



MONOLITHIC INSULATING JOINTS
FOR GAS, WATER & OIL PIPELINES

Zunt[®]
ITALIANA

An aerial photograph showing a town with red-tiled roofs in the background, a highway with traffic in the middle ground, and a large industrial complex with several white buildings and a yard filled with pipes and materials in the foreground. The text 'SINCE 1975' is overlaid in white on a semi-transparent dark blue banner across the middle of the image.

SINCE 1975

ZUNT ITALIANA manufactures a complete range of Monolithic Insulating Joints used for the sectioning of main pipelines to ensure greater efficiency of cathodic protection systems to protect against underground corrosion.

ZUNT ITALIANA Insulating Joints are designed, manufactured and tested in full compliance with the most stringent international Standards and Clients' specifications.

ZUNT ITALIANA is an approved worldwide supplier of the main domestic and international water, oil and gas Companies operating both offshore and onshore.

Due to our company's reliability, vast experience and extensive research, Zunt Italiana is one of the leading manufacturers of Monolithic Insulation Joints and we currently export 80% of our annual production.



Why Zunt insulating Joints?

ZUNT ITALIANA is a family-owned Company, characterized by high flexibility and our desire to service our clients' requirements.

ZUNT ITALIANA was established in 1975 and has been designing, manufacturing and supplying Insulating Joints for 40 years worldwide.

The experience acquired over the years is a guarantee of total reliability and professionalism.

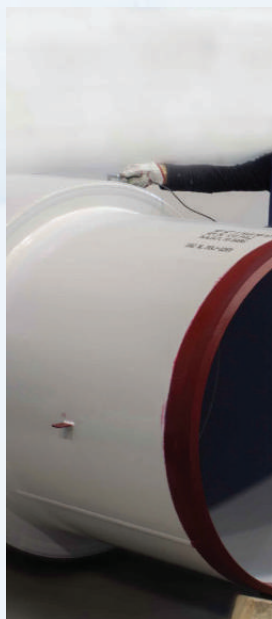
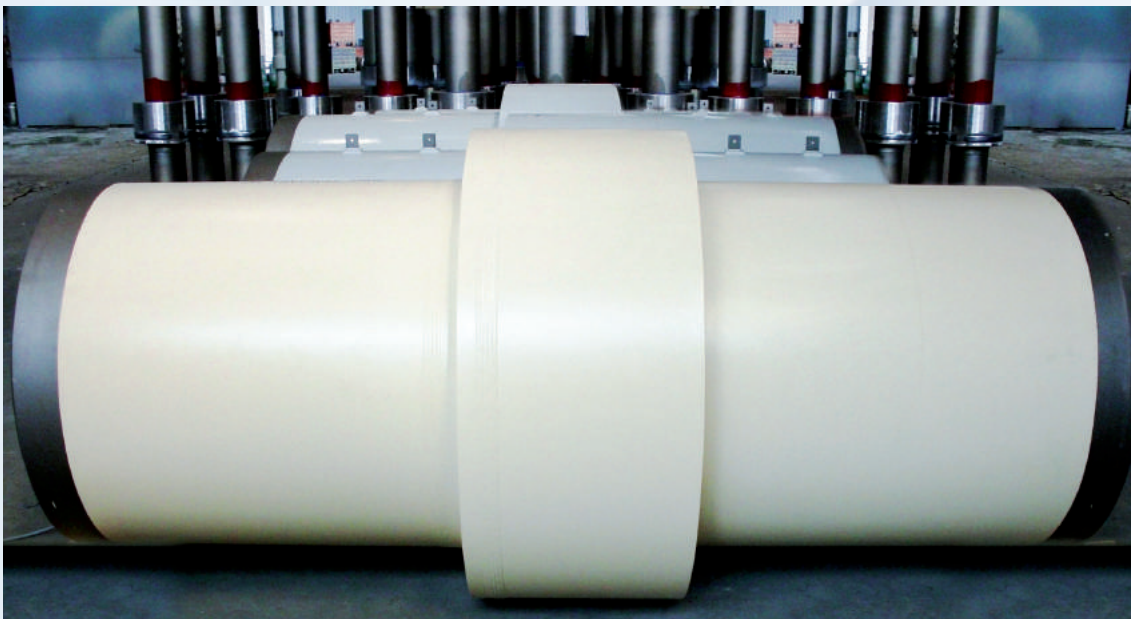
In order to fully meet our clients' requirements in terms of flexibility and capability to satisfy the highest quality standards, Zunt Italiana has invested in the most advanced implements. Our plants include a covered area of 7,900 m² and an open area of 40,000 m². Our machinery and equipment has been thoroughly researched and adapted to meet our specific technical requirements and thus allow us to produce the highest process control as well as the ability to perform the most disparate types of tests and inspections.

WHAT MAKES THE DIFFERENCE ?

- Excellent Quality-Price Ratio
- Respect of contractual delivery dates
- High financial reliability
- Capability to design and manufacture insulating joints for special operating conditions
- Use of top quality raw materials
- Raw materials of Italian & EEC origin
- Qualified technical assistance
- High flexibility

Main Production

- High Pressure Monolithic Insulating Joints for water, gas, oil and petrochemical industry
- Low pressure service Insulating Joints
- Insulating Joints for low/high temperature fluids, sour service application, conductive fluids, etc.



- **Monolithic Insulating Joints with flanged ends**
- **Pre-assembled Insulating Flanges**
- **Insulation Spools**



Monolithic Insulating Joints are high-resistant fittings used to electrically isolate sections of a pipeline to improve the effectiveness of cathodic protection systems and to reduce ground-loop currents or interference between different CP systems.

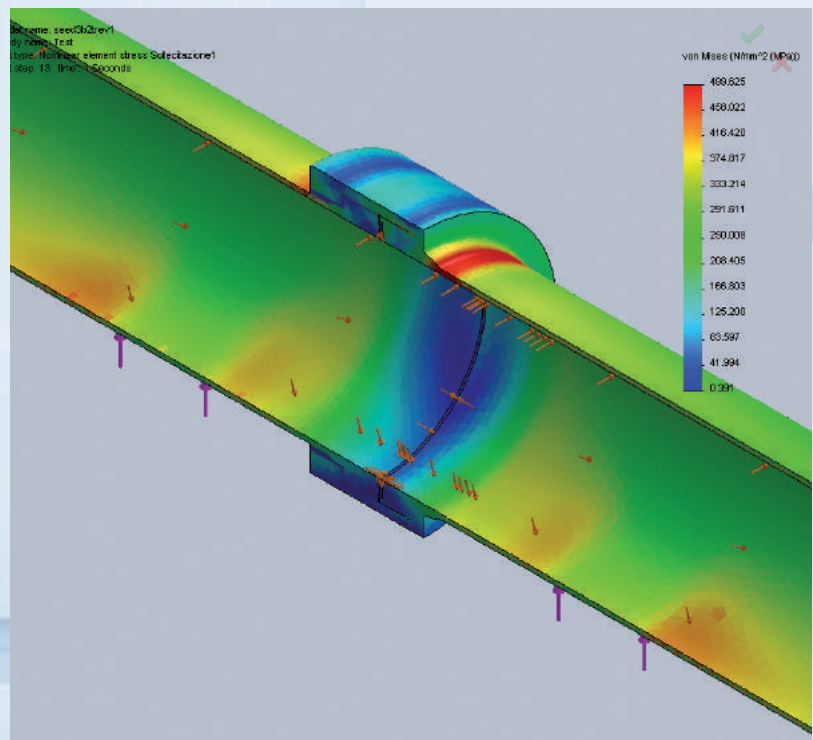
Monolithic Insulating Joints are provided with pipe pups matching the pipeline grade and wall thickness and are long enough to eliminate any possible thermal damage to the isolation components during field welding. Monolithic Insulating joints are factory-assembled, hydrostatically tested and subjected to electrical tests in various stages of manufacturing.

They do not require technical service or maintenance after installation.

Design & Engineering



ZUNT ITALIANA engineers and technical personnel are at our clients' disposal in order to design special Insulating Joints suitable for particularly "heavy" operating conditions, such as additional external loads or special MIJs made with special materials, special coatings, etc.



ZUNT ITALIANA Insulating Joints are designed to withstand a bending moment able to induce a total longitudinal stress of 75% SMYS (Specified Minimum Yield Stress) of the adjoining pipe, in hydrostatic test conditions and a torque sufficient to induce a torsional stress of 5% SMYS in the adjoining pipes.

In order to meet the above requirements, Zunt Italiana can also implement a design verification by means of Finite Element Analysis (provided on request).

Monolithic Insulating Joints for Oil, Gas, Water Pipelines - Offshore & Onshore

Custom made Production Range

SIZE: from ½” to 120” and over

RATING : from ANSI 150 up to ANSI 2500 and over



Special Features (on request)

Design Factor: as per client's specification
Low Temperature design down to - 50°C
High Temperature design: up to +140°C
Dielectric Strength Test up to 20 kV for 1 min, 50 Hz AC
Electrical Resistance Test in dry conditions > 200 MOhm 1000 V DC
Coating / Lining as per client's specification
Finite Element Analysis on request
PED / ATEX compliance on request

Extra Testings (on request)

Helium Test, Torsion test
Hydro-thermo-bending test
Electrolytic immersion test
Hydraulic fatigue test
Air leak test - Vacuum test

Ferrous materials

ASME, API 5L, ASTM, DIN, UNI, EN, MSS-SP, NACE

- Carbon steel in various grades
- Stainless steel, Duplex / Super Duplex steel
- Inconel steel, CRA weld overlay



Non ferrous materials

Insulating spacers: fibre glass epoxy ASTM D709 G10-G11

Sealing System: elastomeric materials suitable to meet any specified design conditions.

Filling materials: epoxy resins

Coating & lining: epoxy resins – special epoxy resin for drinkable water (other paint systems available on request)



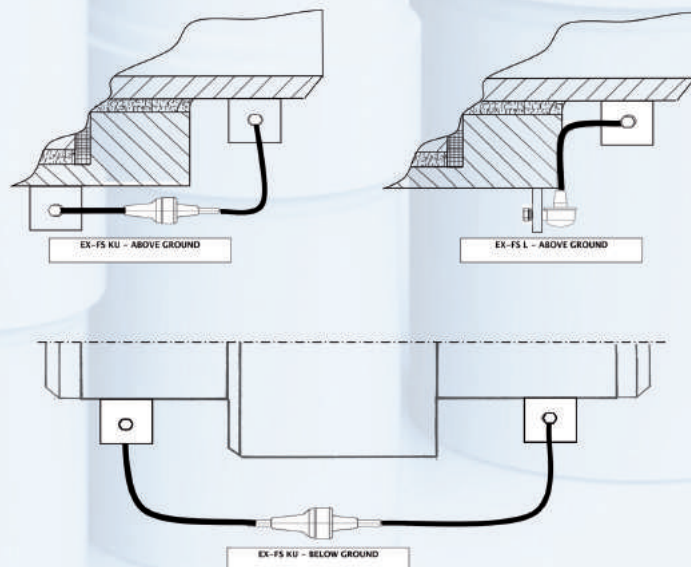
All our raw materials are carefully selected and purchased from qualified suppliers throughout Italy and Europe.

Accessories on request spark gaps

SPARK GAPS are highly recommended as safety devices for the protection and bridging of insulating Joints from tension surcharges due to lightning strikes and to prevent any risk of ignition in explosion-hazard areas (ATEX).

SPARK GAPS are available for above ground and underground installation and can be supplied with Zunt Insulating Joints, on request.

Spark gaps are supplied as a separate accessory to be positioned on the insulating joints after their installation on site.

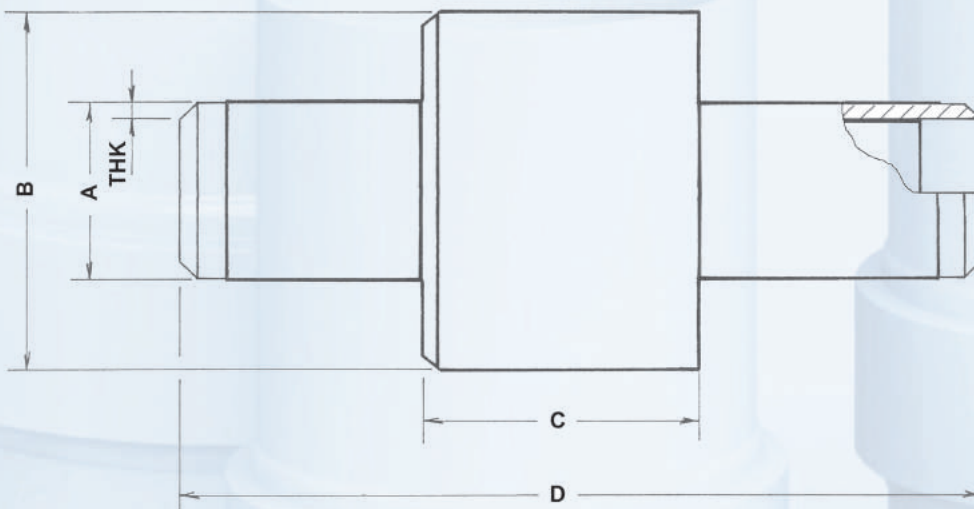


Monolithic Insulating Joints for Oil, Gas, Water Pipelines - Offshore & Onshore

Standard Production Range

SIZE: from ½" to 120" and over

RATING : from ANSI 150 up to ANSI 2500 and over



Technical Features (Zunt standard)

Design Factor	0.6
Temperature range	-10°C / 70°C
Hydrotest pressure	1.5 times the Design Pressure
Dielectric Strength Test	≥ 5 kV for 1 min. – 50 Hz AC
Electrical Resistance Test	in dry conditions > 25 MOhm – 1000 V DC
Coating / Lining	epoxy resin
N.D.E.	MPI, UT, X-Rays, Dye Penetrant on welds (as applicable)

Design Calculations to ASME VIII Div. 1 App. 2 / EN 13445-3

WPS, PQR, WPQ to ASME IX, EN 15614, EN 15609, ISO 9606, ISO 14732, ISO 13847

(other codes on request)

Applicable standards: NACE, UNI 10285, UNI 11105

DM 17/04/2008 PED / ATEX compliance on request

DIMENSIONS OF STANDARD INSULATING JOINTS AS PER ZUNT SPECIFICATION

Size	ANSI 150						ANSI 300						ANSI 600					
	A	THK	B	C	D	KG	A	THK	B	C	D	KG	A	THK	B	C	D	KG
1/2"	21.3	2.77	60	44	250	0.8	21.3	2.77	60	60	250	0.9	21.3	2.77	60	60	250	1
3/4"	26.7	2.87	60	44	250	0.9	26.7	2.87	66	60	250	1.2	26.7	2.87	66	60	250	1.3
1"	33.4	3.38	64	47	250	1.1	33.4	3.38	76	60	250	1.9	33.4	3.38	76	60	250	2
1-1/4"	42.4	3.56	77	50	250	1.6	42.4	3.56	82	70	300	2.5	42.4	3.56	82	70	300	2.5
1-1/2"	48.3	3.68	90	54	300	2.4	48.3	3.68	95	80	300	3.5	48.3	3.68	95	80	300	3.5
2"	60.3	3.91	102	60	300	3.6	60.3	3.91	108	92	300	5.5	60.3	3.91	108	92	300	6
2-1/2"	76.1	4.00	114	62	400	4.5	76.1	4.00	128	96	400	8.5	76.1	4.00	127	96	400	8.5
3"	88.9	4.78	127	65	400	6.3	88.9	5.49	140	105	400	11	88.9	5.49	146	121	400	15
4"	114.3	4.78	154	70	400	9.1	114.3	6.02	159	110	400	12.5	114.3	6.02	177	132	400	22
5"	141.3	4.78	194	80	500	14.5	141.3	6.55	195	130	500	26	141.3	6.55	203	141	500	31
6"	168.3	4.78	230	95	500	21	168.3	7.11	229	136	600	37	168.3	7.11	240	147	600	43
8"	219.1	6.35	273	100	500	31	219.1	8.18	290	138	600	57	219.1	8.18	298	158	600	66
10"	273	6.35	324	120	700	55	273	9.27	343	142	700	72	273	9.27	352	173	700	95
12"	323.8	7.14	381	130	700	75	323.8	9.52	394	142	700	114	323.8	9.52	415	186	700	145
14"	355.6	7.92	419	138	900	105	355.6	9.52	430	155	900	140	355.6	9.52	442	192	900	165
16"	406.4	7.92	469	155	900	150	406.4	9.52	469	155	900	153	406.4	9.52	505	219	900	231
18"	457.2	7.92	530	158	1000	163	457.2	9.52	530	177	1000	184	457.2	9.52	568	244	1000	295
20"	508	9.52	582	158	1000	199	508	9.52	582	180	1000	210	508	12.7	630	255	1000	370
22"	558.8	9.52	635	160	1000	226	558.8	9.52	650	198	1000	270	558.8	12.7	688	278	1000	460
24"	609.6	9.52	696	163	1000	256	609.6	9.52	705	204	1000	340	609.6	14.27	740	290	1000	560
26"	660.4	9.52	750	163	1000	262	660.4	12.70	776	214	1000	480	660.4	14.27	787	306	1000	720
28"	711.2	9.52	800	168	1000	310	711.2	12.70	818	222	1200	550	711.2	14.27	868	331	1200	850
30"	762	9.52	850	172	1200	341	762	12.70	875	225	1200	640	762	15.88	915	350	1200	990
32"	812.8	9.52	905	180	1200	465	812.8	12.70	930	274	1200	710	812.8	15.88	970	355	1200	1150
36"	914.4	12.70	1015	182	1200	520	914.4	12.70	1030	280	1300	665	914.4	15.88	1095	380	1300	1400
40"	1016	12.70	1110	190	1200	620	1016	12.70	1145	318	1300	920	1016	19.1	1190	420	1400	1630
42"	1066.7	12.70	1160	195	1200	710	1066.7	12.70	1200	326	1300	1100	1066.7	19.1	1270	440	1400	1740
48"	1219.2	14.30	1330	210	1200	860	1219.2	14.30	1380	330	1300	1450	1219.2	22.2	1420	500	1500	2300

- PATENTED independent double sealing system applied from 16" #600 and over (also available on smaller sizes/ratings on request)
- Dimensions are indicative only and may be altered without prior notice
- Pipe pups : API 5L / ISO 3183 / ASTM A106 / ASTM A333
- Alternative wall thickness and quality of pipes available on request
- Bevelled ends to API 5L

Dimensions, weights and technical features of insulating joints over size 48" Class rating ANSI 600 will be provided with a specific bid.



PN 10 Service Joints For Gas and Water

Production Range

SIZE: from ½” to 3”

ENDS: weld/weld - male/weld – male/male – male/female – female/female

THREADS : ISO 7 / BSP / NPT on request



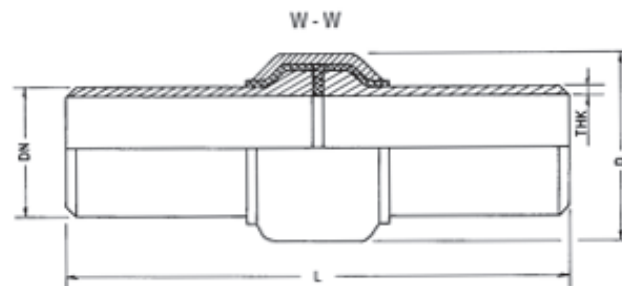
Technical Features (Zunt standard)

Temperature range	-10°C / 70°C
Design Pressure	10 bar
Hydrotest pressure	15 bar
Air Leak Test	5 bar for 10 seconds
Dielectric Strength Test	≥ 3 kV for 1 min. – 50 Hz AC
Electrical Resistance Test	in dry conditions > 5 MOhm – 1000 V DC
Coating / Lining	epoxy primer / epoxy resin (Special lining for water on request)

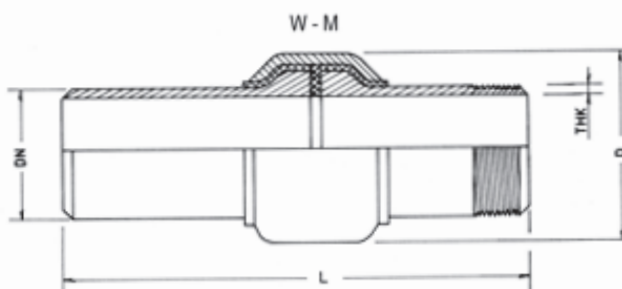
Certification to UNI CIG 10284, D.M. 17/04/2008 & subsequent modifications

WELD / WELD ends

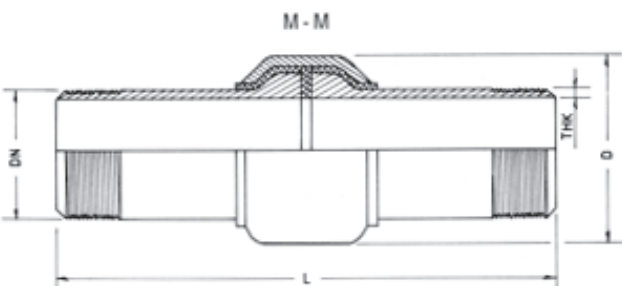
NPS	THK	D	L	Weight
(inch)	(mm)	(mm)	(mm)	(kg)
½	2.77	48	210	0.55
¾	2.87	49	220	0.55
1	3.38	54	230	0.60
1 ¼	3.56	64	250	1.20
1 ½	3.68	71	260	1.40
2	3.91	83	290	1.90
2 ½	4.00	101	330	2.90
3	4.78	115	350	3.38

**WELD / MALE ends**

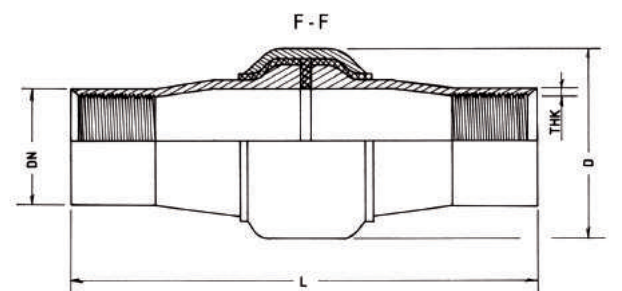
NPS	THK	D	L	Weight
(inch)	(mm)	(mm)	(mm)	(kg)
½	2.77	48	150	0.50
¾	2.87	49	165	0.50
1	3.38	54	180	0.65
1 ¼	3.56	64	195	1.00
1 ½	3.68	71	210	1.20
2	3.91	83	220	1.60
2 ½	4.00	101	240	2.30
3	4.78	115	260	3.50

**MALE / MALE ends**

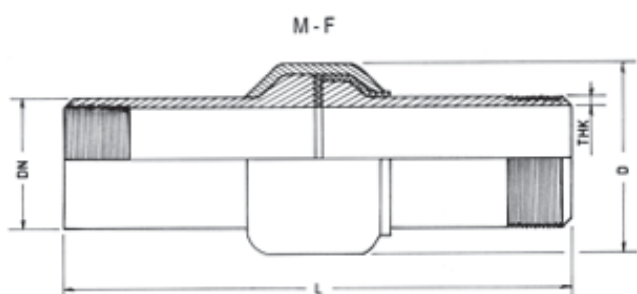
NPS	THK	D	L	Weight
(inch)	(mm)	(mm)	(mm)	(kg)
½	2.77	48	100	0.40
¾	2.87	49	110	0.40
1	3.38	54	120	0.50
1 ¼	3.56	64	135	0.70
1 ½	3.68	71	145	0.90
2	3.91	83	150	1.25
2 ½	4.00	101	176	1.55
3	4.78	115	200	2.30

**FEMALE/FEMALE ends**

NPS	THK	D	L	Weight
(inch)	(mm)	(mm)	(mm)	(kg)
½	2.77	48	100	0.44
¾	2.87	49	110	0.44
1	5.00	54	120	0.80
1 ¼	5.00	64	135	1.00
1 ½	7.00	71	145	1.54
2	7.00	83	150	1.80

**MALE/FEMALE ends**

NPS	M-THK	F-THK	D	L	Weight
(inch)	(mm)	(mm)	(mm)	(mm)	(kg)
½	2.77	3.00	48	100	0.30
¾	2.87	3.00	49	110	0.40
1	3.38	4.00	54	120	0.50
1 ¼	3.56	4.00	64	135	0.65
1 ½	3.68	4.00	71	145	0.90
2	3.91	4.00	83	150	1.20
2 ½	4.00	5.00	101	170	1.60
3	4.78	5.00	115	200	2.20



Monolithic Insulating Joints with flanged ends

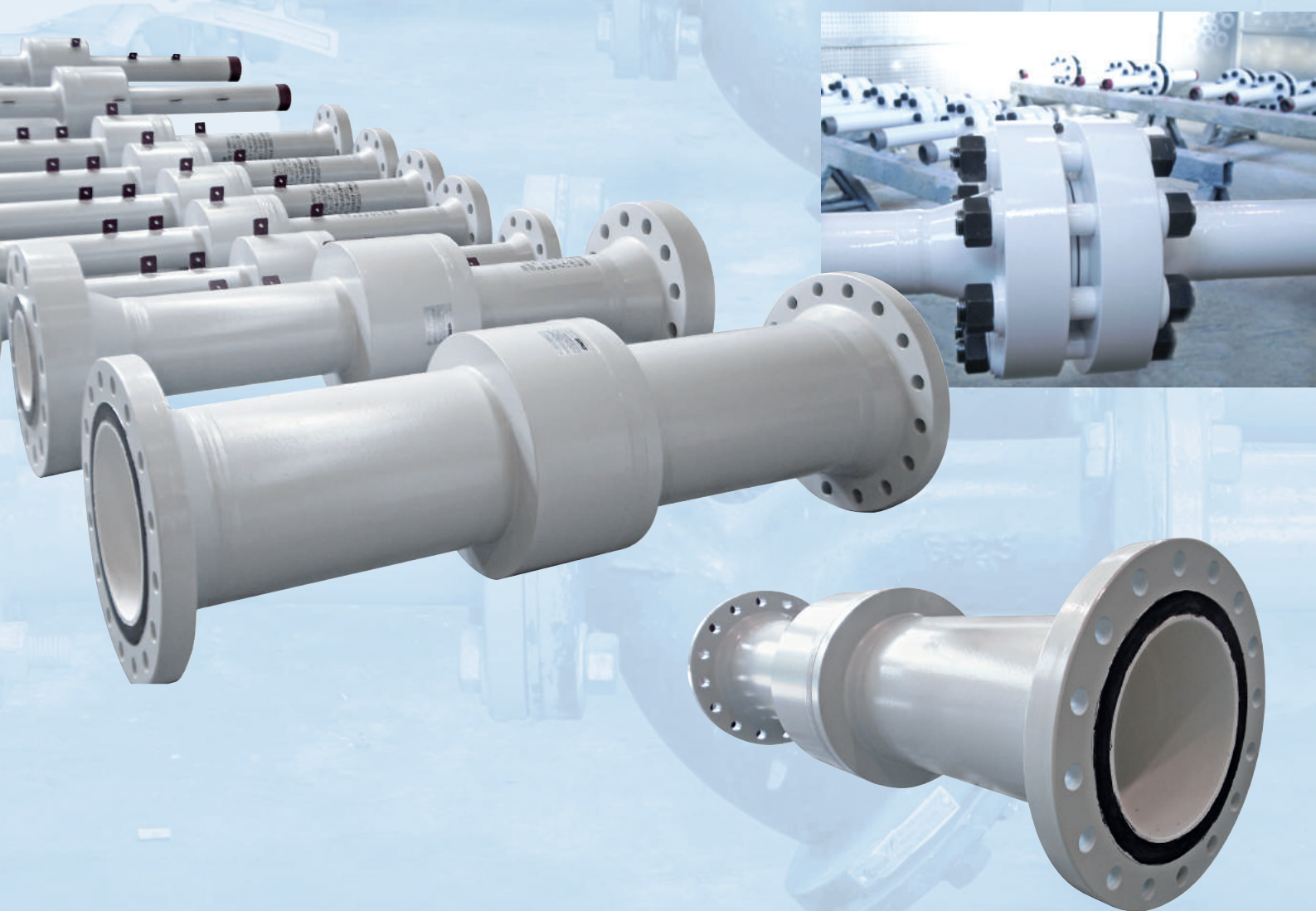
Pre-Assembled Insulating Flanges

Production Range

SIZE: from 1/2" up to 100" and over

RATING: from ANSI 150 to ANSI 2500, API 10000 and over

FLANGES: WN RF or RJ flanges of any type



Technical Features

Design Temperature: $-29^{\circ}\text{C} / +140^{\circ}\text{C}$

Dielectric Strength Test: $\geq 3\text{ kV}$ for 1 min. 50 Hz AC
(higher on request)

Electrical Resistance Test: $> 100\text{ MOhm}$ 1000 V DC

Materials & components

are selected to match the specified operating conditions, the fluids conveyed, etc, in accordance with the client's requirements

Quality Management System

ISO 9001 Since 1993

Certified Quality System covers both the design and the manufacture of Insulating Joints

- highly skilled personnel
- continuous training
- quality-oriented and custom-made production
- customer satisfaction
- high flexibility



PED 2014/68/EU mod. H
Pressure Equipment Directive



ATEX 2014/34/EU/ II 2 GD
European Directive "ATmosphères EXplosibles"



ZUNT - SUPPLYING THE WORLD



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