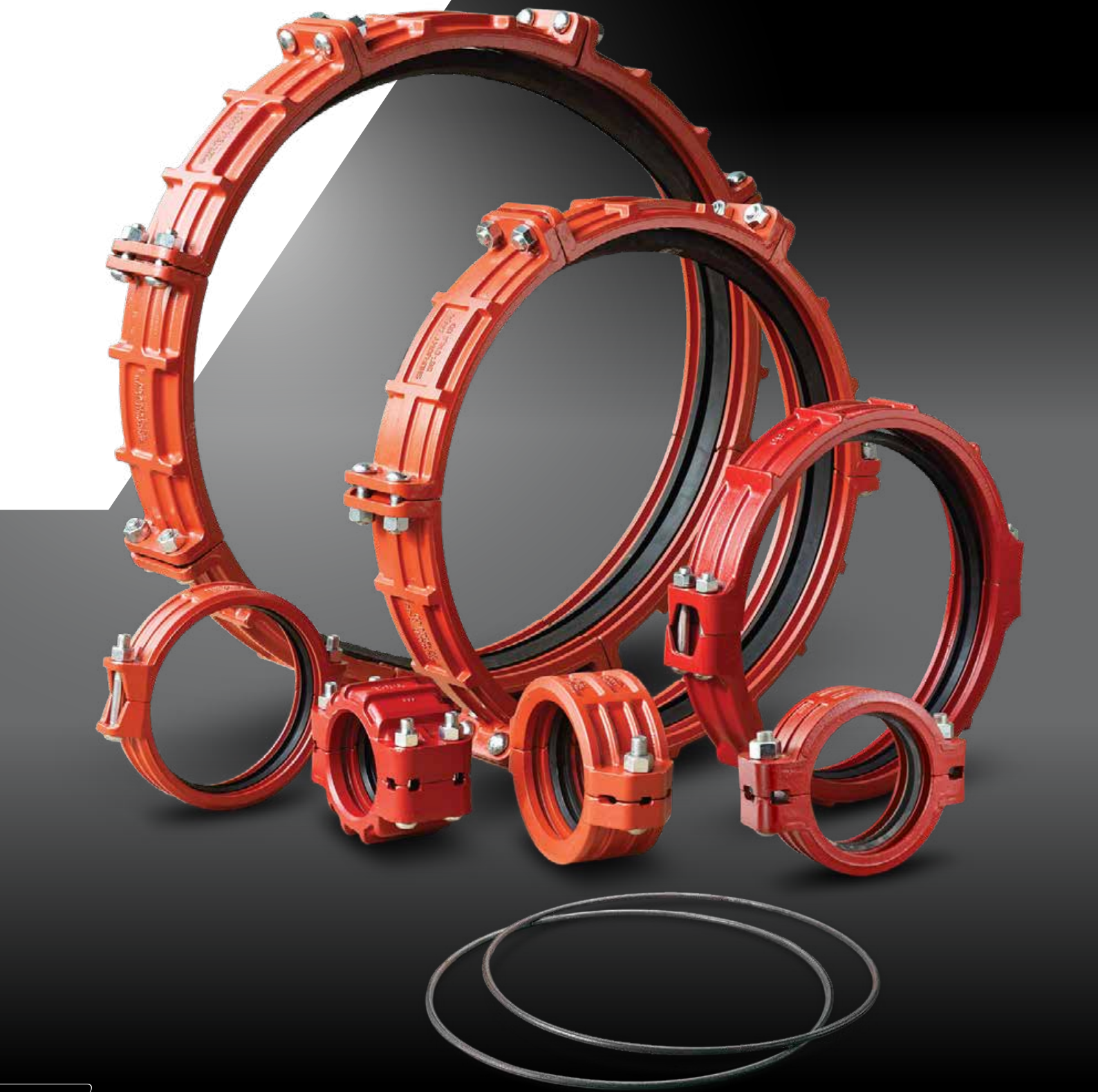
aalberts integrated piping systems

VSH Shurjoint Ring Joint system



EN technical manual

contents

Aalberts integrated piping systems

don’t just buy products, buy solutions.

piping technology

we are Aalberts integrated piping systems

Aalberts integrated piping systems engineers the most advanced integrated piping systems for the distribution and control of liquids and gases for key verticals, like industrial, utilities, commercial and residential. We offer fully integrated piping systems in valve, connection, fastening and piping technology. We work hand-in-hand with our customers to create the perfect integrated piping system, that meets their requirements. Our piping systems are easy to specify, install, control and maintain, saving important preparation and installation time. We meet the highest quality and industry standards needed in the selected verticals. We are the only business that truly offers its customers a single sourced and complete integrated piping solution, each and every time.
Don't just buy products, buy solutions.

our mission

With our integrated piping systems, supported by our unique Digital Design Service, we ensure that you will always get the best and easiest solution for the installation of an integrated piping system. From the moment that your plan is designed, you can get advice on complete and tailored solutions.
With our Revit Plug-in you have digital access to the complete product offering within Aalberts integrated piping systems. This information is always accessible and up to date, allowing the design of an optimal and economically attractive installation that will meet all your demands. So whether the task is project conception, installation, or on-going maintenance, we are the company that truly delivers a complete system and service offering. Our know-how, our can-do attitude, and our relentless innovation come as standard. We will sweat the small stuff in our quest to find the perfect solutions, even if we have to invent them.
This is how we deliver excellence.

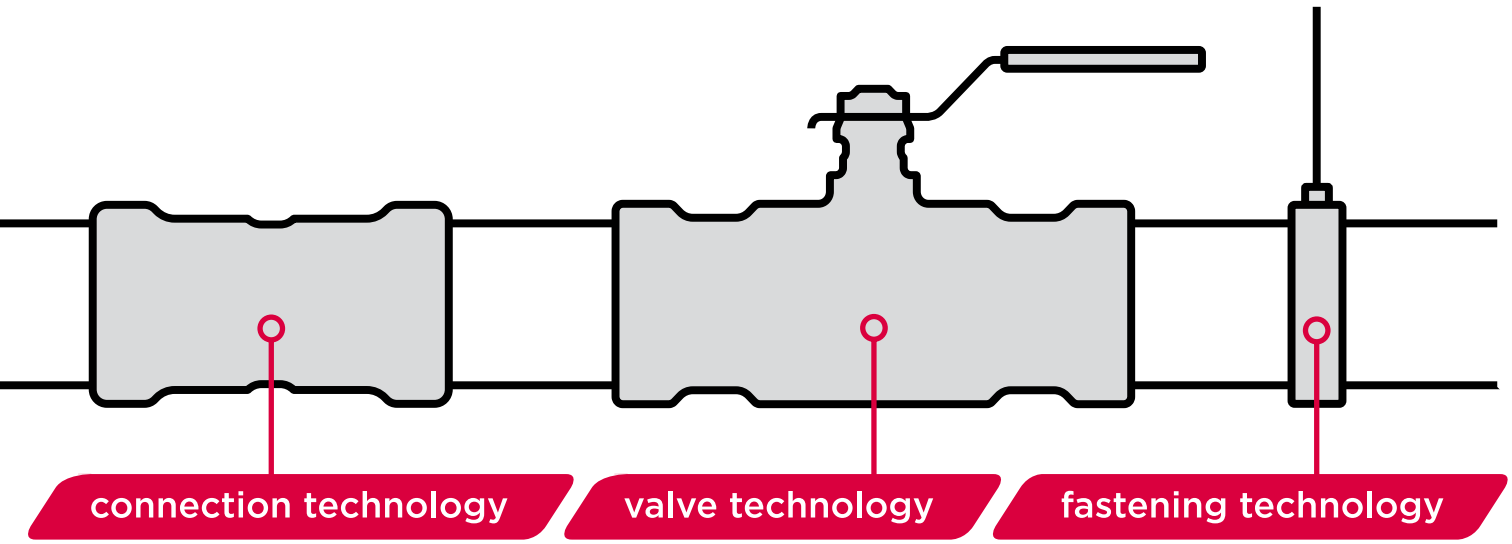
our way of working

We operate from various regions around the globe: America, EMEA and APAC. As we have multiple locations in many countries, we are always close to our customers. More than 3500 mission critical employees are persistent to offer the best integrated piping system. We work on our products, solutions and services every day. No matter how big the opportunity is, when we say we've got this, we won't let go until there is nothing left to learn. We improve ourselves by exchanging knowledge and experience to stay ahead of our competitors.
Good is never good enough.

With our sustainable spirit we contribute to circularity every single day. This belief is strongly linked to the way we do business. Rethink, reduce and recycle. We are entrepreneurial and take ownership in everything we do. We are convinced that self-development and diversity is essential.
The Aalberts way, winning with people.

the strength of Aalberts integrated piping systems

- the perfect solution for every project
- smart, fast and efficient installation
- valuable advice from the drawing board to delivery
- a very wide product range



For more information about Aalberts integrated piping systems, go to www.aalberts-ips.com

Aalberts integrated piping systems connect: our systems are easy to combine with each other

Aalberts integrated piping systems is the combination of different companies with a strong legacy in their markets. The individual brands are well-known and each represents a long history. Together they offer the best integrated piping system for now and in the future.

our product lines

We offer product ranges that:

- connect seamlessly
- are available in dimensions from 6 mm up to 104" (DN2600)
- can be used for thick-walled pipe and thin-walled metal or plastic tube
- have press, compression, groove and push connections
- can be expanded with valves and accessories
- are BIM ready

Connection technology

VSH

VSH has been supplying quality products for 90 years and delivers piping systems and fittings throughout the world. In the 1970's VSH brought the well-known VSH Super compression fitting on the market which is still a best-seller, followed by the VSH XPress pressfitting, a technology that makes it possible to realize a connection even faster and more reliable.

Shurjoint

The history of Shurjoint dates back to 1974, when the founders produced their first grooved couplings. These first couplings were produced from malleable iron, the casting material of choice at this time. Shurjoint is recognized as a world leader in the design and manufacture of mechanical piping components.

Valve technology

Apollo

Apollo Valves has been supplying the commercial and industrial valve markets since 1928. The valves, with their signature yellow handles, are designed and manufactured in their state-of-the-art facilities in the Carolinas, USA. Apollo's vertical manufacturing integration assures better quality control, better cost control, and the shortest delivery lead times possible for their range of ball valves, automation products, safety relief valves, backflow preventers and plumbing/heating products.

VSH PowerPress®

material	carbon steel
suitable for	thick-walled steel
connection	press / DW-profile
dimensions	½" - 2" (DN15 – DN50)

VSH SudoPress

material	carbon steel / stainless steel / copper
suitable for	carbon steel / stainless steel / copper
connection	press / V-profile
dimensions	12 – 108 mm (DN10 – DN100)

VSH XPress

material	carbon steel / stainless steel / copper / cunifer
suitable for	carbon steel / stainless steel / copper / cunifer
connection	press / M-profile

VSH Shurjoint

material	ductile iron / stainless steel
suitable for	thick-walled steel / stainless steel / HDPE
connection	groove
dimensions	½" - 104" (DN15 – DN2600)

VSH Super

material	brass
suitable for	carbon steel / stainless steel / copper / plastic
connection	compression
dimensions	6 – 54 mm (DN4 – DN50)

VSH SmartPress

material	stainless steel
suitable for	stainless steel (schedule 5S/10S)
connection	press / V-profile (ASP)
dimensions	½" - 2" (DN15 – DN50)

Apollo Valves

material	brass / bronze / carbon steel / stainless steel
suitable for	steel / carbon steel / stainless steel / copper
connection	threaded / press / push / flange
dimensions	DN15 – DN300

Apollo ProFlow

material	brass / ductile iron
suitable for	carbon steel / stainless steel / copper / plastic
connection	threaded / press / flange
dimensions	DN15 – DN300

Seppelfricke

material	brass
suitable for	steel / carbon steel / stainless steel / copper
connection	press (V & M profile) / threaded
dimensions	10 – 54 mm (DN8 – DN50)

VSH UltraPress

material	PPSU / brass
suitable for	plastic
connection	press / U & TH profile
dimensions	14 – 63 mm (DN10 – DN50)

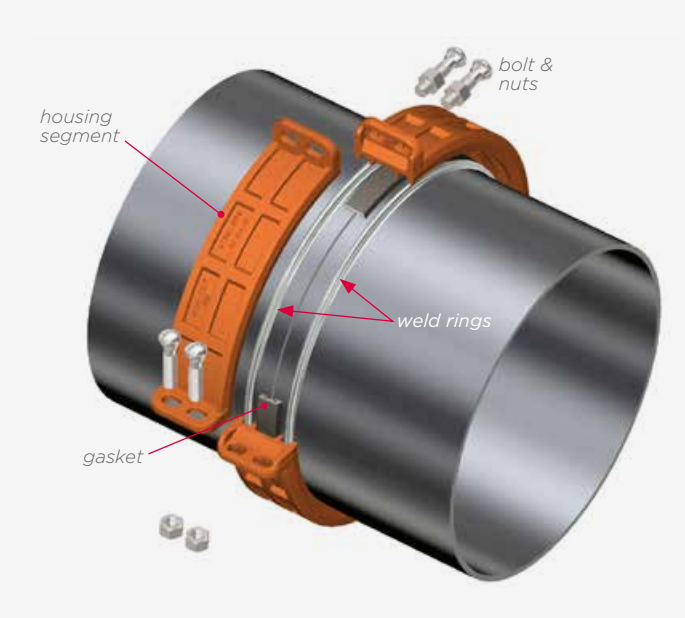
VSH UltraLine

material	PPSU / brass / PVDF
suitable for	plastic
connection	sliding sleeve
dimensions	14 – 32 mm (DN10 – DN25)

VSH Tectite

material	copper / brass / stainless steel
suitable for	copper / carbon steel / stainless steel
connection	push
dimensions	10 – 54 mm (DN8 – DN50)

VSH Shurjoint Ring Joint system



VSH Shurjoint R-88 ring joint coupling

The VSH Shurjoint Ring Joint piping system is a non-grooved mechanical pipe joining method, an excellent alternative where pipes are difficult to groove or when grooving, flanges or welding is not the preferred method. The ring joint coupling can be installed 3 to 4 times faster than a comparable welded or flanged joint.

The processing of a roll groove on pipes becomes more difficult as the pipe O.D. and wall thickness increases. Roll grooving pipes larger than 14" (350 mm) requires proper tools and equipment. Pipes with a wall thickness larger than 0.375" (9.5 mm) may not be practical to roll groove.

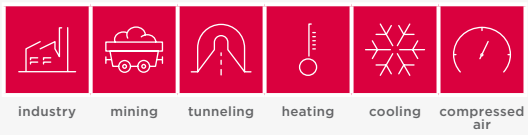
Every VSH Shurjoint Ring Joint coupling is delivered complete with a pair of factory supplied weld rings.

The VSH Shurjoint Ring Joint couplings are considered shouldered couplings with the factory-supplied rings serving as the joint shoulders. The performance standards meet and/or exceed the requirement of ASTM F1476 and AWWA C606. The factory supplied weld rings offer a much more economical and installation friendly alternative to that of traditional shoulder rings, including Type A, B, C, D, E and G rings. The VSH Shurjoint Ring Joint coupling provides a much more secure joint than that of a comparable standard roll or cut grooved joint, while maintaining full bore flow and full pipe wall thickness, which is often required in abrasive media applications. Each joint also serves as a union, making for easy assembly, disassembly, service and system expansion. Custom high pressure couplings with working pressures to 260 bar (3770 psi) are also available.

VSH Shurjoint Ring Joint couplings can also be used on stainless steel pipe and are available with optional compatible grade stainless steel rings. Contact Aalberts integrated piping systems for details and availability.

included in applications

- water & waste water treatment plants
- mining & tunnel boring
- pulp & paper plants
- hydroelectric plants
- co-gen electric plants
- food & beverage
- compressed air
- HVAC



VSH Shurjoint Ring Joint R-88 couplings used in a domestic water treatment plant.

VSH Shurjoint Ring Joint coupling range

model	VSH Shurjoint R-88	VSH Shurjoint RH-1000	VSH Shurjoint RX-3000	VSH Shurjoint RX-3770
description	A shouldered coupling with factory supplied weld rings serving as the joint shoulders. The weld rings are much more economical and installa-tion friendly compared to traditional shoulder rings and can also be used on stainless steel piping systems with optional weld rings available in stainless steel grades.	The coupling is comprised of two ductile iron heavy-wall housing sements, rubber gasket and two heat-treated track bolts and nuts and provides a fully restrained joint.	The coupling is comprised of two ductile iron heavy-wall housing segments, rubber gasket and two or four heat-treated track bolts and nuts which provide a fully restrained joint.	The coupling is comprised of two ductile iron heavy-wall segments, rubber EPDM gasket and four heat-treated track bolts and nuts which provide a fully restrained joint.
dimensions	8" - 96"	8" - 12"	8" - 12"	6" - 12"
standards	AWWA C606 standards	-	-	
pressure rating	max. working pressure 28 bar depending on pipe dimensions.	up to 70 bar (1000 psi) depending on theused piping system.	maximum working pressure up to 210 bar (3000 psi) depending on the used piping system.	maximum working pressure up to 260 bar (3770 psi) depending on the used piping system.
ring welding method	Two factory supplied steel weld rings must be fully welded at both sides.	Two factory supplied steel weld rings must be fully welded at both sides.	Two factory supplied steel weld rings must be fully welded at both sides.	Two factory supplied steel weld rings must be fully welded at both sides.
gasket	EPDM	EPDM or Nitrile	EPDM or Nitrile	EPDM
pipe	Schedule 40, 80 and heavier wall carbon steel pipe	Schedule 40, 80 and heavier wall carbon steel pipe	Schedule 80, 120 and heavier wall carbon steel pipe	extra strong carbon steel pipe including API 5L grade X65 line pipe

R-88 couplings used in tunnel boring/mining application.

R-88 couplings used on a stainless steel hydro electric piping system.

VSH Shurjoint Ring Joint couplings used in a water treatment application

VSH Shurjoint

technical data

applications

industrial installations

VSH Shurjoint Ring Joint couplings can be used in many industrial applications, such as:

- mining & tunnel boring
- abrasive (raw, scouring) media, slurry lines
- pulp & paper plants
- hydroelectric and co-gen electric plants
- food & beverage
- compressed air
- water & waste water treatment plants
- HVAC
- chemical lines
- sea water reverse osmosis
- irrigation

couplings

material specifications

When designing a piping system, it's important to select pipe with the appropriate wall thickness, corresponding with the intended working pressure of the system. The table below lists design working pressures by the pipe wall schedule, XS, STD and LW, of representative ASTM A53 Gr. B carbon steel pipe calculated in accordance with the formula stipulated in ASME B31.1 Power Piping para. 104.1.

$$P = \frac{2SE\,(tm - A)}{O.D. - 2y\,(tm - A)}$$

where:

P = maximum internal service pressure (psi)
SE = allowable stress [psi] (ASTM A53 Gr. B = 15.000 psi)
tm = minimum pipe wall thickness [inch] (87.5% of nominal wall thickness)
O.D. = outside diameter of pipe [inch]
y = wall thickness coefficient (for ferritic steels 600°F or below = 0.4)
A = additional thickness [inch] (A = 0)

maximum internal service pressure of carbon steel pipe, ASTM A53 Gr. B

nominal size		XS	STD	LW
[DN]	[inch]	12.7 mm (0.5") wall thickness	9.53 mm (0,375") wall thickness*	6,35 mm (0,25") / 7,92 mm (0,312") wall thickness**
200	8	1586	1006	777
250	10	1262	913	621
300	12	1058	788	522
350	14	962	717	475
400	16	839	625	415
450	18	744	555	368
500	20	668	499	331
600	24	555	415	275
650	26	512	382	318
700	28	475	355	295
750	30	443	331	275
800	32	415	310	258
900	36	368	275	229
950	38	349	261	217
1000	40	331	248	206
1050	42	315	236	187
1100	44	301	225	-
1200	48	275	206	-
1300	52	254	190	-
1350	54	245	183	-
1400	56	236	177	-
1500	60	220	165	-
1650	66	200	150	-
1700	68	194	145	-
1800	72	183	137	-
2100	84	157	118	-
2400	96	137	103	-

except: * 8": 8.17 mm (0,322")
**8"-24": 6.35 mm(0,25") / 26"-42": 7.92 mm (0.312")

coupling housings

Ductile iron: per ASTM A536 grade 65-45-12, and/or ASTM A395 grade 65-45-15 minimum tensile strength 65.000 psi or 448 MPa.
Paint: orange
Optional: hot-dip galvanized, epoxy coating or polyamid 11 (nylon) coating is also available upon request.

bolts & nuts

Bolts: Carbon steel heat-treated track bolts to ASTM A183 grade 2.
Nuts: Carbon steel heavy duty nuts to ASTM A563. Both bolts and nuts are UNC threaded and electro zinc plated.

weld rings

Factory supplied end rings are made of carbon steel per SAE J403 (ANSI) 1020.Optional: stainless steel rings: Type 304, 316 or 316L available upon request.

gaskets

always specify the desired compound (grade) at time of order

material	grade	colour code	recommendations for use	temperature range
EPDM	E	 green stripe	suitable for cold and hot water (up to +110°C). Also suitable for applications with acidic water, chlorinated water, deionised water, seawater and wastewater, dilute acids, oil-free air and many chemicals. caution: not recommended for petroleum oils, mineral oils, solvents or aromatic hydrocarbons	-34°C to +110°C
NBR	T	 orange stripe	suitable for petroleum oils, mineral oils, vegetable oils, non-aromatic hydrocarbons, many acids and water (+65°C).	-29°C to +82°C

Warning! EPDM gaskets for water applications are not recommended for steam applications. Failure to select the proper gasket and compound may result in joint leakage or failure, resulting in personal injury and/or property damage. Gaskets should never be exposed to temperatures outside their rated range.

note: other gasket options are also available

approvals

Aalberts integrated piping systems production facilities are certified to ISO 9001. Products are designed to conform and meet or exceed all applicable domestic and international standards and are listed, approved and/or certified by various approval bodies and registration authorities. Aalberts integrated piping systems is also active in industry and environmental organisations.

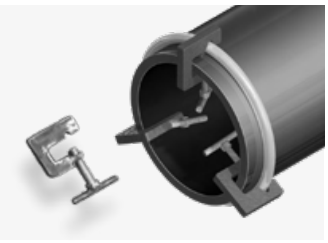
Approvals	
ANSI	**ANSI** American National Standards Institute
AWWA	**ANSI/AWWA** American Water Works Association C606 (latest edition)
ASTM INTERNATIONAL	**ASTM** American Society of Testing and Materials F 1476–01 Couplings, F 1548–01 Fittings, F 1155 Shipbuilding
CNBOP-PIB	**CNBOP-PIB** Scientific and Research Centre for Fire Protection - National Research Institute
CANADIAN STANDARDS ASSOCIATION	**CSA** Canadian Standards Association B-242
FM APPROVED	**FM** Factory Mutual Research Corp. - Approved for Fire Protection Services
IAPMO R&T	**IAPMO R&T** IAPMO Research and Testing, Inc.
LR	**LLOYD** Lloyd's Register Quality Assurance ISO 9001:2008
LPCB	**LPCB** Loss Prevention Certification Board LPS-1219
NFPA	**NFPA** National Fire Protection Association NFPA 13
NSF WATER QUALITY	**NSF** NSF/ANSI 61 Drinking Water System Components - Health Effects NSF/ANSI 372 Drinking Water System Components - Lead Content
c UL us LISTED	**UL** Underwriter's Laboratories, Inc. - UL213
ULC	**ULC** Underwriter's Laboratories of Canada
TSUS	**TSUS** Technický a Skúýobný Ústav Stavebný, n. o.
VdS	**VdS** VdS Schadenverhütung

installation instructions

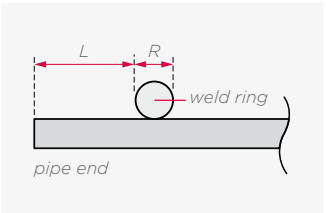
When installing VSH Shurjoint Ring Joint couplings, always make sure to take care in using protective gear on the building site. Always wear at minimum safety shoes, a safety helmet and safety glasses.

installation instructions VSH Shurjoint Ring Joint couplings

1. mount the weld rings with clamps

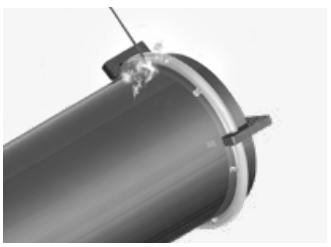


Mount the factory supplied weld ring on the pipe end using the VSH Shurjoint ring clamp, C-clamp or other device to position and secure the ring in place.



Prior to welding make sure that the 'L' dimension (the distance between the pipe end and the weld ring) is as specified for the coupling and pipe size combination.

2. weld the ring onto the pipe



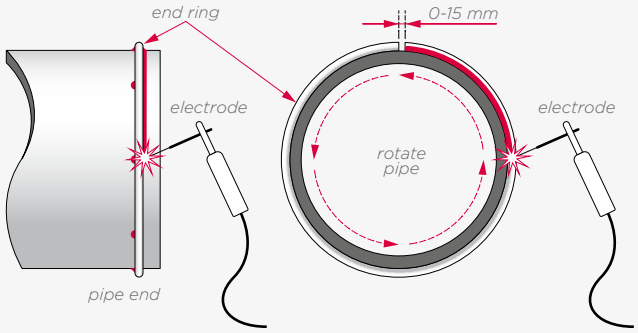
First, weld the butt ends of the ring together. Next, tack weld the ring onto the pipe at several locations. Remove the ring clamps or other positioning devices.

3. determine if a full or partial weld is required

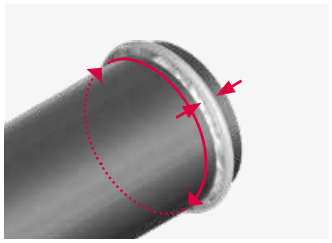
Determine the type of weld required, full or partial, depending on the intended system working pressure. VSH Shurjoint Ring Joint couplings are supplied with weld rings, designed for a variety of service and pressure applications. Refer to the table on page 13 for working pressures and full and partial welding information. Weld the ring onto the pipe using the proper weld(s) for the intended service.

welding conditions

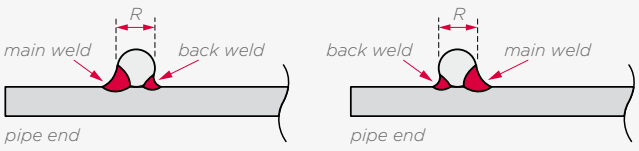
- method: SMAW (Shielded Metal Arc Welding). GTAW or FCAW welding is also acceptable
- electrode: flux-cored electrode 2.4 mm (3⁄32") to 3.2 mm (1⁄8")
- welding speed: 300 mm (12") to 400 mm (16") per minute
- current: 110–160A, rotate pipe so that you can keep your electrode holder in position.



full ring welding

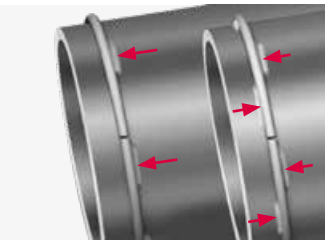


Full welding means both sides of the ring are fully welded around the circumference of the pipe. One side shall be referred to as the 'main weld' and the other side as 'back weld'. Either side of the weld ring can receive the main weld.



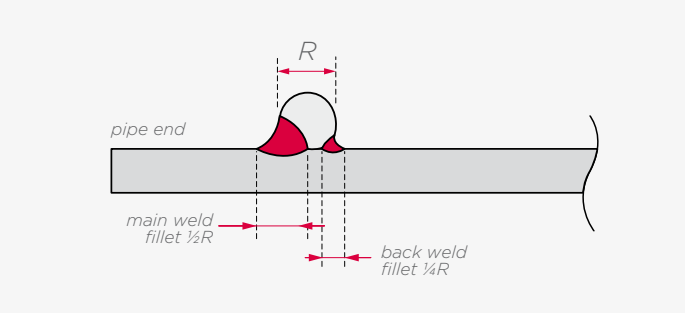
main end and back end weld

partial ring welding



For lower pressure applications, weld rings need not be fully welded around the entire circumference of the pipe. in this case, partial ring welding will provide sufficient strength. In case of partial ring welding, the weld shall be processed on the backside (away from the pipe end) of the ring. An equal alternating or zigzag weld is acceptable. Welds should be e qual length and evenly spaced. Back welding provides additional strength to a partial weld.

The fillet size of the main weld should measure a minimum of one half of the end ring size. The back weld should measure a minimum of one quarter of the ring size.



welding fillet size

standard end ring & fillet size

end ring size		main weld size		back weld size	
[inch]	[mm]	[inch]	[mm]	[inch]	[mm]
¼"	6.0	⅛"	3.0	1/16"	1.5
9/32"	7.0	9/64"	3.5	9/128"	1.75
5/16"	8.0	5/32"	4.0	5/64"	2
⅜"	9.5	3/16"	4.8	3/32"	2.4
½"	12.0	¼"	6.0	⅛"	3
⅝"	16.0	5/16"	8.0	5/32"	4
¾"	19.0	⅜"	9.5	3/16"	4.75

working pressure / full & partial ring welding

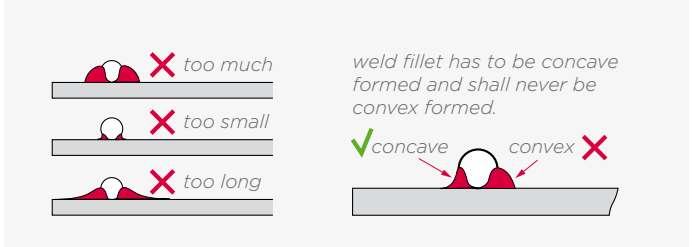
Minimum required weld lengths and corresponding working pressures for applicable steel pipe.

nominal pipe size		weld length per working pressure							
		< 125 psi	< 9 bar	< 175 psi	< 12 bar	< 300 psi	< 20 bar	< 350 psi	< 24 bar
[inch]	[DN]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]
8	200	10	254	14	356	20	208	full weld	
10	250	12	305	20	508	30	762	full weld	
12	300	16	406	24	610	36	914	full weld	
14	350	18	457	28	711	40	1016	full weld	
16	400	22	559	32	813	full weld		full weld	
18	450	28	711	40	1016	full weld		full weld	
20	500	30	762	44	1118	full weld		full weld	
24	600	40	1016	56	1422	full weld		full weld	
26	650	42	1067	60	1524	full weld		full weld	
28	700	44	1118	62	1575	full weld		full weld	
30	750	48	1219	70	1776	full weld		full weld	
32	800	50	1270	76	1930	full weld		full weld	
34	850	54	1372	80	2030	full weld		full weld	
36	900	68	1727	88	2235	full weld		full weld	
38	950	76	1930	94	2388	full weld			
40	1000	78	1981	102	2591	full weld			
42	1050	81	2057	106	2692	full weld			
44	1100	90	2286	114	2896	full weld			
48	1200	110	2794	130	3302	full weld			
52	1300	136	3454	full weld		full weld			
54	1350	140	3556	full weld		full weld			
56	1400	150	3810	full weld		full weld			
60	1500	164	4166	full weld		full weld			
66	1650	full weld		full weld					
68	1700	full weld		full weld					
72	1800	full weld		full weld					
84	2100	full weld							
96	2400	full weld							

- applicable to model R-88 couplings only.
- 'full weld' means both sides of the weld ring are fully welded, all others are welded one side only.
- refer to max. Internal Service Pressure of Carbon Steel Pipe, ASTM A53 grade B table on page 10.

4. quick check guide

After welding use an R-88 housing segment as a gauge to check the weld size by ensuring full and smooth engagement. The housing ring pocket must fully engage the ring without interference from the weld fillet material.



proper welding fillet

5. weld the second ring

Repeat step 3 and weld the second ring to the other pipe end to be connected.

Clean the surface with a wire brush or angle grinder removing all weld scale. Ensure that the gasket seating area is free of burrs, scale or weld spatter.

6. apply a rust prevention coating

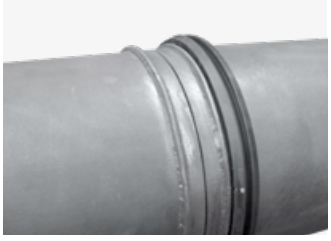
After welding apply a thin smooth coat of a rust prevention resin paint coating to the rings, weld areas and pipe ends. A fast drying paint is preferred.

7. lubricate and install gasket

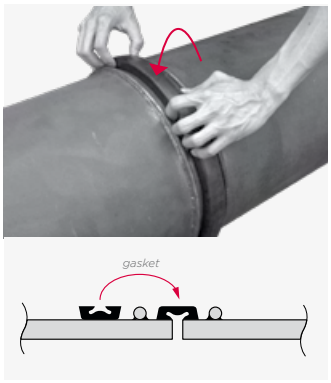
Apply a thin coat of VSH Shurjoint lubricant to the gasket exterior and sealing lips.

Install the gasket over one pipe and turn the gasket inside out.

8. align the pipe ends to be connected



Bring the mating pipe ends together and align them.



Turn the gasket back over the ring and center the gasket over the pipe ends and between the rings.

9. install the coupling segments

Place the coupling segments over gasket so that the housing engages both rings.

For larger size couplings, multiple segments can be loosely pre-assembled to aid in installation.

10. tighten bolts and nuts

Install all bolts and nuts hand tight making sure the oval neck of the bolt fully engages into the housing bolt hole. Tighten nuts alternately and equally until all bolt pads come metal to metal.

recommended torque

	torque	
bolt size [inch]	**[Lbs-Ft]**	**[Nm]**
⅝"	100 - 130	136 - 176
¾	150 - 200	203 - 271
⅞"	180 - 220	244 - 298
1"	200 - 250	271 - 339
1¼"	250 - 350	339 - 475
1½"	350- 500	475 - 678

Note: for systems subject to vibration or movement the use of Belleville washers or periodic checks to ensure tightness of bolts and nuts are recommended.

warranty

Contact Aalberts integrated piping systems for the most recent warranty conditions that apply to VSH Shurjoint Ring Joint couplings.

warning

Always depressurize and drain the piping system before attempting to install, remove, adjust, or repair any VSH Shurjoint coupling or valve. Failure to comply with these instructions could lead to joint failure or resulting in serious personal injury, product and or property damage.

note: non-destructive testing is not required by Aalberts integrated piping systems. Proper assembly of the rings, to which this would fall under, is the responsibility of the contractor/installer and is ultimately their decision regarding any standard, testing, or qualification of the welding personnel. Generally accepted piping and welding practices should be followed

angular deflection

The R-88 coupling is designed to provide a restrained joint with a controlled range of angular deflection (flexibility). The degree of deflection is influenced by several factors including; pipe, fitting and component dimensions, pipe end squareness, ring location, weld size and system pressure. When designing a piping system these considerations should be factored into the system. When increased deflection is requiered please contact Aalberts integrated piping systems for customised solutions.

As with all piping systems proper support and anchoring is essential. Standard Industry requirements such as B31.1 (Power Piping), B31.9 (Building Services) and B31.11 (Slurry Transportation), etc. should be followed for specific type of piping systems compound EPDM (grade E) Nitrile (grade T) application.

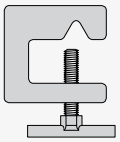
VSH Shurjoint

Ring Joint couplings

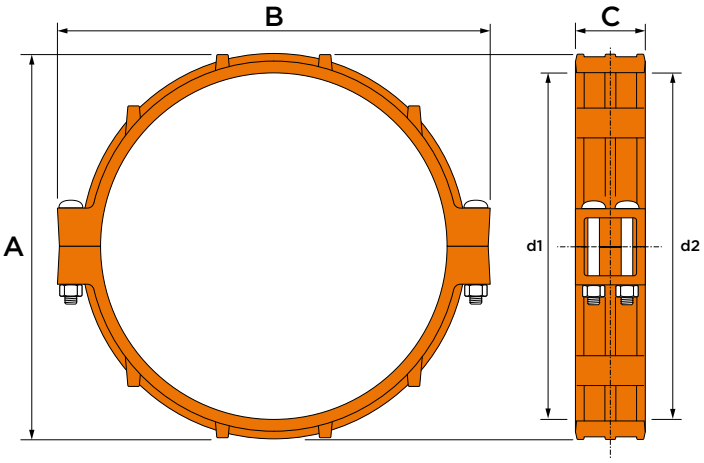
R-88 Ring Joint coupling 8”- 12”
(2 x ring joint)

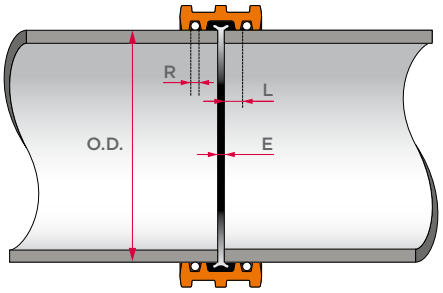
specifications

- with 2 weld rings & E gasket
- max. working pressure 28 bar
- pipe schedule 40 - 80
- dimensions 8” - 12” (20 - 30 cm)
- 2 housing segments, 2 bolts



including 3 clamps





	nominal size		pipe O.D.		weight		dimensions A		B		C		bolts size			sealing surface L		weld ring R	
article nr.	[inch]	[DN]	[inch]	[mm]	[lbs]	[kgs]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[no.]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]
10R880085002	8	200	8.625	219.1	16.8	7.6	10.08	256	13	330	3.11	79	2	¾ x 4¾	M20 x 120	0.91	23	¼	6
10R8800A1002	10	250	10.75	273	22.2	10.1	12.29	312	15.20	386	3.25	83	2	¾ x 4¾	M20 x 120	0.91	23	¼	6
10R8800A3002	12	300	12.75	323.9	30.8	14	14.72	374	17.90	455	3.39	86	2	⅞ x 6½	-	1.02	26	5/16	8
10R880080002	200 JIS	-	8.516	216.3	17.6	8	9.96	253	12.87	327	3.11	79	2	-	M20 x 120	0.91	23	¼	6
10R8800A0002	250 JIS	-	10.528	267.4	22	10	12.05	306	14.96	380	3.25	83	2	-	M20 x 120	0.91	23	¼	6
10R8800A2002	300 JIS	-	12.539	318.5	32.6	14.8	14.53	369	17.72	450	3.39	86	2	-	M20 x 120	1.02	26	5/16	8

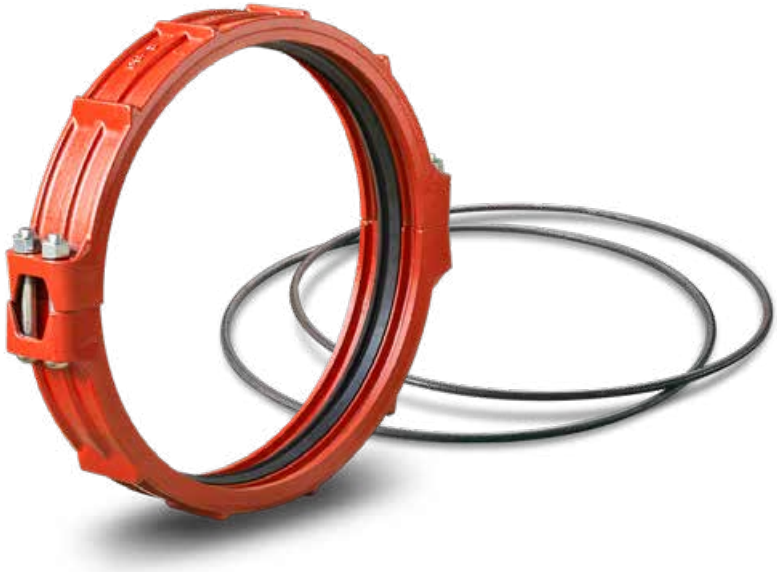
	size	max. working pressure (cwp)* rings both sides fully welded**		max. working load (cwp)* rings both sides fully welded**		axial displacement[1] E		angular movement (deflection) per coupling	per pipe	
article nr.	[inch]	[psi]	[bar]	[lbf]	[kN]	[inch]	[mm]	[°]	[inch/ft]	[m/mm]
10R880085002	8	400	28	23350	105.51	0-0.340	0-8.7	2.14	0.45	37
10R8800A1002	10	400	28	36280	163.81	0-0.340	0-8.7	1.95	0.41	34
10R8800A3002	12	400	28	51040	230.59	0-0.190	0-4.8	0.82	0.17	14
10R880080002	200 JIS	400	28	22770	102.83	0-0.340	0-8.7	1.50	0.31	26
10R8800A0002	250 JIS	400	28	34800	157.16	0-0.340	0-8.7	1.50	0.31	26
10R8800A2002	300 JIS	400	28	49360	222.97	0-0.190	0-4.8	1.50	0.31	26

Note: dimensions are subject to change without notice. Other sizes are available on request
* Working Pressure and End Load are the total from all internal and external loads based on the applicable pipe wall thickness.
** Working Pressure is based on rings both sides fully welded standard wall carbon steel pipe.

1 Allowable Axial Displacement and Angular Movement (Deflection) figures shown are the maximum nominal range of movement at each R-88 coupling joint when rings are welded in the standard position. For design and installation purposes these figures should be reduced by 25%.
2 10 mm shoulder rings are acceptable. The number of ring clamps listed is the minimum required to correctly position the weld ring around the circumference of the pipe end.
*** Some pipe standards allow for increased variation in OD as size increases. Aalberts intergated piping systems recommends a tolerance limit of +/- 1.6 mm (0.063”) for sizes larger than 660.4 mm (26”). Buyer should consult with the pipe manufacturer to limit this variation on what is acceptable, as this may affect performance.

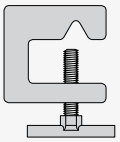
R-88N Ring Joint coupling 14” - 26”

(2 x ring joint)

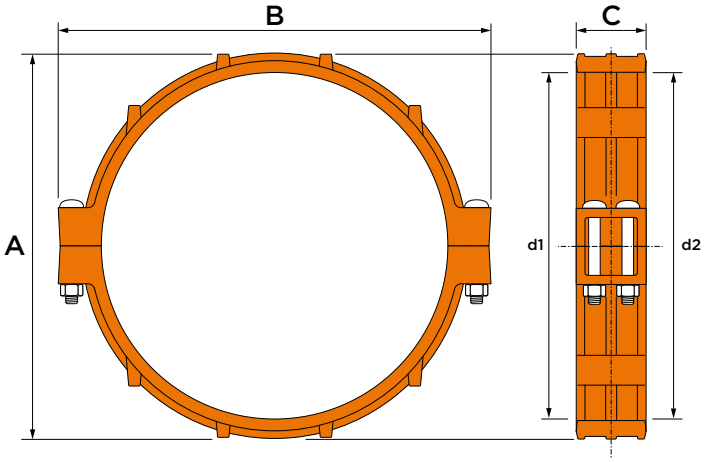


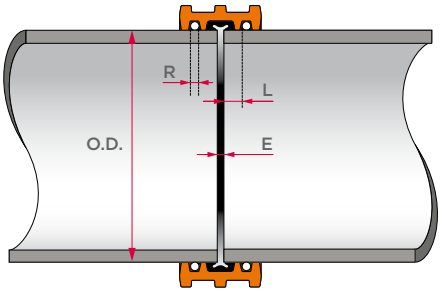
specifications

- with weld rings & E gasket
- max. working pressure 20 - 28 bar
- pipe schedule 40 - 80
- dimensions 14” - 26” (35 - 65 cm)
- 2 housing segments, 2 or 4 bolts



including 4 clamps





	nominal size		pipe O.D.		weight		dimensions A		B		C		bolts	size		sealing surface L		weld ring R	
article nr.	[inch]	[DN]	[inch]	[mm]	[lbs]	[kgs]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[no.]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]
1R88N00A4002	14	350	14	355.6	31.5	14.3	15.93	405	19.40	493	3.65	93	2	⅞ x 5½	-	1.02	26	5/16	8.0
1R88N00A6002	16	400	16	406.4	35.0	15.9	17.92	455	21.52	547	3.65	93	2	⅞ x 5½	-	1.02	26	5/16	8.0
1R88N00A8002	18	450	18	457.2	59.9	27.2	20.37	517	24.17	614	4.23	107	2	1 x 5½	-	1.18	30	5/16	8.0
1R88N00B0002	20	500	20	508.0	69.5	31.6	22.46	570	25.99	660	4.35	110	2	1 x 5½	-	1.18	30	⅜	9.5
1R88N00B4002	24	600	24	609.6	101.9	46.3	27.17	690	30.00	762	4.84	123	4	⅞ x 6½	-	1.18	30	½	12.7
1R88N00B6002	26	650	26	660.4	173.5	78.7	29.58	751	32.78	832	6.69	170	4	1 x 10	-	1.97	50	½	12.7

	size	max. working pressure (cwp)* rings both sides fully welded**		max. working load (cwp)* rings both sides fully welded**		axial displacement[1] E		angular movement (deflection) per coupling	per pipe	
article nr.	[inch]	[psi]	[bar]	[lbf]	[kN]	[inch]	[mm]	[°]	[inch/ft]	[m/mm]
1R88N00A4002	14	400	28	61540	277.94	0-0.250	0-6.4	1.20	0.25	21
1R88N00A6002	16	400	28	80380	363.02	0-0.250	0-6.4	0.90	0.19	16
1R88N00A8002	18	400	28	101730	459.45	0-0.375	0-9.5	1.20	0.25	21
1R88N00B0002	20	400	28	125600	567.22	0-0.375	0-9.5	1.08	0.23	19
1R88N00B4002	24	400	28	180860	816.80	0-0.375	0-9.5	0.80	0.17	14
1R88N00B6002	26	300	20	159190	684.72	0-0.500	0-12.7	1.06	0.22	18

Note: dimensions are subject to change without notice. Other sizes are available on request

* Working Pressure and End Load are the total from all internal and external loads based on the applicable pipe wall thickness.

** Working Pressure is based on rings both sides fully welded standard wall carbon steel pipe.

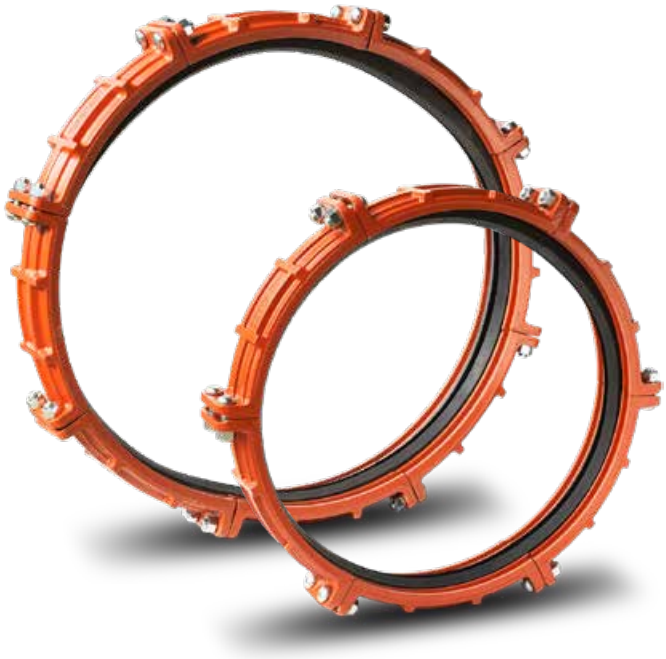
1 Allowable Axial Displacement and Angular Movement (Deflection) figures shown are the maximum nominal range of movement at each R-88 coupling joint when rings are welded in the standard position. For design and installation purposes these figures should be reduced by 25%.

2 10 mm shoulder rings are acceptable. The number of ring clamps listed is the minimum required to correctly position the weld ring around the circumference of the pipe end.

*** Some pipe standards allow for increased variation in OD as size increases. Aalberts intergated piping systems recommends a tolerance limit of +/- 1.6 mm (0.063”) for sizes larger than 660.4 mm (26”). Buyer should consult with the pipe manufacturer to limit this variation on what is acceptable, as this may affect performance.

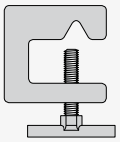
R-88 large diameter ring joint coupling 28” - 96”

(2 x ring joint)

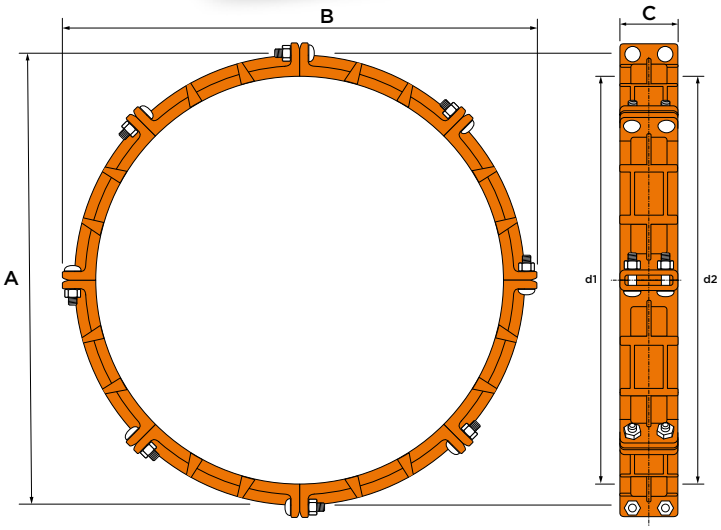


specifications

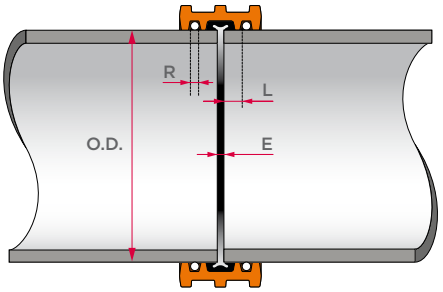
- with weld rings & E gasket
- max. working pressure 7 - 20 bar
- pipe schedule 40 - 80
- dimensions 28” - 96” (70 - 240 cm)
- 6 housing segments, 12 bolts,
  8 housing segments, 16 bolts



including 4 clamps (28” - 38”)
including 6 clamps (40” - 60”)
including 8 clamps (66” - 96”)



	nominal size		pipe O.D.		weight		dimensions A		B		C		bolts	size	sealing surface L		weld ring R	
article nr.	[inch]	[DN]	[inch]	[mm]	[lbs]	[kgs]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[no.]	[inch]	[inch]	[mm]	[inch]	[mm]
10R8800B8002	28	700	28	711.2	222.2	101	31.75	806	35.47	901	6.69	170	12	⅞ x 4	2	50	½	12.7
10R8800C0002	30	750	30	762	218.9	99.5	33.75	857	37.6	955	6.69	170	12	1 x 3½	2	50	½	12.7
10R8800C2002	32	800	32	812.8	225.4	102.2	35.75	908	39.45	1002	6.69	170	12	1 x 3½	2	50	½	12.7
10R8800C4002	34	850	34	863.4	253	115	37.75	959	41.5	1054	7.87	200	12	1 x 3½	2	50	½	12.7
10R8800C6002	36	900	36	914.4	246	111.6	39.75	1010	43.5	1103	7.87	200	12	1 x 3½	2	50	½	12.7
10R8800C8002	38	950	38	965.2	275	125	41.75	1060	45.5	1156	7.87	200	12	1 x 3½	2	50	½	12.7
10R8800D0002	40	1000	40	1016	310.2	141	44.69	1135	48.39	1229	7.87	200	16	1 x 3½	2.37	60	⅝	15.9
10R8800D2002	42	1050	42	1066.8	326.9	148.6	46.7	1186	50.71	1288	7.87	200	16	1 x 3½	2.37	60	⅝	15.9
10R8800D4002	44	1100	44	1117.6	343.2	156	48.66	1236	52.64	1337	7.87	200	16	1¼ x 5	2.37	60	⅝	15.9
10R8800D8002	48	1200	48	1219.2	466.7	211.8	52.68	1338	55.91	1420	7.87	200	16	1 x 3½	2.37	60	⅝	15.9
10R8800E2002	52	1300	52	1320.8	453.2	206	61.25	1555	60.67	1541	7.87	200	16	1¼ x 5	2.37	60	⅝	15.9
10R8800E4002	54	1350	54	1371.6	472.1	214.6	63.25	1607	62.52	1588	7.87	200	16	1¼ x 5	2.37	60	⅝	15.9
10R8800E6002	56	1400	56	1422.4	488.2	222	65.38	1660	64.69	1643	7.87	200	16	1¼ x 5	2.37	60	⅝	15.9
10R8800F0002	60	1500	60	1524	537.2	244.2	69.38	1762	68.82	1748	7.87	200	16	1¼ x 5	2.37	60	⅝	15.9
10R8800F6002	66	1650	66	1676.4	612.5	278.4	760	1932	75.75	1924	8	216	16	1½ x 5	2.37	60	¾	19.1
10R8800F8002	68	1700	68	1727.2	785.4	357	78.50	1994	783	1982	8	216	16	1½ x 5	2.37	60	¾	19.1
10R8800G2002	72	1800	72	1828.8	737.7	335.3	82.50	2095	82.28	2090	8	216	16	1½ x 6⅞	2.37	60	¾	19.1
10R8800H4002	84	2100	84	2133.6	780.3	354.7	94.75	2406	93.81	2383	8	216	16	1½ x 5	2.37	60	¾	19.1
10R8800I6002	96	2400	96	2438.4	823.2	374.2	106.75	2711	106.54	2706	8	216	16	1½ x 5	2.37	60	¾	19.1



	size	max. working pressure (cwp)* rings both sides fully welded**		max. working load (cwp)* rings both sides fully welded**		axial displacement[1] E		angular movement (deflection) per coupling	angular movement (deflection) per pipe	
article nr.	**[inch]**	**[psi]**	**[bar]**	**[lbf]**	**[kN]**	**[inch]**	**[mm]**	**[°]**	**[inch/ft]**	**[m/mm]**
10R8800B8002	28	300	20	184630	794.11	0-0.500	0-12.7	0.90	0.19	12
10R8800C0002	30	300	20	211950	911.61	0-0.500	0-12.7	0.86	0.18	12
10R8800C2002	32	300	20	241150	1037.21	0-0.500	0-12.7	0.84	0.18	12
10R8800C4002	34	300	20	272230	1170.37	0-0.500	0-12.7	0.84	0.18	12
10R8800C6002	36	300	20	305200	1312.72	0-0.500	0-12.7	0.76	0.16	12
10R8800C8002	38	232	16	262980	1170.10	0-0.500	0-12.7	0.76	0.16	12
10R8800D0002	40	232	16	291390	1296.51	0-0.625	0-15.9	0.80	0.17	16
10R8800D2002	42	232	16	321250	1429.41	0-0.625	0-15.9	0.86	0.18	16
10R8800D4002	44	232	16	352580	1568.78	0-0.625	0-15.9	0.80	0.17	16
10R8800D8002	48	232	16	419600	1866.98	0-0.625	0-15.9	0.70	0.15	16
10R8800E2002	52	175	12	371460	1643.33	0-0.625	0-15.9	-	-	16
10R8800E4002	54	175	12	400580	1772.17	0-0.625	0-15.9	-	-	16
10R8800E6002	56	175	12	430800	1905.87	0-0.625	0-15.9	-	-	16
10R8800F0002	60	175	12	494550	2187.87	0-0.625	0-15.9	-	-	16
10R8800F6002	66	175	12	598709	2663.19	0-0.750	0-19.1	-	-	16
10R8800F8002	68	175	12	635544	28274	0-0.750	0-19.1	-	-	16
10R8800G2002	72	175	12	712513	3169.41	0-0.750	0-19.1	-	-	16
10R8800H4002	84	100	7	553890	2501.46	0-0.750	0-19.1	-	-	16
10R8800I6002	96	100	7	723450	3267.21	0-0.750	0-19.1	-	-	16

Note: dimensions are subject to change without notice. Other sizes are available on request

* Working Pressure and End Load are the total from all internal and external loads based on the applicable pipe wall thickness.

** Working Pressure is based on rings both sides fully welded standard wall carbon steel pipe.

1 Allowable Axial Displacement and Angular Movement (Deflection) figures shown are the maximum nominal range of movement at each R-88 coupling joint when rings are welded in the standard position. For design and installation purposes these figures should be reduced by 25%.

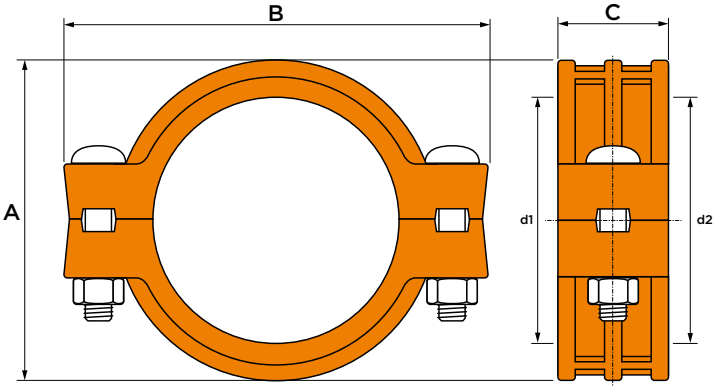
2 10 mm shoulder rings are acceptable. The number of ring clamps listed is the minimum required to correctly position the weld ring around the circumference of the pipe end.

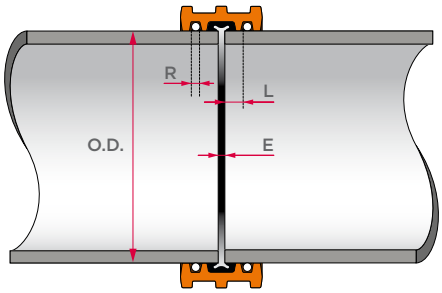
*** Some pipe standards allow for increased variation in OD as size increases. Aalberts intergated piping systems recommends a tolerance limit of +/- 1.6 mm (0.063") for sizes larger than 660.4 mm (26"). Buyer should consult with the pipe manufacturer to limit this variation on what is acceptable, as this may affect performance.

RH-1000 69 bar Ring Joint coupling
(2 x ring joint)

specifications

- with weld rings & E gasket
- max. working pressure 69 bar
- pipe schedule 40 - 80
- dimensions 8" - 12" (20 - 30 cm)
- housing: orange painted cast iron (ASTM A536 65-45-12)





	nominal size		pipe O.D.		weight		dimensions A		B		C		bolts & nuts[1]	
article nr.	[inch]	[DN]	[inch]	[mm]	[lbs]	[kgs]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[no.]	size [inch]
1RH100085003	8	200	8.625	219.1	39.8	18.1	11.10	282	14.65	372	3.86	98	2	1 x 5½
1RH1000A1003	10	250	10.750	273	57.2	26	13.32	340	16.93	430	4.25	108	2	1 x 6½
1RH1000A3003	12	300	12.750	323.9	72.6	33	16.33	415	20.07	510	4.17	106	2	1 x 6½

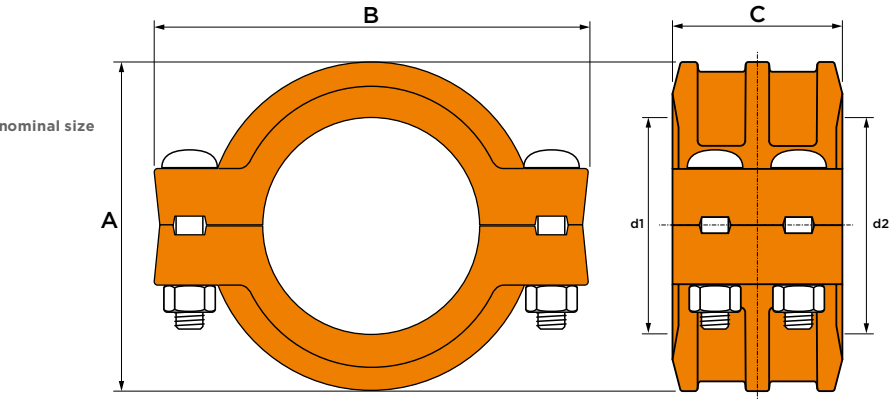
	size	max. working pressure (cwp)*		max. end load (cwp)		weld ring R		sealing surface L		max. axial displacement E		deflection
article nr.	[inch]	[psi]	[bar]	[lbf]	[kN]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[°]
1RH100085003	8	1000	69	58390	263.79	0.472 - 0.500	12.0 - 12.7	1	25	0.13	3.2	0 – 18
1RH1000A1003	10	1000	69	90710	409.54	0.472 - 0.500	12.0 - 12.7	1	25	0.13	3.2	0 – 38
1RH1000A3003	12	1000	69	127610	576.49	0.472 - 0.500	12.0 - 12.7	1	25	0.13	3.2	0 – 32

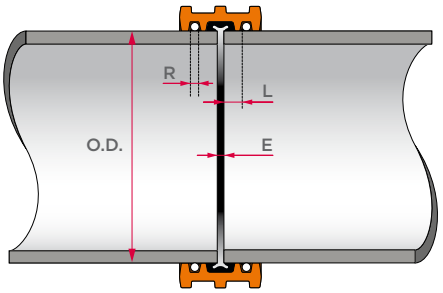
*Working pressure is based on standard wall carbon steel pipe.
[1] Bolts & nuts are UNC threaded.

RX-3000 207 bar Ring Joint coupling
(2 x ring joint)

specifications

- with weld rings & E gasket
- max. working pressure 207 bar
- pipe schedule 80, 120 and heavier
- dimensions 8" - 12" (20 - 30 cm)
- housing: orange painted cast iron (ASTM A536 65-45-12)





	nominal size		pipe O.D.		weight		dimensions A		B		C		bolts & nuts[1]	
article nr.	[inch]	[DN]	[inch]	[mm]	[lbs]	[kgs]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[no.]	size [inch]
1RX300085002	8	200	8.625	219.1	78.92	35.87	11.81	300	15.51	394	5.83	148	2	1⅛ x 5⅛
1RX3000A1002	10	250	10.748	273.0	116.36	52.78	14.96	380	18.93	481	5.98	152	4	1¼ x 6½
1RX3000A3002	12	300	12.752	323.9	212.27	96.24	18.5	470	22.48	572	6.81	173	4	1½ x 6¼

	size	max. working pressure (cwp)*		max. end load (cwp)		weld ring R		sealing surface L		max. axial displacement E		deflection
article nr.	[inch]	[psi]	[bar]	[lbf]	[kN]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[°]
1RX300085002	8	3000	207	175180	791.36	0.472 - 0.500	12.0 - 12.7	1.22	31	⅛	3	-
1RX3000A1002	10	3000	207	272040	1228.61	0.625 - 0.629	15.9 - 16.0	1.22	31	⅛	3	-
1RX3000A3002	12	3000	207	382950	1729.46	0.625 - 0.629	15.9 - 16.0	1.22	31	⅛	3	-

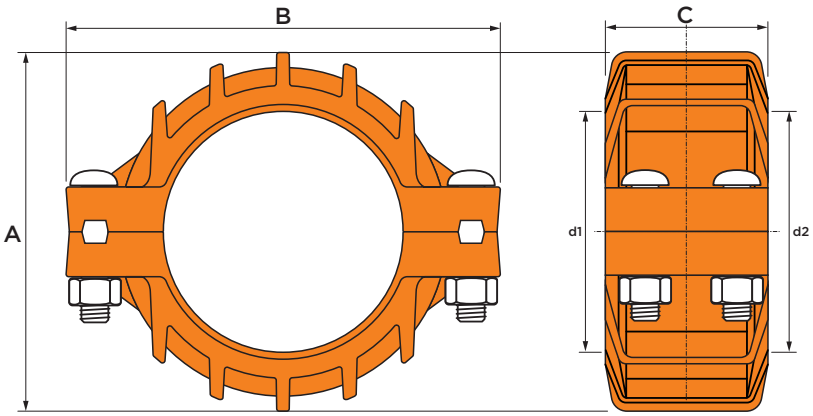
*Working pressure is based on API 5L X65 line pipe.
1 Bolts & nuts are UNC threaded.

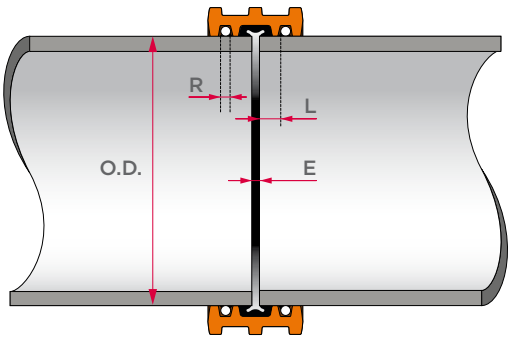
RX-3770 260 bar Ring Joint coupling

(2 x ring joint)

specifications

- with weld rings & E gasket
- max. working pressure 260 bar
- pipe schedule 40 - 80
- dimensions 6" - 12" (15 - 30 cm)
- for extra-strong carbon steel pipe including API 5L grade X65
- housing: orange painted cast iron (ASTM A536 65-45-12)





	nominal size		pipe O.D.		weight		dimensions A		B		C		bolts & nuts[1]	
														size
article nr.	[inch]	[DN]	[inch]	[mm]	[lbs]	[kgs]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[no.]	[inch]
1RX370065002	6	150	6.625	168.3	61.2	27.7	10.24	260	12.64	321	5.87	149	4	⅞ x 6½
1RX370085002	8	200	8.625	219.1	110.0	49.9	12.95	329	16.30	414	6.89	175	4	1¼ x 6½
1RX3700A1002	10	250	10.750	273	174.5	79.2	15.90	404	19.84	504	7.72	196	4	1½ x 6⅞
1RX3700A3002	12	300	12.750	323.9	247.1	112.3	19.00	482	23.10	587	8.63	219	4	1½ x 6⅞

	size	max. working pressure (cwp)*		max. end load (cwp)		weld ring R		sealing surface L		max. axial displacement E		deflection
article nr.	[inch]	[psi]	[bar]	[lbf	[kN]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[°]
1RX370065002	6	3770	260	129890	578.11	0.472	12	1.22	31	0.20	5	-
1RX370085002	8	3770	260	220150	979.78	0.625	16	1.50	38	0.20	5	-
1RX3700A1002	10	3770	260	342000	1521.14	0.750	19	1.50	38	0.20	5	-
1RX3700A3002	12	3770	260	481090	2141.24	0.875	22	1.50	38	0.24	6	-

*Working pressure is based on API 5L X65 line pipe.
1 Bolts & nuts are UNC threaded.

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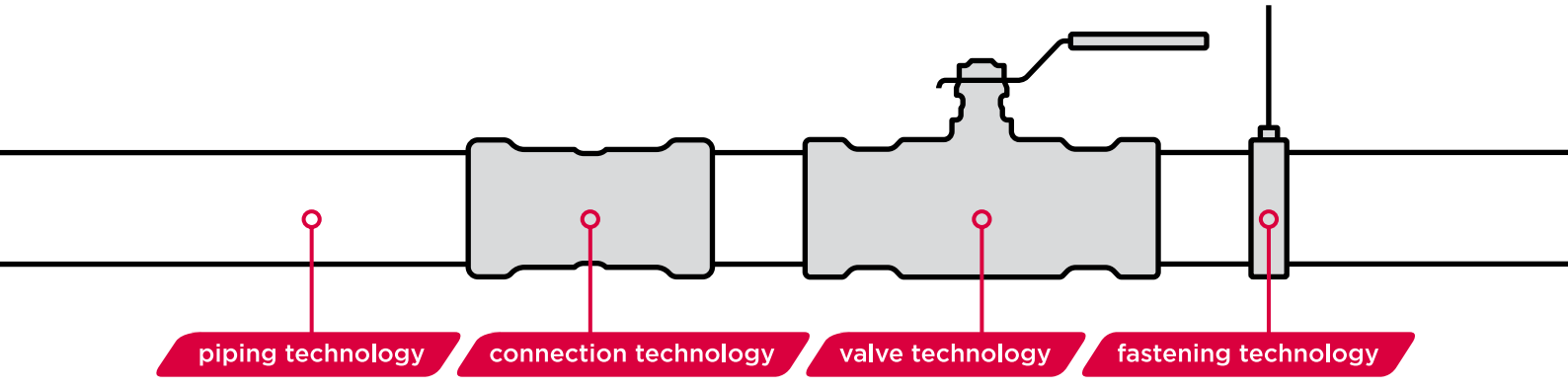

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