



Hydrocore™ Coupling

SOUTH AFRICAN PATENT APPLICATION NUMBER 2016/00251

HYDROCORE LIMITED

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innovation &
simplicity

*The smart solutions
for your business*

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THE NUISANCE OF WELDING

Traditionally pipes are connected by welding flanges to pipe ends, and then bolting the flanged pipes to each other; or by welding hubs to pipes, and then clamping them together by a coupling pair. Both methods require an intermediary welding process to prepare the pipes before they are connected.

The main disadvantages of the above are:

- Welding is time consuming.
- Welding adds more labour and costs to the project.
- Welding is a heat process prompting fire or fume hazards.
- Welding is impractical on site, thus complicating maintenance and repairs.
- Welding requires additional bulky components (flanges and hubs) adding to the weight and purchasing costs of the pipe line.
- Welding involves a lot of loose parts that may be lost or misplaced before they are even installed.





A breakthrough: the Hydrocore™ Coupling

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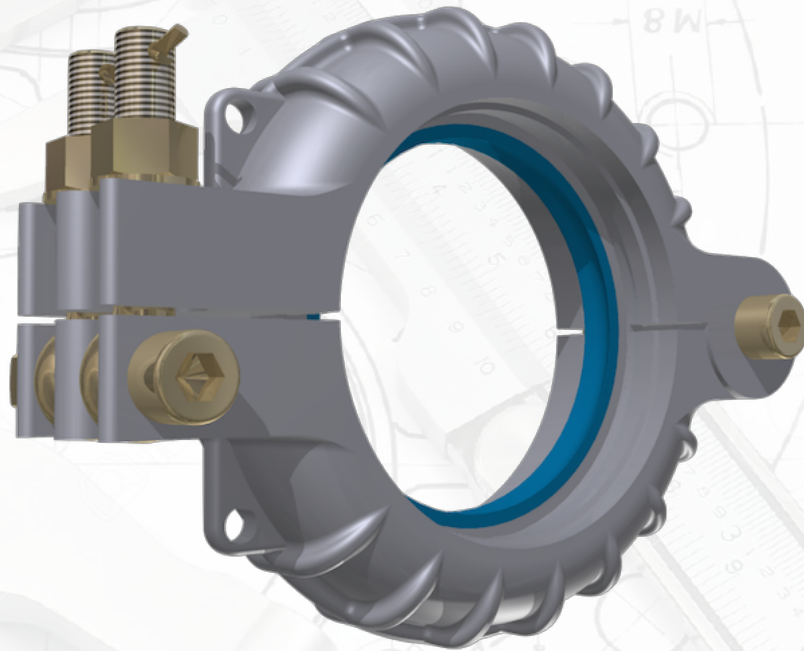
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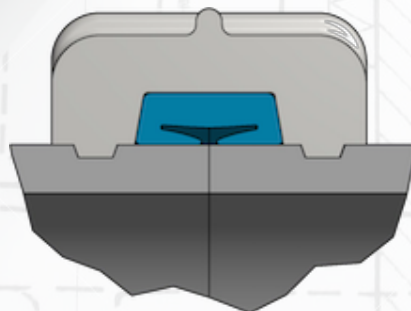
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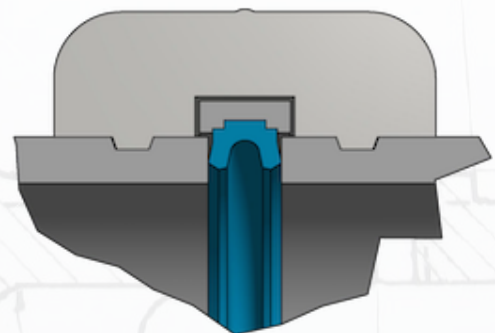


A BREAKTHROUGH: THE HYDROCORE™ COUPLING

The concept of the Hydrocore™ Coupling is built upon a simple idea: eliminate the need for welding by fastening the coupling into pre-machined pipe grooves. The coupling also comes fully assembled with no loose parts and ready for use. Simply wrap the coupling around the pipe ends and tighten it shut. The installation is done. There is no other pipe connection technique that is assembled as easily and quickly as the Hydrocore™ Coupling. Not only is there a significant saving in time, labour, skill and capital in the installation process, but the Hydrocore™ Coupling is also far lighter than the traditional flange thus reducing the purchasing cost to a fraction of its out dated predecessor.



PRESSURE ASSISTED SEAL
ABRASIVE MEDIUM



PRESSURE ASSISTED SEAL
NON-ABRASIVE MEDIUM

Benefits of the Hydrocore™ Coupling

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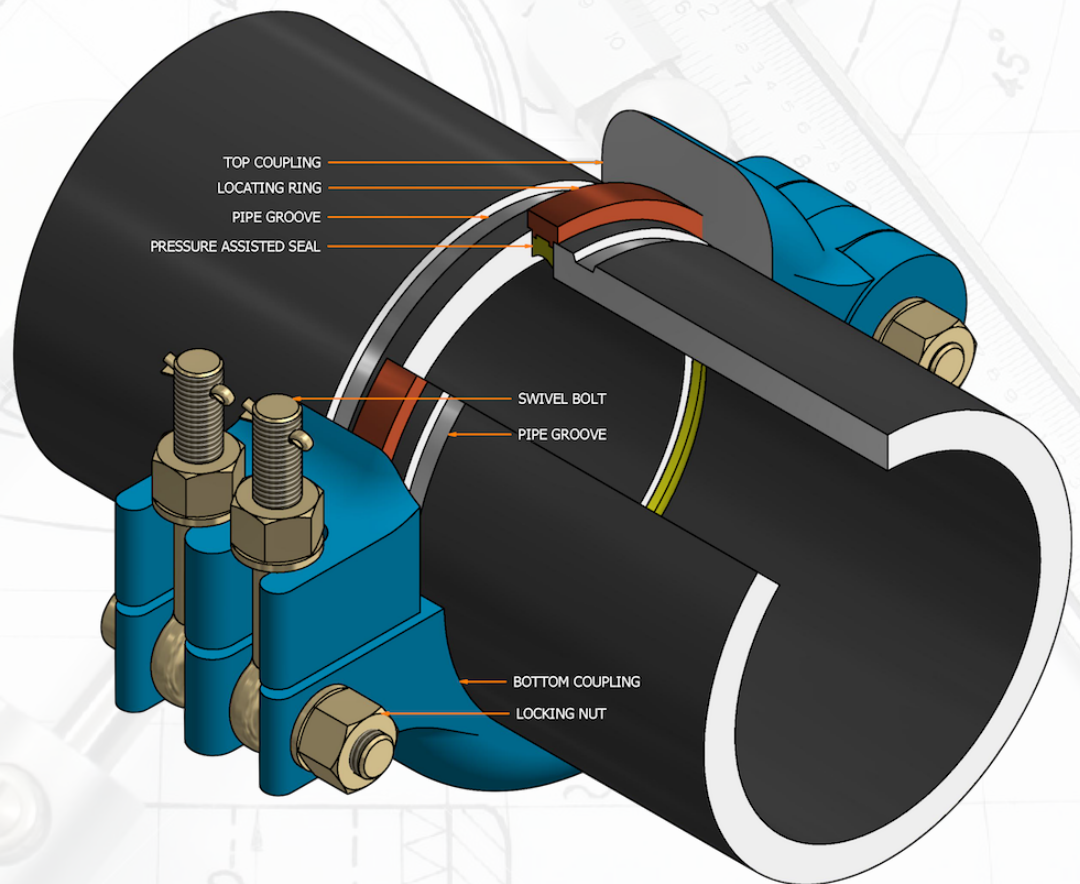
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THE BENEFITS:

- Quick and easy installation.
- Capital savings from much lower initial purchasing costs.
- Eliminate the need for specialised labour skills.
- Eliminate the risks of fire or fume hazards.
- Simple assembly and disassembly allows for easy on site maintenance and repairs.
- Reducing the time needed for project completion.
- No risk of losing or misplacing parts due to the non detachable, all-in-one, fully assembled build of the coupling.



WHY CHOOSE THE HYDROCORE PIPE COUPLING OVER OTHER SIMILAR PIPE CONNECTORS?

Currently, the market is flooded by similar pipe connectors utilizing the grooved positioning system. Without fail, all of these couplings utilize the same design principles, offering no substantial innovation in the actual design. The only real difference is primarily cosmetic. So, what makes the Hydrocore Coupling different from the rest?

- A revolutionary design that makes installation and maintenance even easier.
- A simple design that eliminates the need for a multitude of different types of couplings. The only difference in our couplings lies in the pipe size (50NB ~ 300NB / 2" ~ 12"), the pressure rating (high, medium or low), and the type of seal needed for the conveyed medium.
- The seal is much simpler and easier to replace.
- The material is BS-3100 grade A2 or ZG-35 for all sizes and applications.
- Lower weight and more compact.

Low pressure range couplings

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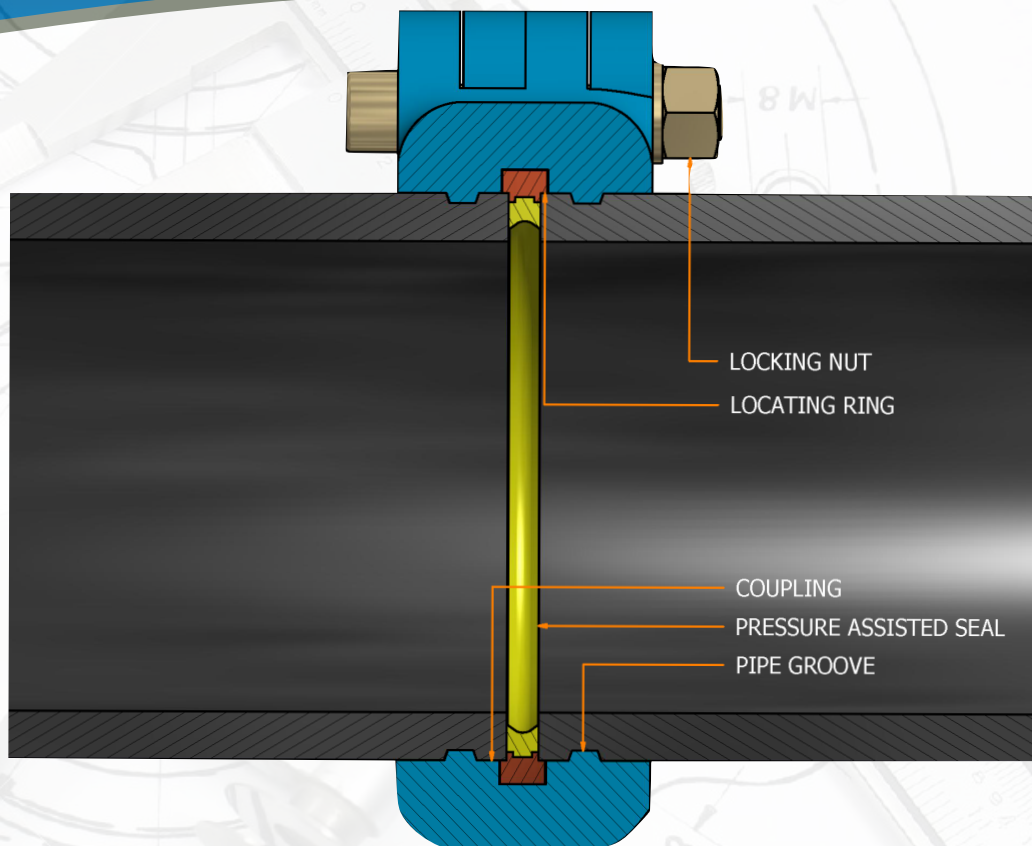
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LOW PRESSURE RANGE

NOMINAL SIZE INCHES / MM	MAX PRESSURE PSI / kPA	MAX END LOAD (kN)	WEIGHT LBS. / KG	LENGTH INCHES / MM	HEIGHT INCHES / MM	WIDTH INCHES / MM	BOLT (ONE PER SET)
2 50	600 4000	11.6	1.1 0.5	4 110	3 76	0.94 24	M8 x 35
2½ 65	600 4000	16.8	2.2 1.0	5 137	4 96	1.18 30	M8 x 40
3 80	600 4000	24.8	3.5 1.6	7 167	5 120	1.18 30	M10 x 45
4 100	600 4000	41.2	4.6 2.1	8 204	6 142	1.34 34	M12 x 55
6 150	600 4000	88.8	8.6 3.9	10 261	8 200	1.65 42	M12 x 60
8 200	450 3000	113.1	13.0 5.9	14 347	10 252	1.65 42	M16 x 65
10 250	500 3500	204.8	30.2 13.7	17 420	13 324	2.28 58	M20 x 90
12 300	500 3500	288.1	65.5 29.7	20 515	15 390	3.23 82	M24 x 160



Medium pressure range couplings

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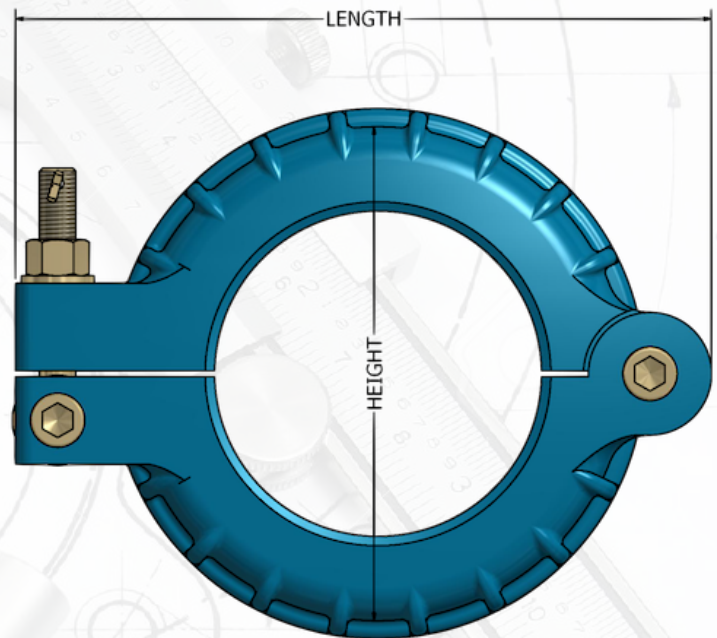
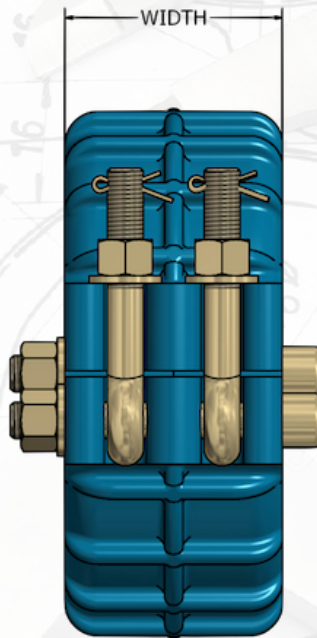
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2 50	1450 10000	29	2.4 1.1	5 132	3 84	1.34 34	M10 x 50
2½ 65	1450 10000	42	4.0 1.8	6 158	4 103	1.5 38	M10 x 60
3 80	1450 10000	62	7.3 3.3	8 193	5 125	1.81 46	M12 x 70
4 100	1450 10000	103	11.9 5.4	9 230	6 150	2.28 58	M16 x 80
6 150	1500 10500	311	20.3 9.2	12 300	8 214	2.44 62	M16 x 90
8 200	1500 10500	396	34.6 15.7	15 378	11 271	2.91 74	M20 x 110
10 250	1250 8500	497	69.7 31.6	19 495	14 343	3.23 82	M24 x 120
12 300	1250 8500	700	140.9 63.9	24 600	17 424	4.33 110	M36 x 180



High pressure range couplings

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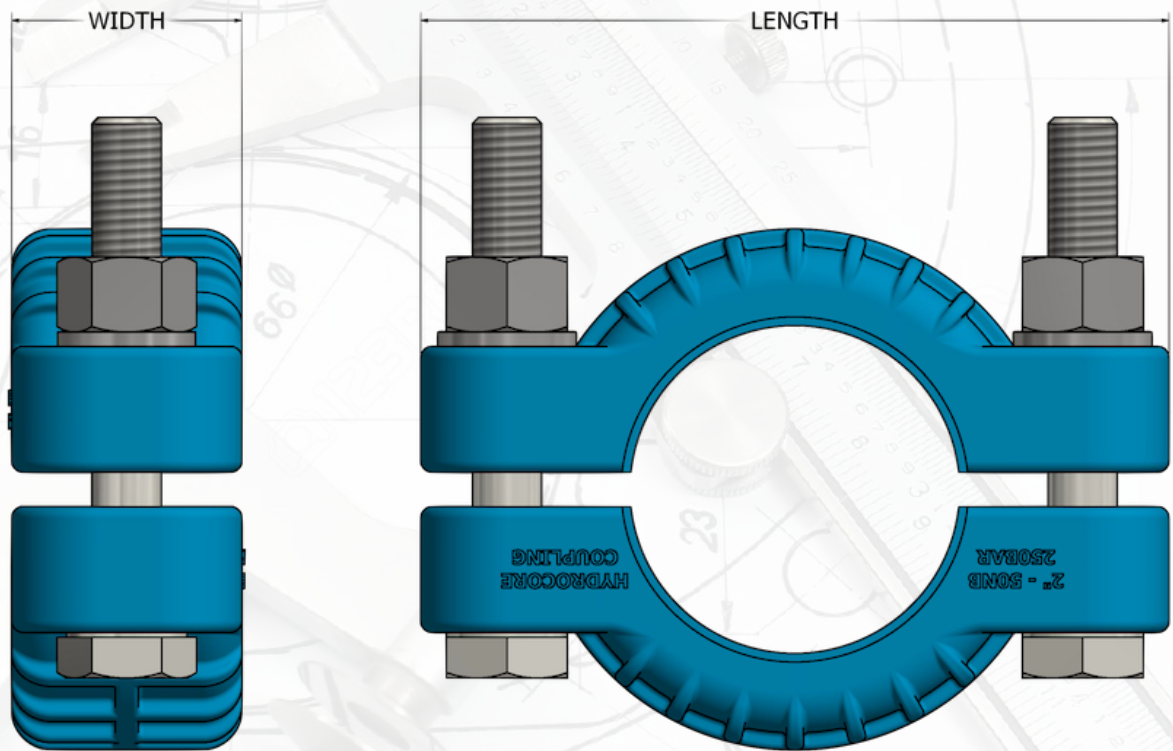
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2 50	2900 20000	73	3.3 1.5	5 132	3 84	1.81 46	M10 x 65
2½ 65	2900 20000	105	5.3 2.4	6 159	4 105	1.97 50	M10 x 65
3 80	2900 20000	155	9.3 4.2	8 193	5 125	2.28 58	M12 x 75
4 100	2900 20000	258	17.0 7.7	9 230	6 164	2.83 72	M12 x 90
6 150	2900 20000	477	29.8 13.5	12 315	9 222	3.07 78	M16 x 100
8 200	2550 17500	660	54.7 24.8	15 383	11 283	3.94 100	M20 x 130
10 250	2450 17000	995	106.5 48.3	20 500	14 353	4.41 112	M24 x 150
12 300	2300 16000	1317	225.5 102.3	25 640	17 444	6.3 160	M36 x 180



Hydrocore™ Coupling Facts Sheet

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FACTS SHEET

The Hydrocore™ coupling joins 2" – 12" (50mm – 300mm) standard roll grooved and cut grooved steel pipes.

The Hydrocore™ coupling requires lubrication only be applied to the sealing lips of the seal before fitting the coupling on the pipe grooved to the Hydrocore™ specifications.

The Hydrocore™ coupling accommodates pressures up to 200 bar / 2900 psi / 20000 kPa. The coupling's maximum pressure rating will depend on the diameter and wall thickness of the pipe.

The Hydrocore™ coupling seal design acts as a natural compression/expansion joint

Support and hanging requirements correspond to ASME B31.1 Power Piping Code and ASME B31.9 Building Services Piping Code.

Coupling

Cast steel conforming to ASTM A27, grade 70-60 (BS-3100 Grade A2 or ZG-35)

Coating: blue enamel or hot dipped galvanised.

Locating Ring

Cast steel conforming to ASTM A27, grade 70-60 (BS-3100 Grade A2 or ZG-35)

Coating: hot dipped galvanised.

Seal

Polyurethane 90 Shore A (standard seal),

