set coupling bolts again, therefore, in places such as central heating temperature variations, Coupling is not used up.

Chemical Resistance:

Coupling chemical resistance will be determined by resistance of metal surface, rubber material and internal surface.

Pipes Coating:

Some of the pipes are covered by coating protection that caused to increase the external diameter, in this case coupling is workable, and is required to thin layer of protective coating carve, then again protect pipes by paint for prevent of corrosion and ready to install.

It should be mentioned that carve of protective layer is done only in small opening between the pipes, and if wire protective tube is used for protection of pipes, the company is able to provide couplings suitable for pipes.

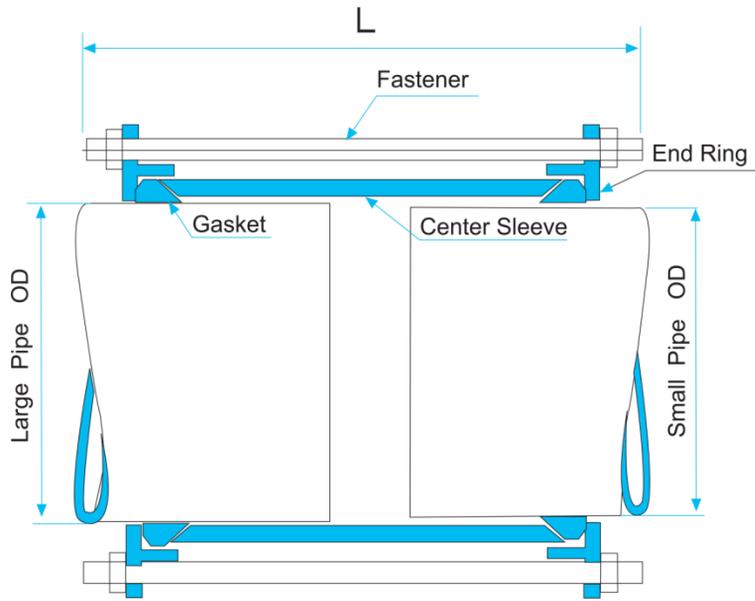
So should be having knowledge about final diameter of pipes (outer diameter of pipes), coating thickness and protective layer.

Reduce stress on the system:

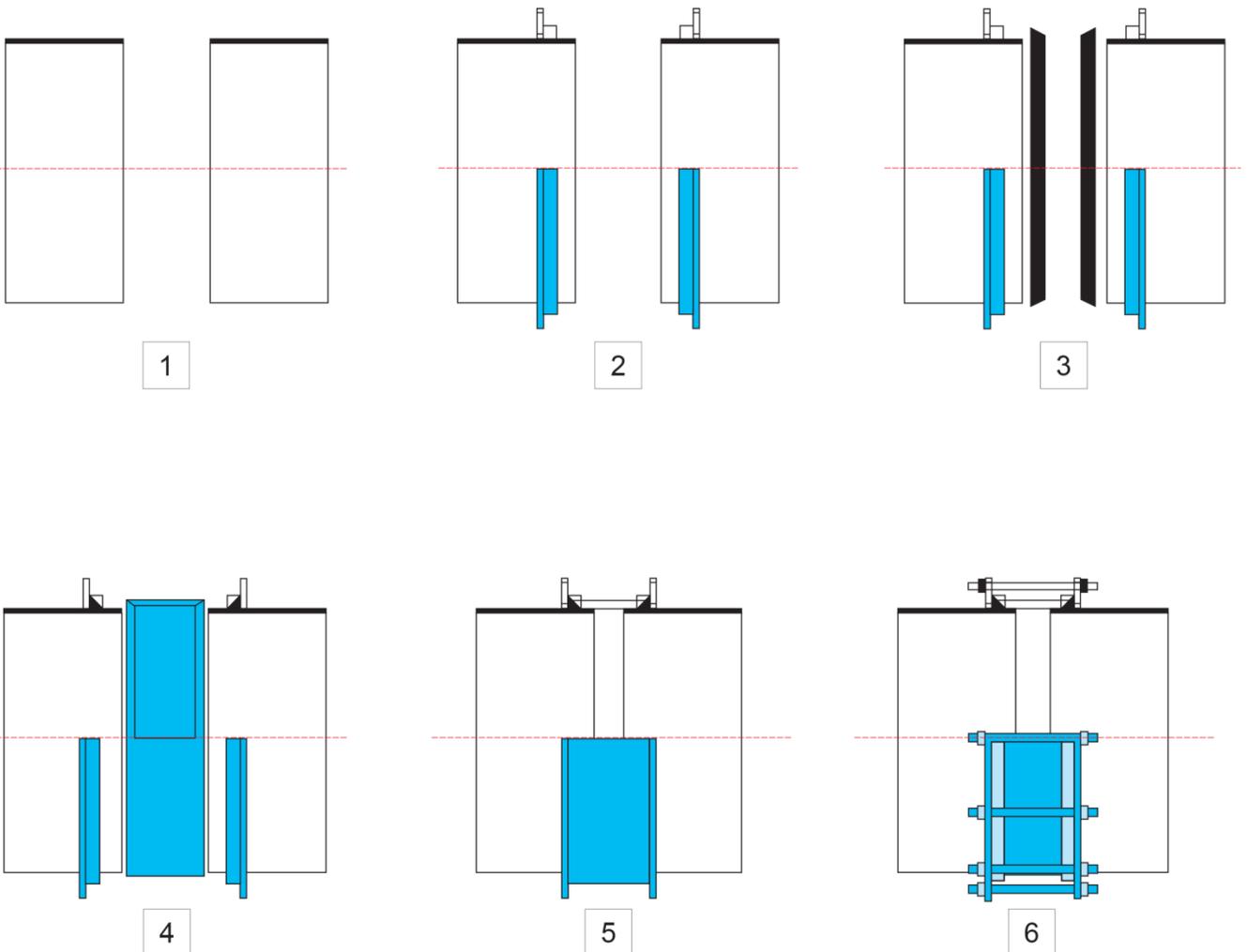
- 1-Rubber washer attract the sound and vibrations
- 2-Existing distance between heads of pipe can be used as per vibration prevented.
- 3-Considering the above characteristics different types of couplings can be used in pumping stations and as vibration prevented on pipelines.

Coupling Installation:

Coupling installation process is as follows, and need torque about 95-110 Nm for tighten the bolt M16 and 55-65 Nm for bolt M12.



Transition Coupling

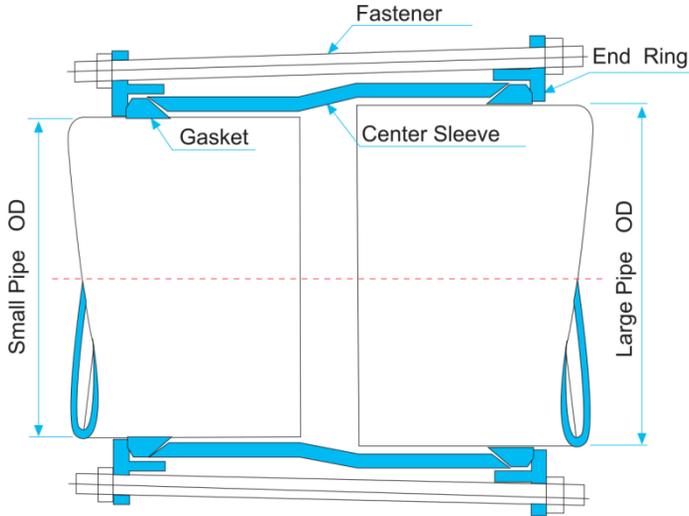




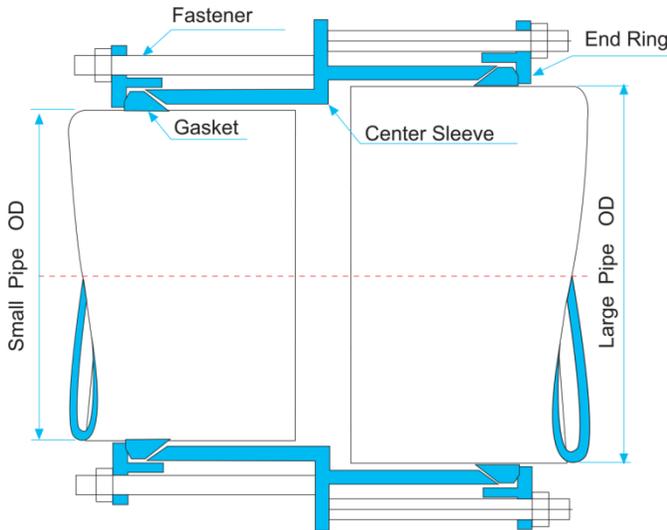
Stepped Coupling

ABE Stepped Coupling is appropriate and efficient tool for connection between the pipes with any external diameter and material.

This product use for Steel, Ductile, PVC, and GRP ... pipes with different diameters.



Reduced Coupling



Make Up Ring Coupling

The type of Stepped Coupling will provide as per client pipe size and diameters.



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