



## HYDROMINE™ U-Coupling (Taper Pipe Coupling)

### Overview:

The HYDROMINE™ U-Coupling is a high pressure pipe coupling designed as an easy method of joining pipes. Sometimes referred to as a quick couplings for steel pipes, the U-Couplings are used in medium to high pressure piping systems. It speeds up installation time drastically when compared to flanges. Using the HYDROMINE™ U-Coupling will result in lower capital expenditure, since that it has a lower procurement cost, more pipes can be loaded per truck or rail carriage load, it takes less space when stored and most importantly, there will be a saving on labour, as installation is quicker and easier than flanges. It can be installed in vertical mine shafts, inclines or horizontally. The HYDROMINE™ U-Coupling can be used in pipe lines carrying liquids or abrasive material and is perfect for mining backfill pipes.



The HYDROMINE™ U-Coupling can be used in pipelines carrying liquids or abrasive material and is perfect for mining backfill pipes. The HYDROMINE™ U-Coupling can be installed in a system where pipes hang on chains, parrot swings or are U-Bolted down onto pipe supports. Pipes should be anchored before and after every change of direction. The full range of HYDROMINE™ valves, expansion joints and energy dissipator can be manufactured with U-Coupling end connections.

There are two types of HYDROMINE™ U-Coupling the first type is the "A" type which has two identical hubs. The "A" type can be used with a UHMWPE, PTFE or other compression seal. The "A" type does not require the use of an alignment ring as the seal aligns the pipe. Furthermore, the "A" is sexless which makes installation easier, especially on valves or pipe fitting. The second type, type "B" effects a seal using a nitrile or polyurethane O-ring. The "B" types hubs are slightly different, one side of the hub is grooved to accommodate the seal and the other hub has a flat surface which compresses the seal into the groove. It requires an alignment ring to ensure correct hub alignment. Care needs to be taken when installation is done as long length of pipes cannot be turned around in narrow spaces and underground tunnels.

### Bolt Torque Settings:

Pipe sizes	Bolt Torque Figures						Equivalent ANSI Flanges			
	Pressure rating		Bolts sizes		Bolt torque		Number of bolts	Bolts sizes		Number of bolts
	(Mpa)	(Psi)	(metric)	(imperial)	(Nm)	ft lb		(metric)	(imperial)	
DN50 / 2"	25	3626	M10	7/16"	50	36.88	2	M24	1"	8
DN80 / 3"	25	3626	M12	1/2"	85	62.69	2	M30	1 1/4"	8
DN100 / 4"	25	3626	M16	5/8"	210	154.89	2	M33	1 1/4"	8
DN150 / 6"	25	3626	M16	5/8"	210	154.89	4	M36	1 1/2"	12
DN150 / 6"	16	2320	M20	3/4"	425	313.46	2	M30	1 1/4"	12
DN200 / 8"	25	3626	M20	3/4"	425	313.46	4	M42	1 3/4"	12
DN200 / 8"	16	2320	M24	1"	730	538.42	2	M36	1 1/2"	12
DN250 / 10"	25	3626	M30	1 1/4"	1440	1062.09	4	M48	2"	12
DN250 / 10"	16	2320	M20	3/4"	425	313.46	4	M36	1 1/2"	16
DN250 / 10"	10	1450	M24	1"	730	538.42	2	M33	1 1/4"	16
DN300 / 12"	25	3626	M30	1 1/4"	1440	1062.09	4	M48	2"	16
DN300 / 12"	16	2320	M20	3/4"	425	313.46	4	M36	1 1/2"	20
DN300 / 12"	10	1450	M20	3/4"	425	313.46	4	M33	1 1/4"	20
DN350 / 14"	25	3626	M36	1 1/2"	1885	1390.30	4	M56	2 1/4"	16
DN350 / 14"	16	2320	M20	3/4"	425	313.46	4	M39	1 3/4"	20
DN350 / 14"	10	1450	M20	3/4"	425	313.46	4	M36	1 1/2"	20
DN400 / 16"	16	2320	M24	1"	730	538.42	4	M42	1 3/4"	20
DN400 / 16"	10	1450	M20	3/4"	425	313.46	4	M39	1 3/4"	20





## HYDROMINE™ U-Coupling (Taper Pipe Coupling)

### Parts "A" Type:



Butt welded hubs



Compression seal



Butt welded hubs & compression seal



Clamp set



1 x half clamp with hubs assembled

### Parts "B" Type:



Plain ended butt welded hub, welded to pipe



Grooved butt welded hub, welded to pipe



Locating ring & O-Ring (seal)



Hubs, O-Ring and locating ring assembled



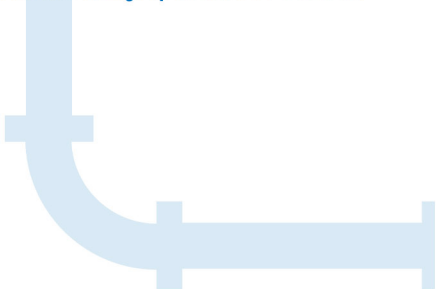
1 x half clamp assembled with hubs, O-Ring and locating ring

### Design & Manufacturing Standards:

The HYDROMINE™ U-Coupling has been designed in accordance with various international standards as set out below:

ASME Boilers and pressure vessels design code  
ASME Sec. VIII, Div. 1&2  
ASME B31.3  
ASME B31.4  
ASME B16.34

Available sizes: DN50 / 2" to DN500 / 20"  
Pressure rating: up to 25MPa / 3 626 Psi



### Materials Of Construction:

Part Name	Material Specification
Clamps #1	Casting – BS3100 Grade A2
Clamps #2	ASTM A216 WCC
Hubs # 1	Hollow Bar - ST-52
Hubs # 2	ASTM A105
Bolts	Grade 8.8, Hot Dipped Galvanized
Seals # 1	UHMWPE
Seals # 2	PTFE
Seals # 3	O-Ring - Nitrile (Buna)
Seals # 4	O-Ring - Polyurethane